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Developing a Perception of Decentralization Scale in the Educational Administration for Turkey

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Abstract

The purpose of the research was to develop a scale to achieve a decentralized structure of the educational administration system, contribute upon scientific studies, reveal the reasons for the negative perceptions of administrators and teachers against decentralization, test its validity and reliability and make an evaluation in terms of various variables in Turkey. Descriptive survey was used on 899 teachers and administrators with the official grant of Adana governorship. Validity, reliability, and internal consistency tests and exploratory and confirmatory factor analyses were performed for construct validity, and t-test and ANOVA analysis were performed for determining the differences between the variables., A three-factor structure of 36 items was created at the end of the exploratory factor analysis. It was observed that there was a significant difference at $p<.05$ level of significance between the perceptions of the variables of gender, participation status, preference, and the institution they worked, and there was no significant difference between the variables of age, seniority, educational status, and marital status.

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INTRODUCTION

The concept of decentralization which has been expressed in the mid-20st century and become a worldwide trend with the economic depression of 1970, has caused significant changes in the fields of administration. Organization for Economic Cooperation and Development (OECD) countries have abandoned their administrative understanding of central government and adopted transferring their power towards the local and transferred all powers to local actors to improve the quality of services in the service sectors such as education, health, and security, and have experienced great economic and social transformations acting as independent of the central government (Bakioğlu, 2014). These change and transformation have been especially efficient in terms of educational administration and have led many countries to move to a decentralized structure in educational administration systems. Although Turkey is an OECD country, it is in a constant debate on this issue both in itself and in some Central Asia (Japan, South Korea, Singapore, etc.), and when compared to the European Union (EU) and OECD countries, it has still continued an overly decentralized educational administration system going back to 1960s (Çınkır, 2010). All decisions about educational services are taken from the center and implemented in the form of a package program for the whole country regardless of regional differences (cultural, economic, and social). This has prevented the progress in both education, social and economic fields, and also has caused inequality of opportunity in education (Li, 2017). The need for change and transformation is inevitable for Turkey. Making the Turkish education management system dominate the common sense, sustainability, transparency, competition, accountability, democracy, and participatory management approach will carry Turkey to the economic, social and educational level of developed countries.

The Turkish educational system started to meet with global actors such as the EU, International Monetary Fund (IMF), OECD and World Bank (WB) after the mid-20th century. The transfer of the educational system to local authorities has necessarily been stated before each agreement in the educational sections of the financial agreements with IMF; in the letters of intent submitted to IMF, loans were received, after each agreement, but no results regarding the transfer of Educational Administration to local authorities have been obtained (Özdemir & Beltekin, 2012). Thirteen projects have been carried out with training cooperation activities started between the World Bank and Turkey in 1971 (Özdemir & Beltekin, 2012). Among these projects, there have been studies on decentralization in educational administration. After the loan agreements made with the World Bank, no results regarding decentralization in educational administration have been obtained. However, although various legal arrangements have been made, these arrangements have been rejected on various grounds.

For example, it was aimed to present various principles and suggestions for local administration reform, decentralize centralized-bureaucratic structures and transform them into strong and democratic, effective, and efficient local administration units with the Public Administration Research Project (KAYA, 1991; Coşkun, 2005). One of the goals of the Secondary Education Project implemented in 2002 was the decentralization of education, especially the financial autonomy and independence of schools (Özdemir & Beltekin, 2012). The project was implemented, but after the project, the work related to the purpose of the project was not carried out. The draft law of the Public Administration Basic Law prepared in 2003 has been based upon developing a participatory, transparent, accountable, fair, rapid, effective, and efficient administration approach in public services and providing the most appropriate and closest unit to those who benefit from the place and service in public services (Odabaş et al., 2016). The biggest step taken so far on decentralization has been fulfilled with this draft law. However, this draft was rejected by the president of the period on the grounds that it would disrupt the unitary structure of the state. In accordance with the Municipal Law No. 5393 adopted in 2005, municipalities have been authorized to build, renovate, and open preschool educational institutions related to educational services. However, the authority of establishing a preschool was denied by the

Constitutional Court (Odabaş et al., 2016). This situation was due to the political structure of Turkey. Various pressure groups in the country's administration have created a negative perception of decentralization in public opinion creating fear that decentralization would lead the country to division.

This perception has been felt in educational administration, and teachers have been influenced due to this pressure affecting other educational stakeholders in decentralization negatively. This effect has revealed itself in scientific studies and (Şişman et al., 2003; Gülşen, 2005; Taşar, 2009; Ölmez et al., 2011; Karataş, 2012; Öz, 2013) caused different results in face-to-face qualitative studies such as different surveys and scales, in anonymous and non-face-to-face studies, as well (Koçak-Usluel, 1995; Köksal, 1997; Kıran, 2001; Çınkır, 2010; Turan et al., 2010; Karataş et al., 2017). For example, whereas national integrity is often expressed in qualitative studies, democracy, human rights, quality of education or executive deficiencies are expressed more often in quantitative studies. This environment has appeared as an obstacle for decentralization in educational administration. Policymakers fail to fully understand the intentions of education stakeholders and their imperfections in decentralized administration and are hesitant whether they will receive support from them. They are not able to take decisive steps regarding decentralization from the concerns arisen for this reason.

Most of the scientific studies on decentralization in education in Turkey are qualitative. While qualitative studies are in the form of face-to-face interviews and literature reviews, in 3 of the quantitative studies the scale has been used and, in the others, surveys were used to obtain information. Some quantitative studies are also based on social and economic statistical data (Ayrangöl et al., 2014; Ölmez et al., 2011; Göksoy, 2020). One of the scales was developed by Koçak-Usluel (1995), one by Köksal (1997), and the other by Çınkır (2010). The scales prepared by Koçak-Usluel (1995), and Köksal (1997) are related to the transfer of the authority of the central administration towards decentralization in education to local governments and the acceptance of decentralization; on the other hand, Çınkır 's (2010) scale is about transferring of the duties and powers of the Ministry of National Education to the local government regarding the decentralization of education and to what extent decentralization in education is accepted. Whereas some of the positive aspects and disadvantages of decentralization are prominent in qualitative studies, the positive aspects of decentralization and the extent to which decentralization administration are adopted have become prominent in quantitative studies.

The most comprehensive scale in terms of scale development in the international sense is the OECD 2018 International Teaching and Learning Survey (TALIS) scale developed by the OECD the results of which have been announced. It is an international, large-scale survey for teachers, school leaders and learning environment in schools. Only the section of autonomy of teachers and administrators in the survey has been related to the content of this article (OECD, 2018). This autonomy is at the school level. Although it measures the perceptions of teachers and administrators' autonomy, it cannot be said that the scale in this study exactly matches the meaning and context of the decentralization concept tried to be measured. For example, this scale differs from the TALIS scale in terms of the definition (content) of decentralization, the capacity of local governments and local administrators managing educational administration and explaining how the positive attitudes that decentralization can bring to educational administration are perceived. The scale questions also have the feature of being possible to be adapted into an interview form when necessary and are also possible to create a qualitative study opportunity for researchers. Researchers also have the opportunity of conducting further comparative researches on qualitative and quantitative results.

The opposite for decentralization in Turkey is perceptual. The scale is intended to reveal the perceptions of the facts such as negative perceptions of decentralization, attitudes, capacities of local administrators, lack of adequate understanding of decentralization, insufficient knowledge on benefits of the consequences, democracy, human rights, insufficient knowledge related to the positive

contributions upon a qualified administration structure, inability of perceiving its contribution on economic development adequately, and etc.

A descriptive study and survey of the quantitative method including the positivist understanding of philosophy was reflected in this study. Causality, reductionism, experimental measurement, and theory verification created the research process. The data were collected longitudinally with an electronic questionnaire (Google survey). The sample was randomly selected from the population, and a new scale was chosen as the data collection tool (Creswell, 2017). How administrators and teachers perceived decentralized understanding of administration was tried to be revealed with this study on a developed scale.

