



School Administrators' Leadership Competencies According to the Views of School Administrators and Teachers *

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Abstract

The purpose of this paper was to investigate the school administrators' leadership competencies according to the views of the school administrators and teachers. Leadership Competency Inventory (LCI) developed by Yoon, Song, Donahue and Woodley (2010) and adapted into Turkish by the researchers was used with the aim of gathering data in the study. (Detailed evidence about the adaptation process of LCI was presented under the title of Method II.) The research was realized with the participation of 121 school administrators and 143 teachers. The research data was analyzed through descriptive statistics, Pearson product-moment correlation coefficient, and multivariate analysis of variance (MANOVA). According to the results, there were positive and significant relationships between both school administrators' and teachers' perceptions on the factors of LCI and school administrators' self-perceptions of their leadership competencies and teacher's perception of school administrators' leadership competencies differed significantly. As a result, school administrators evaluated their leadership competencies more positively. Several suggestions were proposed for improving school administrators' leadership competencies.

Keywords

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Introduction

Intelligent, flexible and dedicated labor force, innovative mentality of administration and the employees' capacity to improve their abilities are regarded as crucial elements for the effectiveness of organizations and for achieving their goals (Visage, Linde, & Havenga, 2011). This fact makes it inevitable to increase the need for well-qualified administrators in a rapidly changing and developing societies (Livingston, 1998; Marshall & Spencer, 1999; Sherman, Tibbetts, Dobbins, & Weidler, 2001). Particularly the increasing pressures of different social expectations and desires have diversified the qualifications that administrators are expected to have. Therefore, organizations have started to attach more importance to the competencies of administrators (Lado & Wilson, 1994). The fact that educated, specialized, and well-qualified administrators have a major role in achievements of the organizations is getting more acceptable (Snell & Dean, 1992). That the employees use their knowledge and qualifications in accordance with organization's goals and that the organizations' turn this situation into

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an advantage in a competitive environment are becoming necessary. In this regard, considering that organization's administrators have a significant role in making the employees use their knowledge, skill and specialization in accordance with the goals of the organization, it becomes important for organizations to determine the qualifications that effective administrators are expected to have.

In his study conducted to determine the relationship between organizational effectiveness and administrator behaviors, Colins (2001) examined lots of organizations and tried to identify the best organizations. In the study, it was seen that the organizations' administrators have common qualities and qualifications regardless of their organization type. It was found out that the most significant quality of the organizations which could achieve sustainable improvement were administrated by the managers who had leadership qualities. These leaders hold the quality of modesty in the context of personality and of ambition in the context of the profession.

It is possible to suggest that managing the change in a successful way, promoting employees' professional improvement, sustaining the organizational effectiveness and leading the organization to take a more advantageous place in a competitive environment by increasing the organizational capacity are among the significant competencies of effective organization leaders (Bergstrom, 2012). Wang and Lin (2011) suggest that the achievements of the organizations in management and application of the human resources would enable the organization to have a more advantageous place and that the organization can achieve its goals more effectively if the administrators build a link between organizational resources, its capacity and employees' basic competencies. Emphasizing the relationship between competencies and organizational effectiveness Prahalad and Hamel (1990) state that the competencies that leaders are expected to have are very effective for the organization to achieve its goals. King, Fowler and Zeithaml (2001) further suggest that the process of determining, improving and applying the competencies of administrators are closely related to the achievement of any organization.

Matters like the organizations function on a more global basis in the context of their services and products when compared to the past, technological developments, variance of workforce, the expectations of the workers and the consumers force the leaders to develop organizational capacity and to define new strategies ensuring the success of the organizations (Ulrich, Brockbank, Johnson, Sandholtz, & Younger, 2008). That the leaders can reconstruct organizational processes seems possible by redefining job definitions, job analysis, and job features (Bergstrom, 2012). According to Dubois and Rothwell (2004), qualities required for a job are of critical importance in terms of showing desired performance in a suitable and consistent way.

Organizational competencies can be classified into such different forms as basic competencies, work competencies, position competencies, and field competencies according to their extent and significance. Furthermore, there are competency models that determine the competencies which are necessary for the best performance according to work type (Dubois & Rothwell, 2004). Various models have been developed to determine the necessary competencies for those who have common responsibilities and similar work descriptions in order for them to exert the best work performance. In their study, Ulrich et al. (2008) tried to detect the competencies that are needed by human resources unit. For this purpose, they investigated the human resources units of many different organizations and they tried to express the most significant competencies required for this job. In these studies they stated that, in order to make a link between competencies and competency models, they tried to make an evaluation according to the performance of the organization leaders and employees.

That the organizations learn more about employees' competencies and competency models may well contribute to an increase in their work performance and the organizational effectiveness providing a better understanding of work descriptions (Dubois & Rothwell, 2004). A review of literature indicates that a range of studies conducted to investigate the competencies of successful leaders and to develop a model of leadership competencies. These models of competencies can be analyzed under the categories of basic competencies, work competencies, position competencies, and field or department competencies. All these competency models aimed at ordering the necessary competencies according

to the desired competency category. According to Rothwell and Graber (2010), a competency model is a set of competencies generally including 10-30 items that describe the capacity of successful performances. Findings of the previous studies illustrated that the prominent competencies were conceptual competencies (intelligence, technique), managerial competencies (doing things well, etc.), leadership competencies (helping employees improve and coaching), competency of self-knowledge and self-management (emotional intelligence), competency of sustaining interpersonal relationships effectively (communication, effect, conflict management, negotiation), and competency of team building (creating teams, mentoring, producing solutions for possible problems, and collaboration) (Bergstrom, 2012; Gratton, 2011; Martin & Schmidt, 2010).

