



Scale Development Study for Willingness to Obtain Legal Power*

Yasal Güç Elde Etme İsteği Ölçek Geliştirme Çalışması

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ABSTRACT: The main purpose of this research is to develop a valid and reliable scale for the perception of the desire to obtain legal authority in education administration. The research sampling consists of 390 education administrators and teachers with different statuses. Using the convenience sampling technique, the types of official primary, secondary, and different high schools in the central province of Van in Turkey were determined. The scale draft was applied to the education administrators and teachers determined by using the purposeful cluster sampling method. The data were analyzed with descriptive statistical analysis methods. Validity analyses and reliability analyses of the obtained data were made. As a result of the analysis, the scale consisted of 4 factors and 32 items, and item factor loads consisted of values between “.61” and “.87”. It was determined that the resulting factors explained the perception of obtaining legal power by 77.46%. The fit index values of the scale revealed that the scale provides construct validity. While the scale’s internal consistency coefficient was found to be “.95”, the test-retest reliability coefficient was determined as “.92”. The findings show that the developed scale can be used as a measurement tool with its validity and reliability.

Keywords: Educational administrator, legal power, willingness to obtain power.

ÖZ: Araştırmanın temel amacı, eğitim yönetiminde yasal güç elde etme isteği algısına yönelik geçerli ve güvenilir bir ölçek geliştirmektir. Araştırmanın örneklemini farklı statüdeki 390 eğitim yöneticisi ve öğretmen oluşturmaktadır. Kolay ulaşılabilir örnekleme tekniği kullanılarak Türkiye’nin Van ili merkez ilçelerindeki resmi ilkököl, ortaokul ve farklı lise türleri belirlenmiştir. Ölçek taslağı amaçlı küme örnekleme yöntemi kullanılarak belirlenen eğitim yöneticileri ve öğretmenlere uygulanmıştır. Veriler betimsel istatistiksel analiz yöntemleri ile analiz edilmiştir. Elde edilen verilerin geçerlilik analizleri ve güvenilirlik analizleri yapılmıştır. Yapılan analizler sonucunda ölçek, 4 faktör ve 32 maddeden, madde faktör yükleri “.61” ile “.87” arasında değişen değerlerden oluşmuştur. Elde edilen faktörlerin yasal güç elde etme algısını %77,46 oranında açıkladığı belirlenmiştir. Ölçeğin uyum indeksi değerleri, ölçeğin yapı geçerliği sağladığını ortaya koymaktadır. Ölçeğin iç tutarlılık katsayısı “.95” bulunurken, test-tekrar test güvenilirlik katsayısı “.92” olarak belirlenmiştir. Elde edilen bulgular, geliştirilen ölçeğin geçerlik ve güvenilirliği ile bir ölçme aracı olarak kullanılabilirliğini göstermektedir.

Anahtar kelimeler: Eğitim yöneticisi, yasal güç, güç elde etme isteği.

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Power is one of the oldest concepts in human history. The power phenomenon that directs human relations, which is at the basis of social life, has an important place in almost all social and political developments from the first ages to the present.

The phenomenon of power has evoked different meanings among people, and throughout history, people have sought ways to retain power, and power has always been an important value in every society (Bayrak, 2001). Power is a concept derived from the Latin word “potere”, which means “power” in English. While the concept of power is briefly defined as achieving goals (Marquis & Huston, 2009), there are many different definitions in the literature. Some of those; “a person’s ability to make others do his will, even if by force” (Weber, 1947), “to induce him to act as a result of social pressure applied to the individual regardless of time and place” (Mannheim, 1950), “it is the tool at the center of social relations, changing thoughts and behaviors” (Foucault, 1980) and “the ability of individuals to influence and change their thoughts, attitudes, values, needs” (Rahim, 1989).

The concept of power has always attracted people’s attention, and human beings have always tried to achieve power and realize their wishes thanks to the power they have obtained (Mimaroglu & Özgen, 2008). According to Nietzsche (1974), the existing struggles among people emerged to gain power. In the case of protecting themselves in the struggle of people against others, man has always chosen power; therefore, the will to power has been the main determinant in all areas of life. People who are in search of power have always wanted to enter into a power struggle, and this will to power has always been an ongoing desire, even if it puts their existence at risk (Soysal, 2009).