CONCEPTUAL FRAMEWORK

Urbanization, globalization, and changes in the quality of democracy, regionalism and decentralization tendencies in democratization, administration and organization approaches are the most important phenomena for today's administration approach (Görmez, 2005, p. 47). With the support of the WB and the OECD, globalization and neoliberal policies that began in the 1980s have brought significant changes in economics, politics, and administration, and the first steps of decentralization in the administration were taken (Doğan, 2016, p. 1795). Agenda 21 of the United Nations Conference on Environment and Development "Earth Summit" held in Rio de Janeiro in 1992 defined the concept of sustainable development and governance (Güneş & Beyazıt, 2012, p. 26). In 1999 and 2004, the OECD defined the principles of governance and made recommendations on implementation to all member countries. OECD sees governance as tantamount to decentralization (OECD, 2004).

Oates (1972) and Rondinelli (1981) put forward the theory of decentralization and expressed it as a situation that benefits local communities. Rondinelli later stated that there were three forms of decentralization based on Oates' theory of decentralization as decentralization, transfer of authority, and authorization (as cited by Kang, 2020). While these studies were more about the financial part of decentralization, McGinn and Welsh (1999) started the decentralization movement in educational administration associating these forms of decentralization into the educational context; and finally, Werner and Shah (2006) conceptualized and decentralized the financial decentralization of education, devolution, and they associated it with empowerment concepts (Kang, 2020). Such distinctions within the general term of 'decentralization' emphasized the need to consider various possible forms of decentralization in education. The literature suggested that these differences should be regarded in discussions of decentralization.

Decentralization was defined variously in national and international literature. The decentralization was defined as the transfer of decision-making authority, democracy, little control, participation, sharing responsibility, and eliminating inequality between regions by Bucak (2000), as secession from the centre by Kang (2020), as the transfer of decision-making responsibility, power and authority from higher-level organizations to lower-level organizations by Leung (2004), as the transfer of power from central administration to low-level administrative units within the political, administrative, and national hierarchy, the transfer of decision-making power to regions, municipalities or local governments, and a tool allowing citizens to participate in government by Yuliani (2004), as ensuring a more productive administration system eliminating the bureaucratic process and ensuring qualified progress by Hazman and Kucukilhan (2018), as giving people a role in determining their needs rather than giving people the right to manage the resources allocated to them by OECD, and as a form of governance in which problems arising from decision-making power, access to education, waste and misadministration possible to be overcome by The United Nations Educational, Scientific and Cultural Organization (UNESCO) (as cited in Hazman & Kucukilhan, 2018, p.45). According to the definition of the World Bank, decentralization is the transfer of public powers and responsibilities from the central government to the provincial organization and local governments or

to semi-autonomous government organizations and / or the private sector. In this framework, four different types of decentralization were defined as political, administrative, financial, and market (as cited in Keskin, 2008, p. 618). Decentralization, in general, was used to refer top-down transfer of authority within the state.

Whereas Hanson (1997), Gershberg (2005), Zajda (2006) defined decentralization as cooperation in the public sphere, communication, coordination, democracy, justice, participation in decision-making, rapid decision-making, Ökmen et al., (2013) and Popescu (2013) defined it as a management area where transparency, accountability, less bureaucracy, efficiency, and productivity found the best use. It was noticed that the definitions were grouped in terms of the functioning of decentralization, its social and economic effects, and local administrative power and functioning.

Ayrangöl and Tekdere (2016) stated that there were different classifications in the literature on the types of decentralization as well as the definition and stated that the most commonly used classification methods were regional and functional decentralization. Functional decentralization involved leaving the authority to administrate a particular function to organizations specialized in a specific matter on a national or local basis, and regional decentralization involved transferring public functions to local organizations with well-established geographical boundaries. The classification of the world bank was political, administrative, financial and market (privatization) decentralization (Keskin, 2008). Koçak-Usluel (1995) classified decentralization as width of authority, transfer of authority and decentralization; Donnelly et al. (2017) classified it as authorization, decentralization, transfer of authority and separation (delegation, deconcentration, devolution and decoupling) and authorization. Authorization was defined as a transfer, decentralization of tasks and administrative functions related to specific functions which were usually defined by central authorities, the transfer of powers and responsibilities to lower system levels, the transfer and separation of authority and actual responsibility from the centre to local bodies, and the divergence between policy directives, implementation and results.

In this context, decentralization of administration systems ceased to be a proposal and turned into a necessity. This necessity was based on many reasons. Jeong et al. (2017) and Rauf et al. (2017) listed these reasons as accountability adding local power to decision-making processes and improving efficiency in administration and resource use, contributing upon economic development with institutional modernization, distributing financial responsibility from the centre to the local, supporting local democratization, increasing local control transferring authority to local governments and increasing the quality of education. Gershberg (2005) and Salinas (2014) explained the reasons for decentralization in the educational administration system as to meet local demands, to prevent bureaucracy, to minimize waste of resources, to coordinate government programs with the local, to reduce the cost of communication, to mobilize local dynamics and to provide local financial participation, to benefit from local know-how and experience, to increase the impact of local supervision, accountability, cooperation, and to convey in the form of ensuring transparency. Similarly, Florestal and Cooper (1997) and Falcão (2015) explained decentralization as saving, increasing administration efficiency and flexibility, delegating responsibility to the local, raising revenues, giving administrative responsibility to the lowest level of local government, giving local people a voice in matters concerning them, and recognizing local diversity.

Bucak (2000), Papadopoulou and Yirci (2013), and Falcão (2015) listed the concepts that decentralization in education administration brought to society from an educational, social, financial, administrative perspective as development, change, innovation, responsibility, access, human rights, competition, equality of opportunity, financial participation, regional differences, education quality, inequality, impact, development, national unity, application, flexibility, adaptation, representation, curriculum, training programs, motivation, encouragement, motivation, ownership, integration, and development of democracy. These authors discussed the positive and negative contributions of these concepts upon administration in various ways with the appearance of decentralization in the

educational administration system. In Latin America, the meaning of decentralization indicated political pressure from the people for democracy, while the meaning of decentralization in Turkey was expressed by the concern of division bringing national integrity to the forefront. Decentralization was used as a way of ensuring national unity in Africa (Tekdere, 2013). This contrasted with the perception on Turkey's national unity.

Decentralization was not only prominent with its positive side. It was stated that there were also negative aspects. For example, Oates (1999, 2005), Gershberg and Winkler (2004) expressed that education with decentralization went beyond its purpose entering into the conflict area of power centres and it had a negative impact on the future of the country. Furthermore, Li (2017) stated that funding in decentralization caused inequality of opportunity in education. Papadopoulou and Yirci (2013) noted that decentralization was possible to make it difficult to follow a single policy in educational administration, and Venkataraman and Keno (2015) noted that it was possible to complicate overcoming local challenges such as adequate financial support, lack of trained manpower, and low number of teachers (p. 165).

Although decentralization created a significant contribution on social and educational sphere, it became an area of many financial challenges, as well. If sufficient financial resources could not be created, it was also possible to affect educational and social achievements. For example, while Gershberg and Winkler (2004) and Galiani (2008) found the positive contributions of fiscal decentralization in Eskeland; and Filmer (2002) in Argentina, Barankay and Lockwood (2007) in Switzerland, Gershberg and Winkler (2004) and Galiani (2008) stated in their studies that they could not find any evidence of the effects of fiscal decentralization on student achievement, and stated that most of the positive contributions of decentralization stemmed from parental involvement (as cited in Kang, 2020). DeBoer (2012) revealed in his study in the USA that financial centralism brought more benefits than financial decentralization. Ferrari and Zanardi (2014) stated that there was talk over a central financial reform for the equitable distribution of resources in the southern regions of Italy (as cited in Kang, 2020). From Turkey's perspective, Papadopoulou and Yirci (2013) attributed the barriers to decentralization of education to financial, decision-making challenges, the situation of local governments and legislative problems.

This study aimed to develop a scale to achieve a decentralized structure of the educational administration system in Turkey, contribute on scientific studies, reveal the reasons for negative perceptions of decentralization in administrators and teachers, test its validity and reliability, and make an evaluation in terms of various variables (age, gender, educational status, etc.). The following questions shed light on this study:

1. How is the validity and reliability of the content and structure of the scale developed for decentralization of the educational administration system?