Barrett and Beeson (2002) have proposed that global competition atmosphere, information technologies, rapid and flexible organization structures, differentiation in the needs of groups and workers are likely to be effective upon shaping the competencies of administrators. In the related literature, the existence of measurement instruments especially developed for measuring specific competencies of administrators are conspicuous (Eichinger & Lombardo, 2003; Leslie & Fleener, 1998; Morical, 1999; Yoon, Song, Donahue, & Woodley, 2010). Measurement instruments developed in 1950s were designed to identify the link between "task and structure" and "evaluation and support" to define the leadership styles of individuals (Stogdill & Coons, 1957; Tannenbaum & Schmidt, 1958). Subsequently, Multidimensional Leadership Questionnaire was developed by Bass and Avolio (1990).

Developing psychometric instruments are crucial for defining and developing the competencies of organizational administrators. Koontz and Einrich (1998) state that qualified administrators have an important role in an organization's reaching its aims successfully. Accordingly, competencies of administrators have to be known and measured. In this sense, it can be said that valid and reliable measurement instruments are needed to be used effectively in the process of defining the competencies of administrators.

Social changes and developments affect and change educational organizations. This situation makes it necessary for school administrators to have competencies that are compatible with changing circumstances as expressed in companies. School principal makes designs future plans for school, leads school, and manages the changes in school with his or her knowledge and competencies (Garies & Tschannen-Moran, 2005). Considering that competency is defined as "a person's having the necessary knowledge and skill to perform an act" (Başaran, 2000), importance of school administrators' competencies once again appears for effectiveness in schools. Determining the competencies for educational administrators is a prerequisite for policies of administrator training. Thus, determining the necessary competencies and detecting the competencies that teachers and school administrators can actualize become crucial.

In Turkey, there are several studies to determine the competencies of the school administrators (Ağaoğlu, Altınkurt, Yılmaz ve Karaköse, 2012; Bursalıoğlu, 1981; Dönmez, 2002; Günay, 2001; Güven, 2002; Karadağ, 2011; Madenoğlu, 2003; Şahin, 2000; Şener, 2004). Although these previous studies have reported some important results regarding the school administrators' competencies, the majority of them have aimed to determine the competencies according to teachers' or administrators' perceptions or views. However, there is a need for further studies exploring the school administrators' leadership competencies both in theory and practice beyond their administrative qualifications. It is hard to develop a nationally standardized framework for competencies and accept school management as a professional duty due to its unique characteristics and legal basis of Turkish educational system. One of the most significant factors of this situation is that although regulation of training and assignment of educational administrators says "competency is the essence of assignment", being a teacher and having a bachelor's degree make it possible to be an educational administrator in practice. Consequently, further studies focusing on school administrators' leadership competencies should be given more importance in making school administration as a profession and creating a nationally standardized framework for competencies.

In the Turkish educational system, when we look at the history of educational administrator training, this process is divided into four periods as apprenticeship, educational sciences, examination and arbitrariness by Balcı (2008). On the other hand, Şimşek (2004) suggests three phases for administrator training. These are apprenticeship, educational sciences and annexed charts table in the regulation of assignment of educational administrators. As a matter of fact, when we have examined the trends so far, traditional “apprenticeship model” hasn’t been changed with another model for administrative training (Recepoğlu & Kılınc, 2014). The mentality of “teaching is the essence of the profession” and the belief that “if someone is a successful teacher, he or she can also be a successful administrator” has never been changed at all.

Upon examining the policies of educational administrator training in foreign developed countries, it is possible to conclude that in many countries, having a master’s degree in this field is a prerequisite in order to be a school administrator. On the other hand, students who graduate from master and doctoral programs in Turkey do not have a priority to become a school administrator (Şişman & Turan, 2004). The countries with effective approaches in developing school administrators first determine which competencies an administrator should have and they stimulate administrators to meet these expectations. Both universities and private principal training programs detect the competency level of school principals and trains them to improve the competencies.

It is known that there are some studies conducted by Ministry of National Education (MoNE) upon the subject of developing competencies of administrators. In some of these studies, this subject was briefly mentioned in some regulations such as Guide for School-Based Professional Development (2010). However, no studies have been conducted to sort the competencies playing a critical role in defining the educational administrators so far. The fact that educational administration doesn’t become a profession is seen as a barrier in front of defining competencies in this field and developing an effective model. Currently, it is possible that educational administrators develop themselves in the field through postgraduate education. In this sense, it seems important to develop a competency inventory for the related literature to both define the educational administrators’ competencies in their own jobs and descriptions and to meet the need of a suitable measurement instrument. “Leadership Competency Inventory” (LCI) developed by Yoon et al. (2010) was adapted into Turkish as “Liderlik Yeterliği Envanteri” (LYE). In this way, this study aimed at developing a leadership competency inventory that is valid, reliable, and suitable for Turkish educational organizations. Additionally, it is expected that findings of the research will offer some implications for decision-makers in the points of developing competencies of administrators and following related studies. This study which is expected to contribute to determine competencies of the school principals and to help develop policies on this issue aims at responding the following questions:

1. What are the perceptions of school administrators and teachers on leadership competencies of the school administrators?
2. Are there positive relationships between the factors of Leadership Competency Inventory according to school administrators 'own perceptions?
3. Are there positive relationships between the factors of Leadership Competency Inventory according to teachers' own perceptions on school administrators' leadership competencies?
4. Do the means of scores built upon the linear components of leadership competencies differ significantly according to the perceptions of the school administrators' and teachers' perceptions?