Individuals’ desire to have power and the effect of power on individuals have led to discussion of the sources of power (Robbins & Judge, 2013). There are many power-type classifications in the literature. Weber (1947) classifies power as traditional, legal, and charismatic power; Yukl and Falbe (1991) classify them as institutional and individual power; French and Raven (1959) classify them as coercive, legal, charisma, reward, and expert power. While Erdoğan (2010) classifies them as technical, symbolic, cultural, human relations power, and educational power, Başaran and Çinkır (2011) classify them as legal power, authority power, reward power, punishment power, expertise, and charisma power.

When the power classifications are examined, coercive power expresses all kinds of material and moral pressure used to direct the behavior of those in the organization (Şimşek, 2010); reward power is the use of rewards in order to direct and influence the employees in the organization to the desired behavior (Hoy & Miskel, 2010); charisma power is an effective sanction that enables individuals to feel love and trust without coercion (Bayrak, 2001); the power of expertise is power arising from education and knowledge, skills, skills and experiences of managers (Lunenburg & Ornstein, 1996); legal power, on the other hand, refers to the power given to the administrators, who are appointed to the position of official authority, according to their status and that they derive from their office (Şimşek, 2010).

Administrators who use the power of reward ensure that employees comply with the orders given, even for a short time, by using their desire to win awards (Titrek & Zafer, 2009). Personality traits of administrators with charisma are effective in directing employee behaviors (Karaman, 1999). While the power of expertise is a power that

arises from the characteristics of the individual apart from institutional factors (Erkuş, 2011), legal power is a matter of administrators influencing their employees only with laws and ensuring that they comply with them (Bakan & Büyükbeşe, 2010).

This research aims to develop a scale that will reveal the perceptions and opinions of education administrators and teachers about the perception of legal power, their willingness and reasons for obtaining it, their efforts to protect and direct them, and the individual, political, social and economic obtains that are assumed to be achieved through power.

Theoretical Framework and Literature Review

The concept of power is a necessary feature for all social systems. It is seen as an indispensable basic element for all organizations and is accepted as an important phenomenon that enables the organization to realize its purpose. Power is the ability to influence what emerges in organizations (Mintzberg, 1985). In particular, the perspectives of people who are administrators in organizations and the way they obtain and protect power have been a matter of interest for all organizational components because the way power is perceived and used by administrators directs all activities of organizations and affects organizational components positively or negatively (Hodgkinson, 2008).

Power is also an important management tool that brings people together for certain purposes and enables them to work in line with the determined purpose. The most important tool that administrators have is their power, and without this power, the continuity of the organization cannot be ensured (Koşar & Çalık, 2011). Administrators use different types of power based on their positions and personality traits (Bayrak, 2001). According to French and Raven (1959), the legal power used by administrators has three basic bases. These are: It is possible for those who give importance to cultural structure in the society to exert power on others. In the hierarchical structure, there is a belief that those at the top have the right to command. The fact that sub-managers take over the authority from the top managers creates the belief that they also have power.

As in all other organizations, the existence and use of power in educational organizations is important for the organization to maintain its existence and fulfill its function. Power is the basic building block of the organization, and at the same time, it is like an engine that runs the organization (Yücel, 1999). In this respect, the success of those who have power in their organizations depends on their influencing other organizational members in line with their wishes (Şimşek, 2010). The willingness of the administrators to obtain power and the type of power they use are very important in reaching the goals of the organizations, meeting the needs of the employees, and displaying effective management (Aslanargun, 2009).

Administrators have important duties in the realization of the goals of educational organizations (Bursalıoğlu, 2016). Educational administrators manage all resources in harmony in order for the organization to be successful while reaching the goals of the organization and lead it to the desired goals (Aydın, 2010).