2. Is there a significant difference between the views of teachers and administrators on decentralization of the educational administration system according to the variables of gender, age, seniority, educational status, marital status, participation status, the institution they work, and preference?

METHOD

The research reflected reductionism because it tested the assumptions of positivist philosophy as a causalistic philosophical understanding in which causes & effects were determined reducing ideas to small and independent pieces and reflected empiricism due to its understanding of measuring and revealing existing information. This study carries out on causality, reductionism, experimental measurement, and theory validation included two stages. The first stage included developing a scale including content validity, exploratory and confirmatory factor analyses on localization of the

educational management system, and the second stage included testing whether there was a difference between the views of teachers and educational administrators about the decentralization of educational administration according to various variables.

RESEARCH DESIGN

Descriptive study and survey of the quantitative method were used for this research. The purpose of descriptive study and survey was to describe the trends, attitudes and opinions of the studies conducted on a sample selected within the universe numerically (Karasar, 2014). The first stage of the research was based on scale development. Büyüköztürk (2005) stated that the scale development process included four stages as "defining the problem," "writing the items," "seeking expert opinions," and "pre-application" (p. 1). The Decentralization of Educational Administration System Scale created during this research was developed within the framework of a four-stage system. In the first stage, qualitative data were collected according to the research subject followed by defining and classifying the problem. In the second stage, the questions for the draft scale were created. In the third stage, the content validity of the draft scale form was determined depending on expert opinions. In the fourth stage, the first and second trial applications of the draft form of the scale were conducted, and the construct validity of the form was evaluated using Exploratory Factor Analysis and Confirmatory Factor Analysis. After performing exploratory and confirmatory factor analyses, the scale development process was completed. In the other dimension of the study, t-test and ANOVA analyses were performed to determine whether there were differences of opinion between the teachers and administrators who participated in the research on the basis of the selected independent variables.

SAMPLE

In terms of the quantitative data, the research population included teachers and administrators carrying on their duties in all organized and non-formal education institutions in Seyhan District of Adana Province in 2016-2017 academic year. The sample was selected with random selection method. The permission was obtained from the schools and institutions where the process was implemented in two stages. The reason for conducting the process in two stages was to test whether the data obtained from two different sample groups selected randomly from the same body gave similar results and to test the reliability of the information (İslamoğlu, 2011, p. 133). Schools in each category were arranged in alphabetical order and two groups were created grouping the schools in a category according to the number of teachers and administrators. Considering the exploratory and confirmatory factor analyses, generally 10-fold sample was required for each question (Çelik & Yilmaz, 2016, p. 41). Hence, totally 38 questions were planned to be included in the scale. As a general rule, the sample size to be used must be at least 5 times, but preferably, 10 times more than the number of questions (Karagöz, 2016). The number of samples for the scale was determined to be 38*10= 380 administrators and teachers. A draft version of the scale form was administered to the 1st and 2nd group schools determined previously. While administering the draft scale form, there were totally 421 participants including 300 teachers and 121 administrators in the 1st application, and there were totally 478 participants including 399 teachers and 79 administrators in the 2nd application. For the scale questions, test-retest was employed to 397 teachers and administrators in the first-group educational institutions (Table 2). Teachers and administrators in Groups 1 and 2 were different. Exploratory factor analysis was performed to teachers and administrators in 'Group 1' and confirmatory factor analysis was performed to those in 'Group 2'.

Table 1. *Seyhan District 2016-2017 Education Year of Instruction Administrator and Teacher Numbers*

Rank Id	*Title*	*Number*	*1st Group*	*2nd Group*
1	Administrators	696	354	342
2	Teacher	8.118	4.104	4.014
	TOTAL	8.814	4.458	4.356

Source: Seyhan District Directorate of National Education

The population of the research included 696 school principals and 8814 teachers carrying on their duties in Seyhan district in Adana province. There were 4,458 teachers and administrators in the first group and 4,356 in the second group.

Table 2. *Seyhan District 2016-2017 Education Year, Number of Formal Education and Non-formal Education Institutions*

Rank Id	*Common and Ordinary Educational Institutions*	*1st Group*	*2nd Group*	*Total Number*
1	Kindergarten	6	7	13
2	Primary school	45	44	89
3	Middle School	36	36	72
4	Secondary school	22	25	47
5	Other Institutions	6	5	11
	TOTAL	115	117	232

Source: Seyhan District Directorate of National Education

There were 232 educational institutions in Seyhan district of Adana province. Considering the number of teachers and administrators in these educational institutions, the participants were categorized under two groups. The educational institutions were listed in alphabetical order. Subsequently, they were categorized under two groups including equal number of teachers and administrators. Test-retest was performed to the first group, and the scale was applied to the second group. There were 115 educational institutions in the first group and 117 in the second group.

DATA COLLECTION

In this research, the projects, educational reports, legal regulations, development plans and the decisions of the councils written under the title of decentralization in education between 1980 and 2020 were evaluated as part of the content analysis. The conceptual codes obtained were converted into questions. The data collection form prepared by the authors was used at this stage. This form summarized content analysis, scientific studies, legal arrangements, project, council decisions and development plans under different categories. It was used to gather content related to educational administration system and create conceptual codes. Another data collection tool was the Expert Evaluation Form used to obtain expert opinions for determining the nature and content of the scale items. The last tool was the decentralization of education administration system scale developed by the authors within the scope of this research. The scale included two parts. The first aimed to determine personal information about teachers and administrators, and the other was a scale developed to determine their opinions on decentralization of the educational administration system.

The answers to the scale used in the research were arranged in 5 stages as incremental and at equal intervals including “I strongly agree”, “I agree”, “Neither agree nor disagree”, “I do not agree”, “I strongly disagree,” and the scores of “5, 4, 3, 2, and 1” were ranked, respectively. The questionnaire created for the scale was tested for content validity obtaining expert opinions and the necessary permissions were obtained to administer the draft version of the scale; teachers and administrators in Seyhan district of Adana received a link to access the questionnaire (Google Survey). The reason for this data collection method was its being cost-effective and providing easy access to the data, and easy processing the data to the database. Last, the data were collected in two stages. Validity and reliability information was included in the findings section.

DATA ANALYSIS

Content analysis was performed to the collected data and recorded in the MAXQDA 10 database software to create various thematic areas and questionnaire items, and the data were coded conceptually using the coding method. In the analysis, it was observed that the contents were generally related to local administration, the capacity of local governments, the decentralization dimension of education, the social, educational, economic, and administrative achievements of education, and the positive and negative dimensions of decentralization. These dimensions created the main themes of the scale to be developed. These concepts were turned into 46 open-ended questions and the scale items were created subsequently. As result of the expert opinions and applications, these questions were reduced to 36 items.

Within the scope of the general purpose of the study, IBM Statistical Package for the Social Sciences (SPSS) (Version 24) and Linear Structural Relationships (LISREL) (Version 8.80) package program were used for analysis depending on the collected data. Exploratory factor analysis, t-test, and ANOVA were performed with the SPSS package software, and confirmatory factor analysis was performed with LISREL package program.

T-test and one-way analysis of variance (ANOVA) were used for evaluating whether there was a difference depending on the independent variables in terms of the scores of the scale, and the Tukey Test was used to find the source of the difference in cases where the result was significant. In the analysis of the data, the level of significance was accepted to be p=.05. When the difference between the number of samples in the groups was too high, it was determined whether the results were significant according to the p values of the intra-group Gabriel test, Hochberg test and Games-Howell Test. The normality of the distribution was tested with kurtosis and skewness coefficients.

FINDINGS

The findings included two parts: The findings in the first part were related to scale development, while those in the second part were about the personal and professional characteristics of the administrators and teachers in the sample group and the difference in the mean scores of the scale related to the Decentralization of Educational Administration Systems.