Method I

Research Model

This study was designed in survey model and included school principals and teachers ($n = 264$) employed in Mersin. Survey model was suitable for studies aimed at determining the current situation as it stands (Karasar, 2006). The purpose of this study was to determine the competencies of school administrators through LCI and to detect whether there were significant differences among the perceptions of school administrators and teachers. Therefore, this descriptive study investigated whether school principals' competencies differed significantly according to teachers and school administrators' points of view.

Population and Sample

The population of the study is comprised of school administrators and teachers employed in Mersin city center in 2013-2014 educational year. The sample of this study was chosen through convenience sampling method and applied to a total of 264 school administrators and teachers who participated in a local in-service training program. The participants of the study were 121 (45.8%) school administrators or vice-principal and 143 (54.2%) were teachers. Majority of the participants ($n = 224$, 84.8%) were male. The number of female participants was 40 (15.2%). When we analyzed it according to the distribution of branches, the number of classroom teachers was 107 (40.5%) whereas 157 (59.5%) participants were in various branches. When we analyzed it according to the distribution of age categories, it was noteworthy that most of the participants were between the ages of 31-40 (30.7%) and 41-50 (48.5%).

Instrumentation

In this study, a 30-item Leadership Competency Inventory adopted by Özdemir, Sezgin and Özen Kılıç (2014) was used to gather data. Participants were asked to determine to what extent school administrators performed these competencies and teachers were asked to detect to what extent their school administrators have these leadership competencies on a Likert type scale responded on a rating scale from 1 (totally disagree) to 5 (totally agree). Results revealed that the five factor structure of LCI explained 69% of the total variance. CFA results also indicated that data of the study fitted to the model good. Internal consistency coefficient for the factors ranged from .85 to .92. As a result, LCI can be regarded as a valid and reliable scale in the field of educational administration. Additionally, in the framework of the second study, CFAs were repeated for the teacher and the school administrator groups separately, and for all participants of the study in order to confirm the construct validity of LCI (Table 1).

Table 1. CFA Results for LCI in the Samples of School Administrator, Teacher, and All Participants

Sample	n	X^2/df	RMSEA	GFI	RMR	CFI
School administrator	121	1.778	.081	.749	.039	.929
Teacher	143	1.785	.074	.765	.060	.918
All participants	264	2.293	.070	.822	.049	.935

According to the Table 1, it can be said that goodness of fit indices of LCI which were obtained as a result of CFAs for the teacher, the school administrator and the total participant samples showed an acceptable fit. Especially the proportion of chi-square to degrees of freedom (X^2/df) and RMSEA values were found to be within the boundaries of an acceptable fit in every three analyses. When they were generally considered, the fit indices were thought to indicate a sufficient fit. The reliability coefficients which were calculated within the scope of the second study were found to be .96 for managerial competencies, .93 for instructional leadership, .90 for organizational leadership, .93 for professional mastery and .94 for supervision dimension respectively. These values ranged from .90 to .92 for aforementioned dimensions in the teacher sample.

Data Analysis

Data was analyzed through SPSS 19.00 program. Before analysis, erroneous codings were checked out. Outliers in the data set were then cleaned. Total scores and subscale scores were calculated for the factors of LCI. Descriptive statistics, Pearson product-moment correlation coefficient and multivariate analysis of variance (MANOVA) were performed to analyze the study data. The skewness coefficients were examined for univariate normal distribution of the data and these values were found to be acceptable limits. The results of the multivariate normal distribution analysis were not detected any outliers. In determining whether there were linear relationships among the dependent variables scatter diagrams were examined. Furthermore, it was concluded that the variance and covariance results of the groups for each of the dependent variable were equal.

Method II

Population and Sample

The participants are composed of the study were 156 primary school administrators selected by using convenience sampling method. The research was conducted through online questionnaire method. The demographics of participants are presented in Table 2.

Table 2. Distribution of Participants' Demographics

Variable	<i>n</i>	%
Gender		
Male	128	81.9
Female	28	18.1
Seniority (years)		
1-15	54	34.6
16-30	70	44.9
31 and over	32	20.5
Duty		
Principal	57	36.6
Head vice principal	5	3.2
Vice principal	94	60.2

The availability of the sample for factor analysis was examined through Kaiser-Meyer-Olkin (KMO) and Bartlett's Sphericity tests. In the study, KMO value was .94 and the result of Bartlett's Sphericity test was 6455.554 ($p = .000$). Çokluk, Şekercioğlu and Büyüköztürk (2012) state that in the cases that KMO value is higher than .60 and Bartlett's Sphericity test value is significant, data set obtained from the sample is available for factor analysis. Accordingly, it is seen that data set to be used in the study is available for factor analysis. Besides, whether the data obtained from the sample distributed normally or not according to the items and factors in the scale were checked through scatter diagram, cross value analysis, and descriptive statistics.

Instrumentation

The original scale was developed in USA by Yoon et al. (2010) to define the competencies of administrators depending upon the evaluations of workers and administrators. Reports of LEF (Leadership Effectiveness Framework) and SCANS (Secretary's Commission on Achieving Necessary Skills) (1992) were used in the process of developing the scale and preparing the items. Dimensions of the original report are demonstrated in Table 3.