The manager is the most important element that uses the human and material resources of the organization effectively and efficiently (Bulut & Bakan, 2005). The willingness to obtain power and the use of power are important for managers to achieve

their goals, meet the needs of employees, and demonstrate effective management (Aslanargun, 2009).

The concept of power has always attracted people's attention, and people have always tried to obtain power and have power (Mimaroğlu & Özgen, 2008). People who want to gain power should give importance to their relations with individuals, be open to different ideas, be assertive in the work they do, try to be successful in crisis management, and always act rationally by using the ways of accessing information effectively (Can et al., 2006). Power increases with use. The positive results obtained as a result of the power used increase the desire to obtain and use power (Başaran, 2008).

The way education administrators obtain power and the way they use power affect the perspectives and behaviors of employees towards their organizations (Altınkurt et al., 2014). The ability of managers to implement organizational decisions effectively is directly proportional to the power of directing employees to targets and making their requests (Zafer, 2008).

It will be ensured that the scale obtained will measure many factors such as the personal, political, social, and economic obtains that the legal power will provide to the individual and the disadvantages it will bring. Thus, the developed scale will contribute to the field in terms of determining the advantages and disadvantages of legal power to the manager in organizations and analyzing the willingness for educational administration.

This research aims to develop a measurement tool with tested validity and reliability to determine the reasons for the willingness to obtain legal power in education administration. The main problem of the research can be explained as follows: Can a valid and reliable measurement tool be made that can measure the willingness of education administrators and teachers to obtain legal power?

Method

Scale of Willingness to Obtain Legal Power (SWOLP) was developed to determine the perceptions of education administrators and teachers about their willingness to obtain legal power. The research was found ethically appropriate with the decision of the 3rd session of Inonu University RPEC dated 27.07.2021 and numbered 7. The scale was developed in stages such as defining the scope of the scale, literature review, interviewing the education administrators, creating an item pool, taking the opinions of field experts, determining the content validity, developing the draft form of the scale, and conducting the analysis of validity and reliability (Balci, 1995).

Participants

The participants of this research consist of 390 education administrators and teachers with different statuses. While exploratory factor analysis was performed with 206 educators, confirmatory factor analysis was performed with 184 educators. Education administrators and teachers voluntarily participated in the research. By using the convenience sampling method, the types of official primary, secondary, and different high schools in the central districts of Van province in Turkey were determined.

The draft form of the scale was applied to educational administrators and teachers of different statuses working in these schools. Of the educational administrators and teachers who participated in the study, 51.5% were male and 48.5% were female. 69.2% of the participants were teachers, 22.8% were assistant principals and 8% were school principals. Of the educational administrators and teachers, 39.5% had a professional seniority of 1-5 years, 26.7% had a professional seniority of 6-10 years, 17.9% had a professional seniority of 11-15 years and 15.9% had a professional seniority of 16 years or more. 91.3% of them have undergraduate education, 8.7% have postgraduate education, 41.8% work in primary schools, 32.6% in secondary schools and 25.6% in different types of high schools.

Development of the Measurement Tool

In the process of developing the Scale of Willingness to Obtain Legal Power (SWOLP) trial form, first of all, the relevant literature was examined (Aslanargun, 2009; Aslanargun & Eriş, 2013; Başaran, 2008; Bayrak, 2001; Foucault, 1980; Karakaş, 2020; Koşar, 2016; Kutlu, 2019; Mannheim, 1950; Özkalp & Kirel, 2011; Pfeffer, 1999; Weber, 1947). Types of power in the literature, approaches to organizational power, sources of power, and scales based on these approaches have been reviewed. As a result of the examination, no scale was found for the willingness to obtain legal power in the country and abroad.

In addition to the theoretical information, the current practices of educational administration in Turkey and the relevant legislation prepared over the years on this subject were examined in the literature review. While preparing the scale draft form, besides the personal experiences and observations of the researchers, open-ended questions about the status of educational administrators, the process of obtaining them, the authorities and responsibilities of the status holders, and the personal views of the education administrators on the administrative processes were used.