CONTENT VALIDITY

Content and construct validity studies were conducted for the validity study of the scale. A 46-item question pool was prepared using the codes obtained from the literature. Yurdugül (2005) stated that the relationship between the scale to be developed and the situation to be measured should be consistent in scale development studies in field of education and psychology (p. 1). For this reason, it was important to continue with the opinions of experts related to the scale to be developed and to ensure the consistency of the results of the following stage of the statistical analysis (Tabachnick & Fidel, 2015, pp. 17,60). Expert opinions were consulted for content validity. An expert evaluation form was used for this purpose. Content validity rates were determined depending on the expert evaluation form results. Content validity ratios were used to convert qualitative studies based on expert opinions into statistical quantitative studies (Yurdugül, 2005). The content validity rate was determined to be minimum .62 for 10 experts and the content validity index was determined to be >=.62 for each question item (Yurdugül, 2005). Various rates were determined for this. In this study, the content validity ratios and the 6 -step content validation process known as the Lawshe technique were used (Lawshe, 1975). After the questionnaires were written and reviewed, the draft scale was submitted to three instructors, six school administrators and one teacher.

The results were evaluated according to the feedback received at the end of the first evaluation, and the content validity index was calculated to be .51. The content validity ratio for 10 experts was found to be less than .62. In total, 10 questions with negative or <.51 negative opinions reported by

the experts were excluded, thus the scale was sent to the experts for the second evaluation reducing the form to 38 items. Revised questions were processed, and feedback was taken into consideration. All experts approved the questions. The revised draft scale form was re-evaluated, and the content validity index was found to be .91. This value was found to be statistically significant as the scale validity of the draft scale form was higher than the validity rate of the scale as .62 (Yurdugül, 2005). No negative opinions were reported for the questions. It was therefore concluded that the draft scale was appropriate for measuring the decentralization perception in educational administration system. The content validity of the scale was statistically significant.

CONSTRUCT VALIDITY

Factor analysis served many relevant purposes; as previously mentioned, one of its primary functions was being an indicator of how many implicit variables were at the base of a group of items (DeVellis, 2014). Instead of giving a single coefficient for the validity of the measurement tool, it was applied to reveal the factor structure or confirm the previously predicted factor structure (Çokluk et al., 2014). According to Büyüköztürk (2002), exploratory factor analysis is conducted to find factors and propose theories; confirmatory factor analysis indicated that the factor hypothesis was tested and confirmed construct validity.

Erkorkmaz et al. (2013) described confirmatory factor analysis as an extension of exploratory factor analysis (AFA) and stated that exploratory factor analysis provided information to establish hypotheses, while confirmatory factor analysis was used to test whether the relationship between the factors determined was sufficient to explain the model (p. 211). Therefore, construct validity was tested performing both exploratory and confirmatory factor analyses. Exploratory factor analysis was applied to data obtained from teachers and administrators in Group 1, and confirmatory factor analysis was applied to data obtained from teachers and administrators in Group 2. The samples for the exploratory and confirmatory factor analyses were different. The exploratory and confirmatory factor analyses applied to the different groups were used to test the construct validity indicated by Erkorkmaz et al. (2013), and Büyüköztürk (2002).

The Draft Scale for the decentralization of the Educational Administration System content validity of which was confirmed and required legal permissions were obtained was sent to the schools and institutions of Seyhan District in Adana Province as presented in Table 2. Exploratory and confirmatory factor analyses were performed to the data obtained from the administrators and teachers.

Due to the fact that all fields in the online scale were requisite, there were no missing or incorrect data. It did not contain missing value. The data were tested for extreme values. Nineteen extreme values were found in the test-retest first measurement and 5 extreme values were found in the second measurement, and these extreme values were excluded from the assessment process. In addition, seven participants did not participate in the second test. After subtracting the outlier and the number of non-participants, test-retest analysis was performed with 378 participants. 437 participants participated in the first application of the scale, 16 outliers were determined, and 421 participants were analysed. 490 participants participated in the second application, 12 outliers were identified, and the analysis was conducted with 478 participants.

The normality tests (Skewness-Kurtosis and Normal Distribution test) were performed to the data obtained from the application of the draft scale form. Based on the normality, the Skewness values were in the range of -.337 to +.112 and the Kurtosis values were in the range of -.518 to +.223. The data with normal distribution was determined to have (-1.0) and (+1.0), Tabachnick and Fidel (2015) determined to have (-1.50) to (+1.50) and George and Mallery (2010) determined to have (-2.00) to (+2.00) Kurtosis and skewness values. Therefore, it could be said that the data has normally distributed.

Table 3. *KMO and Bartlett's Test of Sphericity*

		1st Application	2nd Application
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.978	.981
Bartlett's Test of Sphericity	Chi-Square	25367.529	20714.135
	Degree of freedom(df)	703	630
	Significance level(p)	.000	.000

Correlation matrix, Bartlett test and Kaiser-Meyer-Olkin (KMO) test were used to determine the appropriateness of factor analysis (Sevim, 2014, p. 949; Karagöz, 2016). The Kaiser-Meyer-Olkin (KMO) value calculated to determine the appropriateness of the draft scale for factor analysis was found to be higher than 0.60 with the value of 0.978 for the first application and .981 for the 2nd application (Table 3).

Table 3 presented the KMO values calculated to evaluate the suitability of the data structure for factor analysis in terms of size of the sample groups of both stages as 378 and 421 individuals. This value was considered to be sufficiently high to perform factor analysis (Çokluk et al., 2014). When the Bartlett test results were analysed, it could be observed that the obtained chi-square ($\chi 2$) value was significant at .000 level.

Table 4. *Total Variance Explained 1st Application*

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	28.097	73.939	73.939	15.096	39.726	39.726
2	1.761	4.635	78.574	8.320	21.896	61.622
3	1.317	3.467	82.041	7.759	20.419	82.041
4	.618	1.627	83.668			

Table 5. *Total Variance Explained 2nd Application*

Factor	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	%of Variance	Cumulative %	Total	%of Variance	Cumulative %
1	23.778	66.049	66.049	14.899	41.385	41.385
2	2.204	6.123	72.172	6.892	19.143	60.529
3	1.237	3.436	75.608	5.429	15.079	75.608
4	.704	1.955	77.563			

In Tables 4 and 5, the number of components was presented in the first column. In the first column, the group under the name of "Initial Eigenvalues", the total eigenvalue (total), percentage of contribution on variance (% of Variance) and cumulative percentage of contribution on variance (Cumulative %) were presented in terms of their contribution on the total variance. In the second column group called "Rotation Sums of Squared Loadings," there was a suggestion for the factor number (Çokluk, et al., 2014).

Three factors were proposed for the explanatory factor analysis to be performed as could be seen in the second column group of "Rotation Sums of Squared Loadings" in Tables 4 and 5. The reason for the three factor propositions was that there were three components that invalidated the eigenvalues 1. In other words, considering the 'Total' values in the first column group under the heading of "Initial Eigenvalues," there were three factors above the initial essence value 1. It could be noticed that the contribution of these three factors upon the variance was 82.041% for the first application and 75.608% for the second. When determining the number of factors, attention should be paid to how much each factor contributed on the total variance. Considering the "Percent of Variance" values in the first column group under the heading of "Initial Eigenvalues," it was possible

to observe that the first three components contributed significantly on the variance, and this contribution decreased from the other components. Consequently, it was determined that the factor number should be set to three. However, before this decision could be finalized, it was useful to analyse the "Scree Plot" graph (slope accumulation graph) (Çokluk et al., 2014). When the Scree plot graph was analysed, the analysis was repeated using the Varimax vertical rotation technique considering that the actual significant decrease appeared after the second factor (Table 5).