As can be seen from Table 3, it is clear that the scale adapted into Turkish has a five-factor structure (Organizational leadership, technical acumen, professional mastery, resource management, supervisory/management). There are a total of 35 items in the scale. 11 items are in the organizational leadership dimension, 10 items are in the supervisory/management dimension, 6 items are in the

professional mastery dimension, 5 items are in the resource management dimension and 3 items are in the technical perception dimension.

Table 3. Original Dimensions of LCI

Organizational leadership	Human performance management, planning and evaluation, financial management and budgeting, technology management, creative thinking, vision, external awareness, strategic thinking and planning, management controls and managing diverse workforce
Technical acumen	Job-specific technical competencies, occupational technical competencies and industry-wide technical competencies
Professional mastery	Conceptual thinking skills, learning and information skills, self-responsibility and management, interpersonal skills, oral communication and written communication
Resource management	Computer and basic literacy skills, technical competence, resource usage, resource management and understands systems
Supervisory / management	Leadership and coaching, flexibility and resilience, problem solving decisiveness, self-direction, conflict management, teamwork and cooperation, influencing and negotiating, customer focus and interpersonal relationship building

Data Collection and Analysis

Online questionnaires prepared for LCI was sent to the school administrators via e-mail and social media. With the purpose of examining the construct validity of the scale, firstly exploratory factor analysis (EFA) and then confirmatory factor analysis (CFA) were performed to test the congruence of factor structure with the data. Margin of error were defined as .05. CFA is used for testing construct validity in developing scale by examining the confirmation degree of formerly defined, built and restricted structure by the collected data. While in EFA factor structure related to the collected data depending upon factor load is discovered without a certain expectation and hypothesis, DFA defines the coherence of the structure created by the data with a model describing the relations among some certain latent variables. As a result CFA is an effective, strong and advanced statistical technique used for testing the coherence of formerly selected factor model or theoretical structure with the data and defining the construct validity of measurement instrument in social sciences (Çokluk et al., 2012; Sümer, 2000).

It is suggested that the goodness of the model obtained by CFA should be evaluated with considering a range of fit index. In the current study, the fit indexes used to confirm the five-factor theoretical structure of leadership competencies defined by Yoon and others (2010) were as follows: Chi-Square Goodness of Fit (X^2), Goodness of Fit Index, (GFI), Adjusted Goodness of Fit Index, (AGFI), Comparative Fit Index, (CFI), Normed Fit Index, (NFI), Not-Normed Fit Index, (NNFI), Root Mean Square Residuals, (RMR or RMS), Standardized Root Mean Square Residuals, (SRMR) and Root Mean Square Error of Approximation (RMSEA).

In order to define how much the five-factor structure LCI items are sufficient enough to distinguish the people in terms of the features measured, coefficients were calculated for the whole scale and sub-scales by using Cronbach's Alpha internal consistency coefficient. Additionally, Pearson product-moment correlation coefficient was calculated for the correlations between the factor values and standard deviation of the scale and sub-dimensions, for reliability of the items in the scale; item-total correlations were determined and *t*-test was performed to defined by total score if max % 27 and min % 27 groups' between factor and item scores have significant differences or not.

Ethical Matters in The Process of Developing Scale and Application

Firstly, with the purpose of conducting validity and reliability studies, online communication was established with Hyung Joon Yoon who is one of the developers of the scale and working as Career Development Specialist in Penn State University. The purpose of the study was explained, the necessary permission was granted and taken, and then the study started. In this study, 3 items were added to the scale which had originally 35 items, and validity and reliability analyses were conducted.

During the process of adapting the scale, the opinions of Hambleton and Patsula (1999) about intercultural scale adaptation were considered. Accordingly, items of the original scale and choices were initially translated by the researchers. Besides, items of the scale were translated by three instructors independently. The original form of the scale and translations were examined by one professor. As a result of this examination, necessary revisions were made by comparing English and Turkish forms and the scale were made available for opinions of the experts who would evaluate the availability of the instructions and items in the scale. In accordance with the opinions of the experts, some amendments were conducted in a number of items and 3 items were found to be available to be added in the instructional leadership dimension. Finally, the scale was administered to the sample group for evaluating factor structure, construct validity, reliability of the scale points, and item discrimination. Analyses were performed on the Likert-type scale consisted of 5.

With regard to the application process, permission was granted from MoNE and Provincial Directorate of National education by an official paper including the process and content of the research. Written permission indicating that the research can be conducted on voluntary basis was taken from Provincial Directorate of National Education. The application was conducted via online questionnaire method. For this process, a new domain was bought instead of using open-source software. In this way, the data was secured.

Validity and Reliability

Table 4 presents the LCI's factor structure, factor loadings of each item, variance explained, and total variance explained.

As can be seen from Table 4, the five-factor structure explained 68.52% of the total variance. This value is acceptable in the field of social sciences. Furthermore, it is found out after rotation that managerial competencies explained 16.06%, instructional leadership 14.86%, organizational leadership 13.10%, and professional mastery 12.35%, and supervisory 12.16% of the total variance. It is therefore possible to suggest that the scale has a five-factor structure and seen to be congruent with the related literature in the aspect of its structural characteristics. After conducting EFA, this study performed CFA to test the factor structure of the scale and to learn whether the five-factor structure of this scale was confirmed.

Goodness-fit indices are as such: $X^2 = 806.03$ ($df = 395$, $p < .05$) and $X^2/df = 2.04$. As stated by Schumacher and Lomax (2004), this value below 1 refers to low fit whereas the value over 5 denotes to the need to developing the model. In this regard, finding of this study indicating the goodness-fit value as 2.04 can be regarded acceptable. It is also suggested that other goodness--fit indices should be examined because of the fact that chi-square value has some constraints as sensitivity to study sample (Hooper, Coughlan, & Mullen, 2008).