In accordance with the scope and construct validity studies of the prepared scale, it was given to a total of six experts, three of which are education administration field experts, one assessment and evaluation specialist, and two language specialists, to be evaluated in terms of scope, clarity, measurability, and clarity. The draft form was finalized according to the suggestions received. For expert evaluation, a form was prepared using the Davis technique. In this form, which was sent by e-mail for expert evaluation, the statements in the scale were evaluated as “very appropriate,” “appropriate,” “somewhat appropriate,” and “not appropriate.” The number of those who marked “very appropriate” and “appropriate” for the content validity index (CGI) value was divided by the total number and found to be 0.88.

As a result of the comprehensive evaluations, an item pool of 42 items was created by paying attention to the equal distribution of positive and negative items. Tezbaşaran (2008) states that it would be appropriate to keep the number of positive and negative expressions in the scale close to each other in order to prevent the meaning load of attitude expressions from directing the respondents. While creating the items with this reference, the number of positive and negative expressions was kept equal. One item was removed from the scale because its content validity index was less than .80. Thus, a draft form consisting of 41 items was created.

Before applying the validity of the scale, a pilot application was made to 50 participants by the researchers. With this pilot application, corrections were made about the questions the participants had difficulty understanding, and the application was started on the sample determined for the research.

The draft scale form was arranged as a five-point Likert scale, as “1- Strongly Disagree, 2- Agree Little, 3- Agree Slightly, 4- Agree Strongly, 5- Agree Completely” in order to determine the degree of agreement of education administrators and teachers with the expressions. A high score on the scale was evaluated as a high level of willingness to obtain legal power, while a low score was evaluated as a low level of willingness to obtain power.

Data Collections and Analysis

The trial form was applied to the education administrators and teachers working in the official primary, secondary, and different types of high schools located in the central province of Van districts in Turkey. While the trial form of the scale was applied face to face by the researchers to some of the education administrators and teachers who agreed to participate in the research, an explanatory briefing was given to the others, and the scale link prepared with Google Form was sent, and answers were received.

In the literature, there are different opinions regarding the ratio of scale items regarding the number of the research group. Kline (1994) determined the number of research groups at least twice the number of items in the scale; Nunnally (1978), at least ten times; Cattell (1978), three or six times; Hair et al. (2010) state that it should be at least five times or more. The proportion of the research group and the number of items can provide an appropriate estimate of the population. Parameters lower than the specified proportions may give misleading results (Tavşancıl, 2006; Karasar, 2010; Tabachnick & Fidell, 2001). In this context, the pre-application of the prepared scale form was carried out with a total of 400 educators, including 122 education administrators and 278 teachers. Among the collected forms, 10 forms that were not suitable for processing due to different reasons (incomplete and incorrect marking, etc.) were excluded from the evaluation. Therefore, 390 scale forms were used in total. Thus, data from 206 education administrators and teachers were subjected to exploratory factor analysis, and data from 184 education administrators and teachers were subjected to confirmatory factor analysis.

The data were analyzed using descriptive statistical analysis methods. Validity and reliability analyses were applied to the resulting data. Exploratory and confirmatory factor analysis was performed for the construct validity studies of the scale. The internal consistency coefficient (Cronbach's Alpha) and test-retest reliability were calculated for reliability analysis.

Before applying the factor analysis, the Kaiser-Meyer-Olkin (KMO) coefficient of the data was calculated. Data were analyzed using Barlett's Test of Sphericity. Exploratory Factor Analysis (EFA) was first applied based on the findings. In EFA, “Promax,” one of the oblique rotation methods, was used. Then, the scale was examined by Confirmatory Factor Analysis (CFA) using the maximum likelihood technique.

In the evaluation of the fit between the model resulting from the factor analysis and the data, criteria such as chi-square value (CMIN), chi-square degrees of freedom

ratio (CMIN/*df*), adjusted index of fit (AGFI), goodness of fit index (GFI), normed fit index (NFI), incremental fit index (IFI) were used to evaluate the fit between the model and the data resulting from the factor analysis, comparative fit index (CFI), root mean square error of approximation (RMSEA) were used. The square root of the mean explained variance values were analyzed within the scope of discriminant validity analysis. In the content validity analysis, the Content Validity Ratios (CVR) and Content Validity Indexes (CVI) of the items were examined based on expert opinions.