Table 6. *Rotated Factor Matrix (Varimax)*

Pre-application factors				Post application factors			
Article	1	2	3	Article	1	2	3
M8	-.784			M3	.827		
M6	-.771			M4	.791		
M7	-.749			M2	.776		
M3	-.737			M7	.776		
M2	-.723			M5	.766		
M9	-.705			M6	.763		
M4	-.695			M1	.698		
M1	-.652			M9		.758	
M5	-.525	-.517		M8		.751	
M11		.837		M11		.740	
M10		.805		M10		.679	
M13		.751		M12		.661	
M21		.697		M29			.793
M14		.691		M26			.792
M12		.679		M25			.790
M27			.788	M31			.784
M31			.783	M30			.782
M26			.778	M36			.781
M35			.776	M18			.778
M19			.770	M23			.771
M38			.768	M27			.766
M17			.767	M33			.765
M23			.760	M24			.758
M24			.759	M35			.758
M32			.750	M28			.750
M37			.750	M15			.741
M28			.743	M21			.734
M30			.738	M22			.728
M25			.733	M34			.726
M22			.733	M13			.712
M20			.732	M14			.705
M33			.730	M32			.702
M36			.727	M17			.700
M16			.725	M20			.698
M18			.725	M16			.687
M29			.695	M19			.632
M15			.647				
M34			.640				

At the end of the preliminary application of exploratory factor analysis, question item of M5 was included both factor 1 and factor 2 (Table 6). Therefore, it was excluded from the scale because the difference in factor loading values was below the target value of .10 (.008) and below the predicted factor loading lower limit value of (.60) (Tabachnick and Fidell, 2015). At the end of the pre-application, interviews were conducted with the teachers and administrators in the educational institutions where the scale was applied and opinions about the survey questions were obtained. The question of 'Which

administration system would you work with if it was left to your preference' was added to the personal information section as well as the question designed to measure the perceptions of 'local government' were converted into 5-point Likert-type questions which could better represent the opinions of the experimental subjects in terms of uncertainty and determine whether they agreed or disagreed. For this reason, depending on the feedback obtained for these experimental subjects, these questions were converted to 5-point Likert scale questions for the second stage application (In the explanatory factor analysis, negative (-) values (Table 6, application 1, column 1) indicated that these questions received positive (+) values at the end of the second application revealing the accuracy of the subjects). As could be seen from both application results, the factor and item load values were found to be sufficiently above the value considered to be very good (.70).

According to Table 6, it could be seen that at the end of the pre-application, the first factor was 8, the second factor was 6, the third factor was 23; however, at the end of the second application, the first factor was 7, the second factor was 5 and the third factor was 24. The first subscale was the Locally Administered Perception, the second subscale was the Perception of Local Government's Ability to Govern the Local Administration System, and the third subscale was the Perception of Decentralization's Contribution to Economy, Education, Administration and Social Life.

For confirmatory factor analysis, the factors found in the exploratory factor analysis and the question items under these factors were tested. The Chi-Square (χ2) test and a number of different fit indices were also used to test the model fit in confirmatory factor analysis. If these fit indices were excellent and acceptable with the predicted scale results, the scale could be able to measure the determined variables and factors. The preference of integration indices depended on the specific aims of the researchers (İlhan & Çetin, 2014, p. 31). The confirmatory factor analysis was applied to the teachers and administrators in the second group and the results were presented in Table 7.

Table 7. *Excellent and Acceptable Compliance Criteria for Compliance Indices Used in the Research*

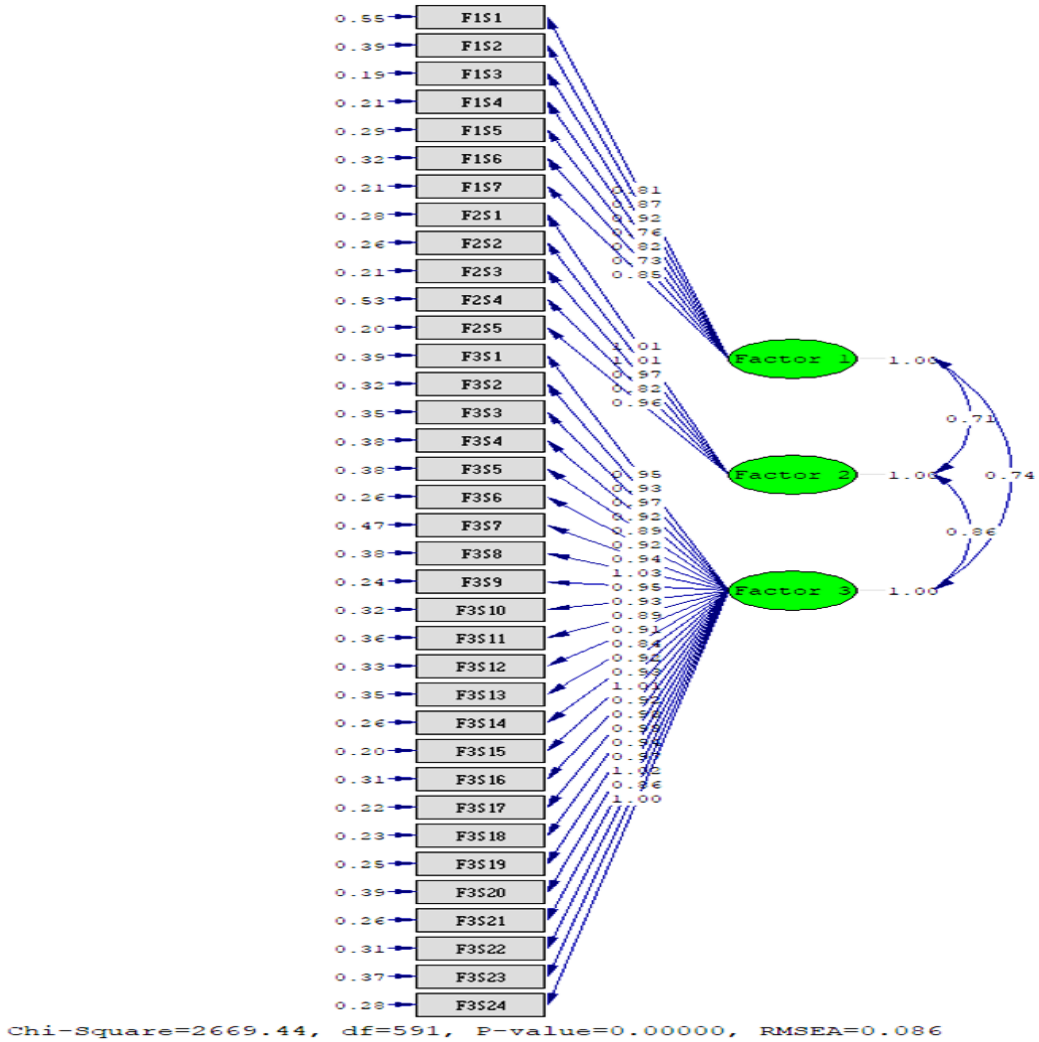
Index	Perfect Consistence Criteria	Acceptable Consistence Criteria	Research Finding	Result
X^2/sd	0-3	3-5	4.36	Acceptable
RMSEA	.0<RMSEA<.05	.05<RMSEA<.10	0.086	Acceptable
CFI	.95 <CFI < 1.00	.90<CFI<. 95	.99	Perfect
NNFI	.95<NNFI(TLI)<1.00	.90<NNFI(TLI)<.95	.99	Perfect
NFI	.95<NFI<1.00	.90<NFI<.95	.98	Perfect
SRMR	.0<SRMR<.05	.5<SRMR<.08	.032	Perfect
GFI	.95<GFI<1.00	.90<GFI<.95	.76	Poor Compliance
AGFI	.90<AGFI<1.00	.85<AGFI<.90	.73	Poor Compliance
RFI	.95<RFI<1.00	.90<RFI<.95	.98	Perfect
IFI	.95<IFI<1.00	.90<IFI <.95	.99	Perfect
PNFI	.95<PNFI<1.00	.50<PNFI<.95	.92	Acceptable
PGFI	.95<PGFI<1.00	.50<PGFI<.95	.68	Acceptable
AIC	Comparison model smaller than AIC		1332,00<2819,44	Acceptable
CAIC	Comparison model smaller than CAIC		3207,16<4774.96	Acceptable
ECVI	Comparison model smaller than ECVI		2,79<5.91	Acceptable

Reference: This result was adapted from Schumacker and Lomax (1996), İlhan & Çetin (2014)

In confirmatory factor analysis, many different fit indices were used together with the Chi-Square (χ2) test to test the model fit. Among these indices, there were good agreement for goodness of fit index (GFI), poor agreement for adjusted goodness of fit index (AGFI), excellent agreement for standardized root mean square residual (SRMR), comparative fit index (CFI) for acceptable the root mean square error of approximation (RMSEA) perfect fit, perfect fit for relative fit index (RFI), perfect

fit for incremental fit index (IFI), perfect fit for normed fit index (NFI), perfect fit for non-normed fit index-Tucker-Lewis index (NNFI-TLI) acceptable fit for parsimony adjusted NFI (PNFI), acceptable compliance for parsimony adjusted goodness of fit index (PGFI), acceptance for an akaike information criterion (AIC) (acceptable for choosing between the different models), acceptance for a consistent akaike information criterion (CAIC) and expected cross validation index (ECVI) (Table 7). The path analysis related to these fit indices was shown in Figure 3. Analysis of the model measurement reference adaptations indicated that the scale had a good fit with the indices. The scale was revealed that the desired perceptions could be measured in accordance with the determined sub-factors (Çelik & Yilmaz, 2016, p. 39). The scale could be deemed sufficient to measure the decentralization perception in educational administration system. The results indicated that the scale was valid and reliable.