Results also illustrated that RMSEA was .08, GFI .74, AGFI 0.70, RMR .033, and SRMR .061. While the value between 0 and .08 was regarded as a sign for good-fit (Hooper et al., 2008), it is suggested that the point .06 should be taken as breakpoint (Hu & Bentler, 1999). GFI and AGFI are valued between 0 and 1 and 0 refers to the nonexistence of fit whereas 1 means perfect fit (Schumacker & Lomax, 2004). These values being .90 or more refers to good fit. RMR or SRMR's being under .05 is a sign for good fit (Hooper et al., 2008), while being under .08 points to an acceptable fit (Hu & Bentler, 1999).

Values produced from this study are equal to or near breakpoints, which shows that there is a good fit between data of the study and the structure of the model. This study also concluded that NFI was .95, NNFI was .97, and CFI was .97. Hu and Bentler (1999) state that over .95 values for NFI, NNFI, and CFI point to a good fit. Considering all the indices values above, it is evident that the structure of the scale has an acceptable fit.

Table 4. LCI's Factor Structure, Factor Loadings of Each İtem, Variance Explained, and Total Variance Explained

Items	Factors*				
	Managerial competencies	Instructional leadership	Organizational leadership	Professional mastery	Supervisory
Item 1	.68			.37	
Item 2	.66				
Item 3	.62				.41
Item 4	.59	.35			
Item 5	.58			.42	.32
Item 6	.57	.41	.36		
Item 7	.55				
Item 8	.54		.33		
Item 9	.49				
Item 10		.80			.38
Item 11		.78			
Item 12		.77			
Item 13	.39	.72			
Item 14		.62	.47		
Item 15			.72		
Item 16		.36	.63		
Item 17		.37	.59		
Item 18			.58	.47	
Item 19	.36		.58		.43
Item 20		.31	.47	.32	
Item 21				.76	
Item 22				.74	.33
Item 23	.49			.67	
Item 24				.56	
Item 25	.30			.52	
Item 26		.37		.46	
Item 27			.34		.67
Item 28	.34	.36			.67
Item 29	.33	.39			.65
Item 30			.46		.57
Eigenvalues	4.82	4.46	3.93	3.71	3.65
Variance explained (%)	16.06	14.86	13.10	12.35	12.16
Total variance explained (%)	68.52				

* Factor loadings below .30 are not shown in the table.

Figure 1 shows the five-factor structure of LCI and the relationships between items and factors in the scale along with path diagram. The values over one-way lines drawn from factors (latent variables) to item (observed variable) indicate that the magnitude of causal effect of factors over items, in other words factor loadings, and the values over the arrows drawn to the items from outside and left

side demonstrate the variances of error. Values over two-way arrows between factors indicate the correlation coefficients, namely the values of covariation of variables.

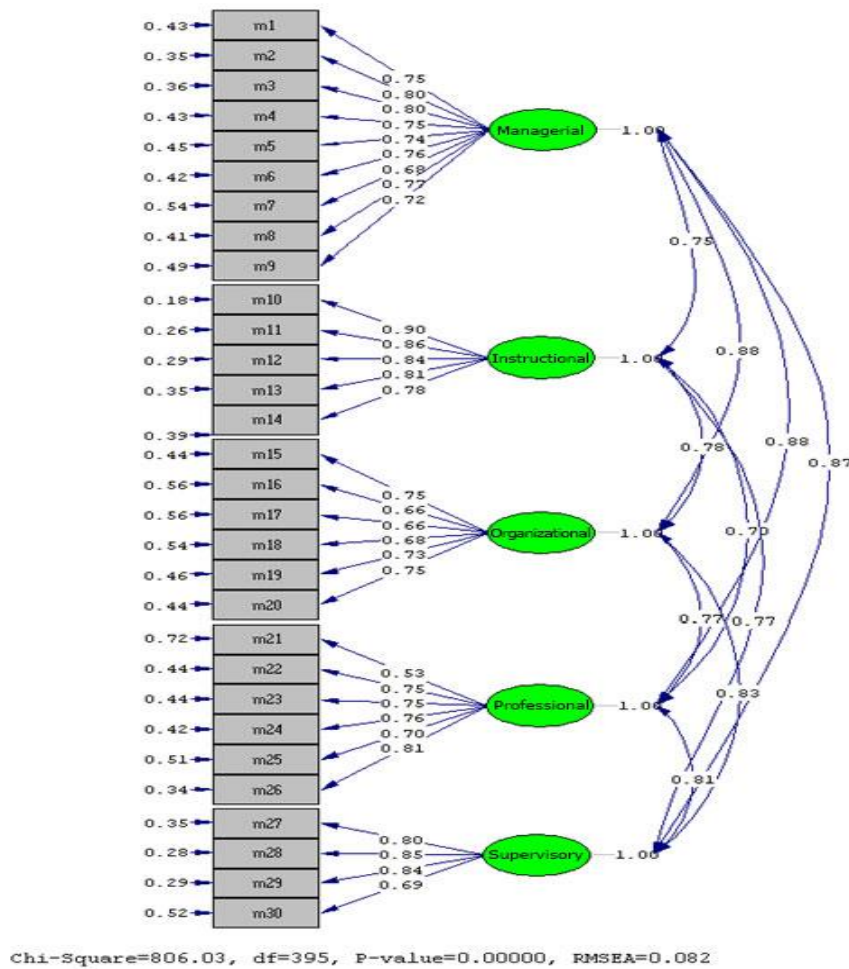


Figure 1. Path Diagram of Leadership Competency Inventory

According to Figure 1, variances of error point with the arrow positioned to item from the left side were between .18 and .72, which can be regarded acceptable. It is also seen that factor loadings over arrows drawn from each factor to item ranging between .53 and .90 were at desirable level. Correlations between latent variables ranged between 70 and .87.