Findings

In this section, there are findings related to the validity analysis and reliability analysis conducted to develop the “Scale of Willingness to Obtain Legal Power” (SWOLP) (for details, see Annex 1).

Construct Validity

Construct validity includes analyses made in the form of determining whether the questions formed to measure any variable are related to the variable and whether they measure the variable. Hypothesis testing and factor analysis are frequently used methods to determine construct validity (Büyüköztürk et al., 2008). In order to reveal the construct validity, the factor analysis method was applied. Factor analysis is the creation of general variables called factors as a result of bringing together highly correlated variables (Kalaycı, 2010). Factor analysis comes in two forms: EFA and CFA.

In the research, first of all, the data of the KMO coefficient and Bartlett’s Sphericity Test were reviewed to reveal the data’s suitability for factor analysis. The results of KMO and Bartlett’s Sphericity Test are given in Table 1.

Table 1

KMO Test and Bartlett’s Sphericity Test Results

KMO Test		.92
	χ^2	1689.82
Bartlett’s Test of Sphericity	Df	496
	sig.	.00*

$p < .05$

According to Table 1, the result of the KMO test was determined as .92. Bartlett’s Test of Sphericity was found to be significant ($\chi^2=1689.82$; $df=496$; $p < .05$). While the KMO test is used to determine the suitability of the number of samples taken while performing the factor analysis, the significance of the Bartlett’s Sphericity test indicates that it is appropriate to perform the analysis. KMO value is defined as “.50-.70=intermediate level”, “.70-.80=good level”, “.80-.90=very good level” and “.90 and above=excellent level” (Field, 2002). The fact that the KMO value obtained is .92 and Bartlett’s Test of Sphericity is significant ($p < .05$) indicates that the research group is sufficient and the data are suitable for factor analysis.

Exploratory Factor Analysis (EFA)

EFA determines the similarity of the factors that emerge as a result of the analysis with the determined theory structures (Çokluk et al., 2014). In the study, data collected from 206 education administrators and teachers were subjected to exploratory factor analysis. In the exploratory factor analysis, while constructing the factor structure, item factor loading values of .45 or higher, eigenvalues of 1 or higher for each factor, and a difference of at least .10 between the load values of the two items were taken into consideration, among the criteria specified by Büyüköztürk (2009). According to these criteria, nine items that were determined to be unsuitable were removed from the scale. The remaining 32 items were analyzed. The results of factor analysis for scale items are shown in Table 2.

Table 2

Scale of Willingness to Obtain Legal Power Factor Analysis

Item Number	Factor Load	Item Total Correlation Coefficient	Item Number	Factor Load	Item Total Correlation Coefficient
1	.75	.57	17	.87	.57
2	.73	.66	18	.87	.57
3	.75	.58	19	.73	.59
4	.69	.62	20	.81	.54
5	.63	.55	21	.76	.54
6	.79	.56	22	.80	.58
7	.84	.64	23	.77	.63
8	.85	.62	24	.76	.57
9	.77	.52	25	.75	.59
10	.68	.57	26	.70	.60
11	.75	.62	27	.73	.61
12	.76	.65	28	.84	.67
13	.72	.64	29	.76	.61
14	.61	.51	30	.84	.63
15	.83	.60	31	.85	.64
16	.83	.61	32	.84	.66

As seen in Table 2, factor loads of 32 scale items range from “.61” to “.87”. The total correlation coefficients of the items are between “.51” and “.67” values. Basic axes factor analysis Promax rotation technique was applied to determine which factors (dimensions) the scale items were in. The promax rotation technique is the most appropriate method used to obtain a meaningful structure and several factors by revealing the factors related to each other (Tatlıdil, 1992). In order for the research data to yield appropriate results, after the horizontal rotation analysis, the factors were

clearly revealed. The factors and factor loads of the scale items resulting from Promax rotation are given in Table 3.