Figure 1. *Path Analysis*



RELIABILITY

The reliability of the scale was tested by the Cronbach's alpha internal consistency coefficient and test-retest reliability coefficient. In order to evaluate the reliability of the scale related to the Decentralization of Educational Administration System, item analysis was performed and Cronbach's Alpha, Spearman-Brown and Guttman internal consistency coefficients were all calculated.

In the correlation analysis between test and retest measurements, it was found that r= 896 and p <0.05. Cronbach's Alpha was found to be 0.934. This indicated a high positive correlation between

test-retest measurements. It meant that there was a significant relationship between the test-retest measurements of the scale items and the stability, consistency and reliability of the measurements were high (Table 8).

Table 8. *Decentralization of Education Administration System Scale, Internal Consistency Coefficients*

	pre-post test	1st Application	2nd Application
Cronbach Alpha	0.934	0.971	0.973
Spearman-Brown	0.945	0.895	0.944
Guttman	0.934	0.926	0.877

Table 8 presented that the Cronbach's Alpha, Spearman-Brown and Guttman values were relatively high. Since all internal consistency coefficients were higher than 0.80, it was possible to mention that the reliability of the scale related to the Decentralization of Educational Administration was high. In other words, it could be said that all the items in the scale related to the Decentralization measured the same property. The reliability coefficients obtained by the two methods showed that the measurements of the scale were reliable.

ANALYSIS OF DECENTRALIZATION PERCEPTION IN EDUCATION ADMINISTRATION SYSTEM BY PERSONAL AND PROFESSIONAL VARIABLES

In order to test whether there was a significant difference between the Perceptions of Decentralization of the Educational Administration System according to certain variables, normality and homogeneity of variances were tested. As the results of the tests data were normally distributed and the population variances were equal (homoscedasticity), parametric tests, t-test and ANOVA analysis were used (Büyüköztürk, 2014; Tabachnick & Fidel, 2015). The t-test was used to determine the level of significance (p = 0.05) between two independent variables and ANOVA was used for more than two variables; in other words, t-test was performed for gender, marital status, participation status and preference variables, whereas ANOVA analysis was performed for the variables of age, seniority, educational status, and institution.

The results of ANOVA and t-test representing the differences between the personal and occupational characteristics of the administrators and teachers in the sample and the mean scores of the scale related to the Decentralization of Educational Administration System were presented below (Table 9,10,11,12 and 13).

Table 9. *Age Variable ANOVA Results*

	n	$\bar{X}$	S		df	Mean Square	F	p
20-25	14	3.74	.774	Between Groups	4	.627	.820	.513
26-30	71	3.41	.801	In-Group	473	.765		
31-35	111	3.41	.882	Total	477			
36-40	99	3.31	.924	Gabriel test p value=.165				
40 and older	183	3.39	.876					
Total	478	3.39	.874					

According to Table 9, because the, p value for the variable of age in ANOVA test results was 0.513>0.05, there was no significant difference between the age groups, and the variance between groups was homogeneous. The decentralization perception in educational administration system did not differ according to the average age groups. Since the number of samples in the groups did not differ significantly, the Gabriel test was performed to determine the difference. According to the results of the Gabriel test, the p value was higher than 0.05 in all age groups, and there was no significant difference between age groups.

Table 10. *Seniority Variable ANOVA Results*

	n	X̄	S		df	Mean Square	F	p
1-5	74	3.50	.819	Between Groups	4	.819	1.072	.370
6-10	97	3.43	.903	In-Group	473	.764		
11-15	98	3.45	.890	Total	477			
15-20	124	3.28	.870	Gabriel test p value = .564				
21 and up	85	3.34	.870					
Total	478	3.39	.874					

According to Table 10, the p value for the variable of seniority in ANOVA test results was 0.370>0.05, there was no significant difference between seniority groups, and the variance between the groups was homogeneous. The average of the decentralization perception in educational administration system did not differ according to the average of the seniority groups. As the difference between the number of samples in the groups was not significantly large, the Gabriel test was performed to determine the difference. Since the Gabriel test p values for all seniority groups were 0.564>0.05, it could be said that there was no significant difference in the decentralization perception in educational administration system.

Table 11. *Learning Status according to ANOVA Results*

	n	X̄	S		df	Mean Square	F	P
Associate Degree	9	3.89	.441	Between Groups	2	1.165	1.528	.218
Undergraduate	404	3.38	.858	In-Group	475	.762		
Master's Degree and Higher.	65	3.39	.995	Total	477			
Total	478	3.39	.874	GT2 Hochberg test p value = .129				

According to Table 11, the p value for the variable of educational status was found to be 0.218> 0.05, so there was no significant difference between the educational status groups and the variance between the groups was not homogeneous. The perception of the educational administration system decentralization did not differ according to the educational status groups. Since there was a significant difference between the number of samples in each of the groups, the Hochberg GT2 test from Post Hoc analyses were used to analyse the variance between the groups. Because the Hochberg-GT2 p values of the whole learning group were .129>0.05, it could be said that there was no significant difference in the decentralization perception in educational administration system.

Table 12. *Institution Variable ANOVA Results*

	n	X̄	S		df	Mean Square	F	p
Kindergarten	21	3.62	.771	Between Groups	4	3.093	4.155	.003
Primary school	144	3.35	.781	In-Group	473	.744		
Middle School	148	3.57	.864	Total	477			
High school	161	3.24	.940	Games- Howell Test p Value= .060				
Provincial / District National Education Directorate or other	4	2.57	.670					
Total	478	3.39	.874					

There were large differences between the number of teachers and administrators' according to the institution in which they worked. This was arisen from the high difference between the number of

participants in the institutions. There were significant huge differences between the number of participants from primary, secondary, and high schools and the number of participants from kindergarten and Provincial/District National Education Directorate or other institutions. For example, while 161 participants were from high schools, the number of participants from the Provincial / District Directorate of National Education or other institutions was only 4. When the difference in the number of samples between the groups was very high, the Games-Howell test as Post Hoc analysis was used to determine the difference. As result of this test, the p value was found to be .060 which was higher than 0.05 significance value; therefore, it could be stated that there was no significant difference between all groups. However, on average, the kindergarten variable was the highest, and the Provincial / District National Education Directorate or other variable was the lowest.

Table 13. *T-Test Results for All Variables*

		n	$\bar{X}$	**S**	t	df	p
Gender	Female	247	3.23	.820	-4.163	476	.000
	Male	231	3.55	.899			
Marital status	Married	379	3.40	.861	.560	476	.575
	Single	99	3.34	.924			
Participation status	Administrator	79	3.68	.908	3.303	476	.001
	Teacher	399	3.33	.856			
Choice	Decentralization administration	260	3.88	.639	17.310	476	.000
	Central Administration	218	2.79	.736			

According to Table 13, there was a significant difference between male and female perceptions (t476=.163, p<.05). Considering the averages, it was possible to mention that the males' Educational Administration System (EMS) decentralization perceptions ($\bar{X}$=3,55) were higher rather than the averages of females ($\bar{X}$=3,23), whereas the males' perception of decentralization was significantly more significant than females.

In terms of the variable of marital status, since the p values were 0.575>0.05, there was no significant difference between married and single participants. In terms of the males' Educational Administration System Decentralization, it could be noticed that single participants ($\bar{X}$=3.34) and married participants ($\bar{X}$=3.40) were very close to each other.