Table 5 mirrors the means and standard deviation values of factors and correlations between factor scores.

Table 5. The Means and Standard Deviation Values of Factors and Correlations between Factors

Factors	\bar{X}	S	1	2	3	4	5
1. Managerial competencies	4.37	.54	-				
2. Instructional leadership	4.42	.67	.71**	-			
3. Organizational leadership	4.26	.58	.77**	.71**	-		
4. Professional mastery	4.34	.56	.76**	.60**	.63**	-	
5. Supervisory	4.39	.61	.79**	.69**	.73**	.69**	-

** $p < .01$

Correlations illustrated in Table 5 indicate that five factors of leadership competency increased and decreased together. Managerial competencies was highly positively correlated with instructional leadership ($r = .71$), organizational leadership ($r = .77$), professional mastery ($r = .76$), and supervisory ($r = .61$). Instructional leadership was also highly associated with organizational leadership ($r = .71$), professional mastery ($r = .60$), and supervisory ($r = .69$). Similarly, there were strong relationships between organizational leadership and professional mastery ($r = .63$) and between supervisory and organizational leadership ($r = .73$) and professional mastery ($r = .69$). According to Kline (2005), the fact that correlations among variables are not very high ($r > .85$) should be taken into consideration to be able to confirm the model structure. Correlations values of administrator competencies pointed to strong relationships among factors. Considering that these values are important for questioning the distinctive validity of factors, it is arguable that five factors of administrator competencies developed by Yoon et al. (2010) are closely related to each other and have difficulty in discriminating the competency areas. High correlations among factors of this model denote to the integrated structure of factors. Thus, correlations among factors can be regarded as theoretically acceptable in this model. It was also seen that all t values of factor loadings determined based on the path diagram of LCI were significant.

Standardized factor loadings indicate the correlations between observed and latent variable. In other words, it shows to what extent a single-bit change in latent variable leads to another change in observed variable. High values refer to strong relationships between latent and observed variable (Çokluk et al., 2012; Yılmaz & Çelik, 2009). When the loadings of each factor are examined, it is possible to suggest that items are highly correlated with the related factor. Taking these results into consideration, data derived from the scale can be said to have an acceptable level of validity.

The reliability of LCI was examined through Cronbach's Alpha coefficient in the aspect of both whole scale and separate factors. Furthermore, t-test was performed to examine the difference between the scores of lower 27% and upper 27% groups and results were presented in Table 6.

Table 6. Cronbach's Alpha Coefficient of the Scale and Separate Factors and the Means, Standard Deviations, and t-Test Values of Lower 27% and Upper 27% Groups

Factors	Cronbach's Alpha	Lower 27%		Upper 27%		Lower 27% – Upper 27% t-test
		\bar{X}	S	\bar{X}	S	
Managerial competencies	.92	3.80	.57	4.89	.17	11.87**
Instructional leadership	.92	3.72	.82	4.95	.13	9.61**
Organizational leadership	.85	3.69	.51	4.88	.19	14.24**
Professional mastery	.86	3.80	.58	4.86	.21	11.13**
Supervisory	.87	3.75	.67	4.94	.16	11.19**
Total	.97	3.75	.52	4.90	.10	14.25**

** $p < .01$

As can be seen from Table 6, internal consistency coefficient calculated for the all items of LCI was .97. Cronbach's Alpha coefficients for the factors of the scale ranged from .85 to .97. T-test values comparing the scores of lower 27% and upper 27% groups were between 9.61 and 14.25 and t-test values were seen to be statistically significant ($p < .01$). These findings indicated that the reliability of the whole scale and sub-dimensions were at good level.

Results

This part of the study tries to respond the research questions. School administrators' competency levels of the sub-dimensions of LCI according to the perceptions of school administrators and teachers were presented in Table 7.

Table 7. Correlations among Sub-Dimensions of Administrator Competencies According to the Perceptions of School Administrators ($n = 121$) and Teachers ($n = 143$)

Factors	1	2	3	4	5
1. Managerial competencies	–	.88**	.77**	.66**	.65**
2. Instructional leadership	.85**	–	.78**	.66**	.66**
3. Organizational leadership	.83**	.86**	–	.85**	.82**
4. Professional mastery	.76**	.82**	.86**	–	.89**
5. Supervisory	.79**	.78**	.77**	.74**	–

** $p < .01$

Note: Values over diagonal line present the correlation coefficients for school administrator sample whereas values under diagonal line refer to the correlation coefficients for teacher sample.

As can be seen from Table 7, there were highly positive correlations between the views of both school administrators and teachers about the factors of LCI. The highest correlations occurred between managerial competencies and professional mastery ($r = .89, p < .01$), and the lowest were found between managerial competencies and supervisory ($r = .65, p < .01$) for school administrators. On examining the values under diagonal line, the highest correlations were between instructional leadership and organizational leadership ($r = .86, p < .01$) and organizational leadership and professional mastery ($r = .86, p < .01$) for teachers. Correlations between other sub-dimensions were also high, positive, and statistically significant. High correlations among the factors of LCI stems from the holistic structure of LCI.