Table 3

Factor Loads Obtained by Promax Rotation of Scale Items

1 Individual Obtain		2 Political Obtain		3 Social Obtain		4 Economic Obtain	
Item Number	Factor Load	Item Number	Factor Load	Item Number	Factor Load	Item Number	Factor Load
8	.93	30	.96	17	.97	20	.93
7	.90	29	.87	18	.94	24	.88
9	.88	28	.86	16	.92	25	.83
1	.88	31	.85	15	.86	21	.83
6	.88	27	.84	14	.84	23	.74
3	.87	32	.82	19	.79	22	.72
12	.85	26	.80	13	.68		
11	.84						
2	.82						
10	.80						
5	.80						
4	.77						

As seen in Table 3, 32 items in the scale were divided under 4 factors as a result of Promax rotation. There are 12 items under the first factor, 7 under the second and third factors, and 6 under the fourth factor. In the first factor, there are 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 items with load values between .77 and .93. In the second factor, there are 26, 27, 28, 29, 30, 31, 32 items with load values between .80 and .96. In the third factor, there are 13, 14, 15, 16, 17, 18, 19 items with load values between .68 and .97. In the fourth factor, there are 20, 21, 22, 23, 24, 25 items with load values between .72 and .93.

The common features of the items revealed by the analyses should be examined, and a suitable naming should be made according to the factors in which they are included (Karagöz & Kösterelioğlu, 2008). In this context, based on the common characteristics of the items, the first factor was named as “individual obtain”, the second factor as “political obtain”, the third factor as “social obtain” and the fourth factor as “economic obtain”. Table 4 shows the eigenvalues of these factors.

Table 4

Eigenvalues of the Scale of Willingness to Obtain Legal Power Factors

Factor	Eigenvalue	Variance (%)	Cumulative (%)
1. Individual Obtain	13.03	24.36	65.18
2. Political Obtain	7.53	18.09	36.72
3. Social Obtain	2.57	11.04	25.09
4. Economic Obtain	1.65	9.17	77.46

When Table 4 is examined, the eigenvalue of the first factor in the scale consisting of four factors is 13.03, the eigenvalue of the second factor is 7.53, the eigenvalue of the third factor is 2.57 and the eigenvalue of the fourth factor is 1.65. Considering the values obtained, the first factor of the scale is 24.36% of the perception of the desire to gain legal power; the second factor is 18.09%; the third factor is 11.04%; the fourth factor explains 9.17%. The total variance of the scale factors is 77.46%. It was found that the factors obtained in this case explained the perception of the willingness to obtain legal power by 77.46%.

Confirmatory Factor Analysis (CFA)

CFA is an analysis method applied to ensure that the previously created structure is verified by looking at the resulting data (Yaşlıoğlu, 2017). The scale structure, which was determined as four factors by EFA, was examined by CFA, and findings supported by the results of the first analysis were obtained. Data from 184 education administrators and teachers were subjected to confirmatory factor analysis. The factor structure that emerged after the analysis is given in Figure 1.

As can be seen in Figure 1, when the scale items are examined, the 1.-3., 1.-5., 8.-10., 13.-17., 14.-16., 20-22. and 27.-28. The error covariances among the items were quite high. According to this result, confirmatory factor analysis was repeated by correlating error covariances. After the analysis, chi-square value (CMIN), chi-square degree of freedom ratio (CMIN/df), root mean square error of approximate errors (RMSEA), normed fit index (NFI), comparative fit index (CFI), incremental fit index (IFI), root mean square value (RMR), goodness of fit index (GFI), and adjusted fit index (AGFI) were examined. The goodness-of-fit measures of the scale are shown in Table 5.