According to Table 13, there was a significant difference between administrators and teachers' perceptions (t476=3.303, p<.05). Considering the averages, the average perceptions of administrators ($\bar{X}$=3.68) were higher than the average of the teachers ($\bar{X}$=3.33). It was possible to mention that administrators' perceptions of decentralization were more significant than teachers. Administrators were more interested in decentralizing administration.

According to Table 13, there was a significant difference between Local Government and Central Government perceptions in terms of preference variable (t476=17.310, p<.05). Considering the averages of those who preferred Local Administration for Decentralization ($\bar{X}$=3,88) when compared with those who preferred centralized administration ($\bar{X}$=2,79), it was possible to say that those who preferred Local Administration were more significant than those who preferred centralized administration.

DISCUSSION, CONCLUSION AND SUGGESTIONS

DISCUSSION

DeVellis (2014) defined the scale as "a measurement tool (p.11) that was carefully and validly prepared when we could not rely on behaviour as an indicator of a phenomenon," while Özdamar (2016) defined it as "a measurement tool developed specifically to digitize affective, cognitive, behavioural, educational, and reactive emotion-state characteristics that were felt, known, but not observed". The decentralization scale of the education administration system was a study aiming to measure the causes of an intrinsically accepted phenomenon and developing and proposing new strategies depending on these reasons. The lack of an up-to-date scale has led to the need to improve this scale.

In order to determine the consistency of the scale items and the extent to which it covered decentralization of the educational administration system; expert opinions were obtained. Since the scope validity of the generated scale was 0.91>=0.62, it was statistically significant and was suitable for further statistical studies. The content validity of the scale was statistically significant, and therefore it was deemed appropriate for subsequent statistical studies. Tabachnick and Fidel, (2015), stated that it was very important to obtain expert opinions when developing a scale to ensure the consistency of the results of future research (Tabachnick & Fidel, 2015, pp. 17,60). Therefore, the scale items were suitable for subsequent statistical analyses and included the relevant area.

Exploratory and confirmatory factor analyses were performed to determine the construct validity. Erkorkmaz et al. (2013) stated that confirmatory factor analysis was an extension of exploratory factor analysis which provided information to establish a hypothesis (Erkorkmaz et al., 2013, p. 211). Again, Ozdemir et al. (2018) used exploratory factor analysis for construct validity and confirmatory factor analysis to confirm the construct validity in their study. At the end of the exploratory factor analysis, a scale including 36 items with 3 factors was obtained. The value explaining the total variance of the scale was found to be 75.608 and the Kaiser-Meyer-Olkin sampling adequacy value was .981. (Table 3). When the findings of the study were analysed, the load value of the items in the scale was found to be between 0.632 and 0.827. A factor load value of 0.45 or higher was a good measure of the validity of the scale (Büyüköztürk, 2007). These values indicated that the factor loads were acceptable at the validity dimension of the scale. It was noticed that the structure included three factors in which the first factor had 7 items, the second factor had 5 items, and the third factor had 24 items. The first sub-dimension was Local Perception of Administration, the second sub-dimension was the Perceptions of Local Government's Ability to Manage Educational Administration System, and the third sub-dimension was Perception of Contributions of Decentralization on Economy, Education, Administration and Social Life (Table 6).

The Chi-Square ($\chi 2$) test and several different fit indices were used to test the model fit of the confirmatory factor analysis. These fit indices revealed that the scale was possible to measure the variables and factors determined if the predicted scale results were at perfect and acceptable levels. The preference of integration indices was dependent on the specific aims of the researchers (İlhan & Çetin, 2014, p. 31). Because of the details of the purpose of the research and the importance of the subject to educational stakeholders, the authors preferred a quite large group of indexes (Table 7). As result of the analysis, it was observed that 6 fit indexes were in perfect fit, 7 fit indexes showed acceptable fit, and 2 fit indexes were poorly matched. The scale was sufficient to measure the decentralization perception in educational administration system in the scientific field. According to Çelik and Yilmaz (2016), the good fit of model measurement reference revealed that the determined factors were capable of measuring the perceptions in identified sub-items. The results obtained proved that the scale was valid and reliable. For the reliability of the scale, the internal consistency coefficients Cronbach's Alpha (0.973), Spearman-Brown (0.944) and Guttman (0.877) were found to be relatively high. If the reliability coefficient was calculated to be 0.7 or higher, this would indicate that the

reliability of the test scores was sufficient (Büyüköztürk, 2007). In addition, Kotaman (2013) stated that the scales with internal consistency also provided structural validity. According to these results, the scale was found to be valid and reliable. In this study, the scale of the decentralization perception in educational administration system as a reliable and valid 5-point Likert-type perception scale was developed.

When the average responses of the administrators and teachers were analysed based on age (Table 9), seniority (Table 10), education status (Table 11) and marital status (Table 13) in the scale of Decentralization of Educational Administration System, it was observed that there were no significant differences between groups. They perceived the question items and the concept of decentralization in the educational administration system in the same way. The preferences for decentralization of the education administration system were high in terms of local governance in all levels of seniority. According to Korkmaz (2010, p. 77) despite the differences in the educational level of administrators, the reason why there was no significant difference in the opinions regarding the decentralization of education, the lack of effect on education situations as result of implementing the decisions taken by the central government in addition to the fact that administrators with different levels of education were, in practice, subjected to the same laws and requirements.

In this study, there was no significant difference in the opinions of the participants regarding the decentralization of the educational administration system according to the level of educational institution they worked in (Table 12). However, administrators and teachers working in preschool institutions had higher perceptions of decentralization in educational administration than those working in other educational institutions, indicated by their average responses to the scale questions ($\bar{X}$=3.62) in comparison to those in other educational institutions (Table 12). This appeared because municipalities and various associations contributed on the administration of the majority of preschool education institutions in the Turkish educational system. Therefore, it could be said the local governments had positive contributions on teachers and administrators in these institutions. This was possible to occur due to the positive results of local support provided by the educators in the kindergartens participating in the research in terms of the administration and quality of education. In fact, in Koçak-Usluel's (1995), study, it was found that more authority was demanded in preschool and primary education institutions, whereas secondary education and special status secondary education institutions demanded more central administration. Similarly, Yıldırım's (2008) study showed that preschool education was administered and financed by local authorities in many European countries (such as Germany, UK, Estonia, Finland, Netherlands, Italy, Lithuania, and Poland).

There was a significant difference between males and females in terms of the gender variable. Analysis of the averages revealed that the mean of male decentralization of education ($\bar{X}$=3.55) was higher than the female average ($\bar{X}$=3.23). It could be said that males preferred decentralization of educational administration system more than females. This could be arisen from the intense interest of males in administration affairs. Since males were found to be more interested in administration affairs and had more communication with local authorities, male educators were more possible to have preferred decentralization.

There was a significant difference between the opinions of the administrators and teachers regarding the decentralization of the educational system. The analysis of the averages proved that the mean of the administrators related to the Decentralization of the Educational Administration System ($\bar{X}$=3.68) was higher than the average of the teachers ($\bar{X}$=3.33) (Table 13). It could be stated that administrator's perceptions of decentralization were more statistically significant than the teachers, and they had a higher interest in administration in terms of decentralization. However, in Bozan's (2002) study, the majority of administrators working in the field were reported to be less enthusiastic about decentralization of the educational administration system (p. 161-162). Nevertheless, it has been observed in recent years that local administrations have particularly provided suport for schools for minor repairs, and the lack of bureaucratic procedures in their work and operations has affected

the perceptions of administrators with regard to local governments and decentralization. In particular, due to education related policies in the metropolitan municipality law, suport for education may have resulted in the elimination of previously held negative perceptions. In Bakioğlu's (2014) study, it was revealed that education was managed and financed by local governments in many European countries. As result of EU projects prepared by the educational institutions in recent years, stakeholders have been able to observe how responsibility for education administration systems has been given to local governments in these EU countries, and the high quality of the education services provided may have led to an increase in the administrators' tendencies towards the decentralization of educational administration. Teachers' high participation rates could also be attributed to these factors.

The most important finding of this study was that administrators preferred decentralization more than teachers in terms of local and central administration preferences (Table 13). This was because they had more exposure to the limitations of central government in the administration processes. It was thought that the use of local facilities by administrators created a facilitating effect in regard to problem solving and made them aware of the fact that local businesses created a sustainable structure and that they preferred local administration. Teachers were not as interested in administration affairs, but although they had no much interest as administrators, they still preferred locals.