This study conducted MANOVA to examine the views of school principals and teachers on the factors of LCI. Büyüköztürk (2002, p. 130) states that MANOVA was performed to examine that groups built upon one or more factors have statistically significant differences in the aspect of more than one dependent variables. In this analysis, each subject has a component composed of points related to dependent variable. This analysis tests the significance of difference between mean group scores derived from this component.

MANOVA results for the difference between school administrators' and teachers' views on the factors of LCI were presented in Table 8.

Table 8. MANOVA Results for the Factors of LCI According to Duty Variable

Factors	School Administrator (<i>n</i> = 121)		Teacher (<i>n</i> = 143)		<i>F</i>	<i>p</i>
	\bar{X}	<i>S</i>	\bar{X}	<i>S</i>		
Managerial competencies	3.89	.98	3.22	.91	33.21	.000
Instructional leadership	3.86	.90	3.29	.96	24.79	.000
Organizational leadership	3.83	.83	3.26	.92	27.38	.000
Professional mastery	4.01	.84	3.31	.95	39.34	.000
Supervisory	4.05	.90	3.40	1.01	29.56	.000

As can be seen from Table 8, school administrators' and teachers' perception scores differed significantly for the subscales of LCI [Wilks' Lambda = .85, $F(5-258) = 8.99$, $p < .01$]. The test of Wilks' Lambda was a negative-valued one and therefore a decrease in its value denotes to the increase of factor effect's contribution to the model. If p value is under .05, it is concluded that there is a significant difference at least between the two groups of the factor and in at least one of the dependent variable (Kalaycı, 2006).

When the means of school administrators and teachers for the factors of LCI are examined separately, it is seen that school administrators' scores are higher than those of teachers in all factors. In other words, school administrators' perceptions of their leadership competencies were more positive than teachers' perceptions on school administrators' leadership competencies. This finding may stem from school administrators' more optimistic point of view for self-evaluating of their leadership competencies. When the means of each factor are compared with regard to school administrators and teachers, it is clear that the highest rated factor of LCI for school principals was supervisory ($\bar{X} = 4.05$). Teachers also perceived that school administrators had more leadership competencies in the factor of supervisory ($\bar{X} = 3.40$) than of other scales. School administrators rated organizational leadership the lowest ($\bar{X} = 3.83$), whereas teachers rated managerial competencies the lowest ($\bar{X} = 3.22$).

Discussion and Conclusion

This study examined the leadership competencies of school administrators according to their perceptions and the views of teachers by using LCI originally developed by Yoon et al. (2010) and adapted into Turkish culture by the researchers. Results of this adaptation process indicated that the scale was reliable both in the aspect of whole scale and its factors. Results also revealed that each factor was positively and highly correlated with both other factors' scores and with the whole scale scores and that t-test results for the comparison of competencies of upper 27% and lower 27% groups were also significant. These findings evidenced that the scale was highly reliable.

DFA was applied to test the factor structure of the Turkish adopted form of the model developed originally by Yoon et al. (2010). It was found out that standardized factor loadings of the model were high and that t value was significant. Fit indices used to evaluate the model pointed to a good fit between the study data and the model. Some correlations between the factors of the model may stem from the conceptual framework.

The final form of the LCI includes 30 items under such factors as *managerial competencies* (resource usage, resource management, problem solving, self-direction, technology management, strategic thinking and planning, interpersonal competence, leadership and mentorship, flexibility and resilience), *instructional leadership* (school vision and mission, education program and the management of teaching, professionals competencies, climate of learning, industry-wide competencies), *organizational leadership* (diverse workforce, financial management and budgeting, human performance management, understands systems, external awareness, management controls), *professional mastery* (computer and basic literacy, conceptual thinking, technical competencies, learning and information, written communication, self-responsibility and management) and *supervisory* (conflict management, teamwork and collaboration, interpersonal relationship building and consistency) (Appendix 1). Şahin (2000) also conducted a study to determine the competencies of elementary school principals and reported a large scale of competencies. His study have identified the main competencies of school principals as instructional leadership, research and professional development, human resources management, school-community relations, communication, student affairs, school management and some personality characteristics. School management is a profession that requires multiple skills and competencies due to its unique characteristics and complex nature. Therefore, the fact that the school administrators' leadership competencies have a wide range of qualifications including from instructional leadership to school management stems from the multivariate structure of school settings. For that reason, school administrators must have a holistic view of education, schooling and management.

Another powerful side of LCI is that it can be used for educational administrators besides that it functions as a valid and reliable scale in Turkish culture. Furthermore, the instructional leadership scale that was added to the scale merged with the items of professional competency and do not harm the basic structure. This may increase the functionality of the scale to evaluate education and school administrators' competencies.

Administering this scale, which was adopted into Turkish and was found out to have an acceptable fit, in a larger sample including school administrators and teachers may produce more effective findings to show how to use it in Turkey. LCI may also contribute to the evidence base on which competencies education and school administrators have in the processes of choosing and training school administrators and on which competencies should be developed and on building certain standards.

On the other hand, results revealed that the factors of LCI were highly positively correlated with each other. Depending on the common perceptions of school administrators and teachers, this finding refers that LCI has a holistic structure and that managerial competencies, instructional leadership, professional mastery and supervisory factors are dependent on each other, however, they are related to each other in a holistic structure. Evaluations of school administrators' competencies should be premised upon these factors.