The sample group included only teachers and administrators, and it can be considered as a limitation of the study. However, it was thought that the participation of parents and local administrators in the sample group would eliminate this limitation. According to the findings obtained, it was noticed that the positive and negative aspects of decentralization reviewed in the literature were compatible with the findings of this study, and a stable success was achieved in educational administration in countries employing the principles of decentralization. According to this result, it could be stated that the results obtained in the study could be a good guide for policy makers. Finally, the developed scale was also possible to be a good source for scientific researches.

CONCLUSION

This study identified the problems that could arise as result of the decentralization of educational administration system in Turkey; preventative measures were considered to provide a significant contribution on eliminating false perceptions apeared among stakeholders about overcoming possible difficulties and decentralization of educational administration systems. As result, it could be used as a scientific source for overcoming administrative problems that have occurred in education in Turkey.

Performing exploratory factor analysis to draft scale questions which were validated with expert suport, "Local administration perception," "Local Administrations Perception of Administration Systems," and "Decentralization in Economy, Education, Administration and Perception of Contributions to Social Life" were the three factors determined on the basis of the confirmatory factor analysis performed according to the model reference compliance results. A five-point Likert-type scale was developed for interpreting the perceptions related to the decentralization of educational administration system possible to be used for educational administrators, policy developers and academicians in their work. It was able to measure the desired perceptions adapting well-defined factors within the sub-items.

To summarize, the scale developed in this research was intended to measure the perceptions of education stakeholders' efforts to decentralized educational administration. Most of the studies in the field were surveys and have largely been used to express opinions. The questionnaires have mostly been related to the decentralization dimension of educational services; however, this study focused on educational administration systems, in particular.

SUGGESTIONS

It has been recommended to test the validity and reliability of this scale performing repeated measurements with education stakeholders in other provinces.

Using confirmatory factor analysis with a different sample group has been suggested for the subsequent studies. For example, the sample group could be further strengthened through the participation of parents.

In a region with well-equipped educational facilities and a sound infrastructure, it is recommended that the educational administration system is piloted, and the results should be monitored accordingly. Based on the obtained results, decisions can be made regarding plans to decentralize the educational administration system. It may not be possible to make efficient decisions without piloting the system first.

The researchers can transform the scale developed in the future into an interview form and make a comparative analysis with the scale results.

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AUTHOR CONTRIBUTION

The first author contributed to conceptualization, methodology, formal analysis, research, resources, data curation, writing—original drafting, writing, review, and editing. The second author contributed to project management, methodology, validation, supervision, review, writing, and editing.

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APENDIX

SCALE OF PERCEPTION OF DECENTRALIZATION IN EDUCATION ADMINISTRATION

Dear Participant,

The aim of this study (Decentralization of Education Administration System) is to develop a scale for the degree of aplicability of Decentralization of the Educational Administration System with the opinions of School / Institution Administrators and teachers. This scale will be the source of studies related to decentralization in the educational administration system which is frequently mentioned. I would like to thank you for accepting and taking time to contribute on this academic study. It is necessary for your research findings to be valid if you answer the questions sincerely and objectively. Please do not leave unmarked item and select an option for each item. Thank you for your contribution.

Respectfully.

Suphi Turhan &Ahmet Güneyli
Near East University Institute of Educational Sciences
Department of Educational Administration, Supervision, Economics and Planning

PART 1 Personal Information

This section includes some personal information about you.
You are expected to answer placing a (X) in the option that suits you.

1.	Gender	( ) Female ( ) Male
2.	Marital status	( ) Married ( ) Single
3.	Age	( ) 20-25 ( ) 26-30 ( ) 31-35 ( ) 36-40 ( ) 41 and above
4.	Seniority	( ) 1-5 ( ) 6-10 ( ) 11-15 ( ) 16-20 ( ) 21 and above
5.	Education status	( ) Associate Degree ( ) Bachelor's degree ( ) Master and above
6.	Title	( ) Teacher ( ) Administrator
7.	Institution	( ) Kindergarten ( ) Primary School ( ) Secondary School ( ) High School ( ) Provincial / District Directorate of National Education
8.	Which administration system would you like to work with, if left to your preference?	( ) Decentralization administration ( ) Central Administration

		I strongly agree	I agree	Undecided	I do not agree	I strongly disagree
PART 2. Perception of Decentralization						
9.	Decentralization performs structural and economic functions effectively and efficiently.	5	4	3	2	1
10.	Decentralization is solution-oriented and development-oriented in administration.	5	4	3	2	1
11.	Decentralization facilitates public participation in administration.	5	4	3	2	1
12.	Decentralization has fast decision-making mechanisms	5	4	3	2	1
13.	Decentralization is open to change and innovation.	5	4	3	2	1
14.	Decentralization reduces bureaucratic work and operations.	5	4	3	2	1
15.	Decentralization has a versatile communication in administration.	5	4	3	2	1
PART 3. Perceptions of Local Governments on Educational Administration Capacity						
16.	Local governments can create a democratic environment for the Educational Administration System.	5	4	3	2	1
17.	Local administrations can create the physical infrastructure for administration of the Educational Administration System.	5	4	3	2	1
18.	Local governments can create human resources for the Educational Administration System.	5	4	3	2	1
19.	Local governments can create financing sources for educational administration system.	5	4	3	2	1
20.	Local governments can manage the educational system effectively and functionally.	5	4	3	2	1

PART 4. Perception of Decentralization's Contributions on Economics, Education, Administration and Social Life						
21.	Decentralization of Educational Administration System reduces the MoNE's workload and enables it to create more realistic and effective education policies.	5	4	3	2	1
22.	Decentralization of Educational Administration System provides strengthening of local organizations and performs the tasks that MoNE cannot perform more effectively.	5	4	3	2	1
23.	Decentralization of Educational Administration System increases the quality of education increasing competition between regions and provinces.	5	4	3	2	1
24.	Decentralization of Educational Administration System facilitates the prioritization and solution of problems enabling local selection of training administrators.	5	4	3	2	1
25.	Decentralization of Educational Administration System increases education investments providing more financial resources to the public.	5	4	3	2	1
26.	Decentralization of Educational Administration System brings dynamism (mobility) to local governments.	5	4	3	2	1
27.	Decentralization of Educational Administration System enables on-site use of budgets transferred to education.	5	4	3	2	1
28.	Decentralization of Educational Administration System makes the administrator apointments local making them more fair.	5	4	3	2	1
29.	Decentralization of Educational Administration System affects the economy of the region and country positively.	5	4	3	2	1
30.	Decentralization of Educational Administration System makes the linear relationship between education and economy more effective.	5	4	3	2	1
31.	Decentralization of Educational Administration System reduces bureaucracy and paperwork.	5	4	3	2	1
32.	Decentralization of Educational Administration System reduces educational backwardness between provinces or regions.	5	4	3	2	1
33.	Decentralization of Educational Administration System facilitates determining educational priorities of the province or region.	5	4	3	2	1
34.	Decentralization of Educational Administration System provides local dynamics to education.	5	4	3	2	1
35.	Decentralization of Educational Administration System improves governance and participation.	5	4	3	2	1
36.	Decentralization of Educational Administration System improves accountability and transparency.	5	4	3	2	1
37.	Decentralization of Educational Administration System enables the public to adopt and suport education more.	5	4	3	2	1
38.	Decentralization of Educational Administration System increases the quality of education increasing the supervision of the society.	5	4	3	2	1
39.	Decentralization of Educational Administration System increases competition in service to education.	5	4	3	2	1
40.	Decentralization of Educational Administration System enables the participation of individuals in decision-making processes and eliminates decisions made by a single individual.	5	4	3	2	1
41.	Decentralization of Educational Administration System enables adoption of democratic education.	5	4	3	2	1
42.	Decentralization of Educational Administration System ensures equality of oportunity in education.	5	4	3	2	1
43.	Decentralization of Educational Administration System enables training program to be administered according to the needs of the current environment.	5	4	3	2	1
44.	Decentralization of Educational Administration System makes administrators and teachers more active.	5	4	3	2	1