In school administrator sample, managerial competencies and professional mastery were the highest correlated factors. However, instructional leadership and organizational leadership were the factors with highest correlation in teacher sample. This finding suggest that school principal pay more attention to managerial processes while teachers give priority to educational activities. Results illustrated that the least correlated factors of LCI were managerial competencies and supervisory according to school administrators while supervisory and professional mastery were the least associated factors for teachers. The finding indicating that both school administrators and teachers think the least correlated subscale with other factors was supervisory might stem from the fact that it is inspector, not school administrator, to be responsible for supervising the schools.

Results revealed that linear component mean scores comprised of the factors of LCI differed significantly according to school principals and teachers. School administrators' perceptions on their leadership competencies were higher than those of teachers on school administrators in all of the LCI dimensions. In a study conducted by Ağaoğlu et al. (2012) about the proficiency of school administrators, similar results indicating that school administrators' perceptions of their competencies were higher than teachers' perceptions on school administrators' competencies were produced. This finding referring that school administrators had more positive perceptions on their competencies might be congruent with the expectations. In his analysis based on the perceptions of teachers, supervisors, and school administrators about the competencies of school principals, Dönmez (2002) also reported that teachers and supervisors tended to more poorly evaluate school principals than the school principals own perceptions about themselves. Consequently, people's perceptions of the self are generally positive.

School administrators play a key role in student achievement and school improvement and determining their competencies is crucial in rapidly changing and improving social conditions. The more the school principals have competencies, the higher the student achievement is. This study aimed at determining the school administrators' competencies by using a comprehensive perspective. More research is needed to contribute to build a standard administrator competency framework.

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Appendix 1. Leadership Competency Inventory

1. **Resource Usage:** Identifies, organizes, plans and allocates resources.
2. **Resource Management:** Demonstrates awareness of technical resources; knows how to apply resources to achieve desired outcomes.
3. **Problem Solving:** Recognizes and defines problems; analyzes relevant information; encourages alternative solutions and plans to solve problems.
4. **Self-Direction:** Realistically assesses own strengths and weaknesses; invests in self-development; demonstrates self-confidence; can work persistently toward a goal; manages own time effectively.
5. **Technology Management:** Stays informed about new technology; applies new technologies to organizational needs; ensures staff is trained and able to use technology required for the job.
6. **Strategic Thinking and Planning:** Advocates and participates in strategic planning to define and achieve organizational goals.
7. **Interpersonal Competence:** Appropriately sociable, interacts effectively with others.
8. **Leadership and Coaching:** Models and encourages high standards of ethical behavior; adapts leadership styles to situations and people; empowers, motivates, guides, and coaches others.
9. **Flexibility and Resilience:** Adapts to change in the work environment; effectively copes with stress and ambiguity.
10. **Vision and Mission:** Defines, shares, develops and applies the goals of the schools, defines a mission related to learning in school.
11. **Management of Education Programme and Teaching:** Controls and evaluates teaching; coordinates education programme and follows student development.
12. **Occupational Technical Competencies:** Demonstrates knowledge, skills, and abilities needed within current occupation (e.g., engineer, HR professional, lawyer, nurse, etc.) and stays up-to-date with the changes and developments in the occupation.
13. **Learning Climate:** Protects teaching time; makes his presence felt in school, encourages teachers to work, supports professional development of teachers, develops and applies academic standards, encourages students to learn.
14. **Industry-Wide Technical Competencies:** Demonstrates knowledge, skills, and abilities needed within the industry of context (e.g., manufacturing, hospitality, financial services, education, healthcare, transportation, etc.) and stay up-to-date with the changes and developments in the industry.
15. **Diverse Workforce:** Recognizes the value of cultural, ethnic, gender, and other individual difference; provides employment and development opportunities for a diverse workforce.
16. **Financial Management and Budgeting:** Understands budget process; prepares and justifies budget; monitors expenses; manages profit/loss ratios as appropriate.
17. **Human Performance Management:** Ensures effective systems for employee selection, placement, development, performance appraisal, recognition and disciplinary action; promotes positive labor relations and employee well-being.
18. **Understands Systems:** Grasps complex interrelationships and interdependencies.
19. **External Awareness:** Stays informed on policies, priorities, trends and special interests and uses this information in making decisions; considers external impact of statements, decisions or actions.
20. **Management Controls:** Ensures the integrity of the organization's processes; promotes ethical and effective practices.
21. **Computer and Basic Literacy:** Proficient in using personal computer and learning new software; reads, writes, and performs mathematical operations; speaks and listens with comprehension.
22. **Conceptual Thinking:** Thinks creatively, can visualize concepts; uses reasoning to make decisions and solve problems.
23. **Technical Competence:** Works with various technologies as required for the job.
24. **Learning and Information:** Demonstrates ability to develop new awareness, knowledge and skills; acquires and uses information productively.
25. **Written Communication:** Communicates effectively in writing; can critically review and comprehend information written by others.
26. **Self-Responsibility and Management:** Displays responsibility, self-confidence, emotional self-control, integrity and honesty.
27. **Conflict Management:** Anticipates and seeks to resolve disagreements, complaints and confrontations in a constructive manner.
28. **Teamwork and Cooperation:** Demonstrates and fosters cooperation, communication and consensus among individuals and groups.
29. **Interpersonal Relationship Building:** Considers and responds appropriately to the needs, feelings and capabilities of others; seeks feedback and accurately assesses impact on others; provides helpful feedback; builds trust with others.
30. **Decisiveness:** Can decide and respond quickly and make difficult decisions when necessary.