Figure 1
Factor Structure of the Scale of Willingness to Obtain Legal Power

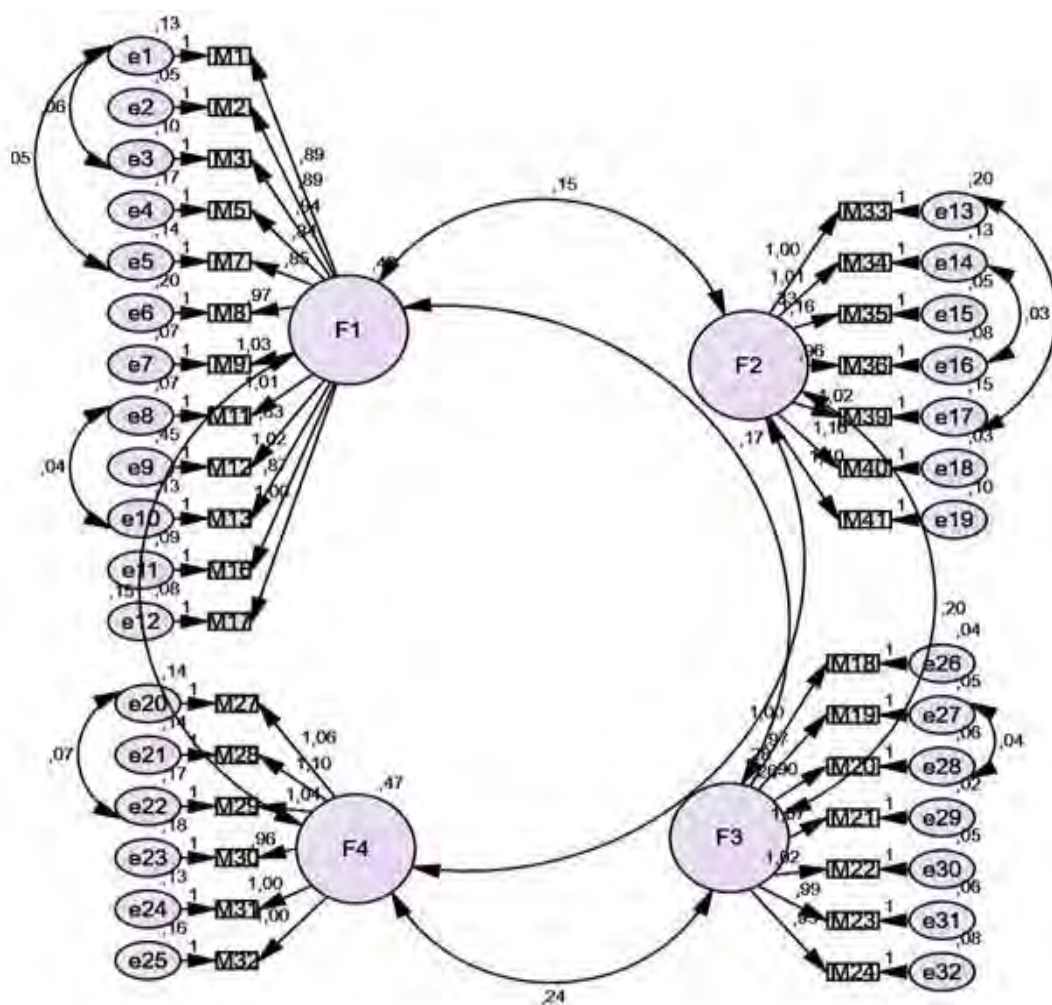


Table 5
Standard Goodness of Fit Criteria of the Scale of Willingness of Obtain Legal Power

CMIN	df	CMIN/ df	RMSEA	NFI	CFI	IFI	RMR	GFI	AGFI
634.48	451	1.40	.04	.92	.97	.97	.02	.82	.80

As seen in Table 5, $CMIN= 634.48$, $df=451$, $CMIN/df=1.40$; $RMSEA=0.4$; $NFI=.92$; $CFI=.97$; $IFI=.97$; $RMR=.02$; $GFI=.82$; $AGFI = .80$. According to Şimşek (2007), “ $CMIN/df$ ” should be two or less than two, RMR and RMSEA should be less than .08, and NFI, IFI and CFI higher than .90 indicate that the model is good. According to Segars and Grover (1993), it is acceptable for $AGFI$ and GFI values to be greater than .80. The analysis results reveal that the scale provides construct validity and has good goodness-of-fit values. In terms of discriminant validity values of the scale, Table 6 shows the correlation matrix between the scale factors and the square root of the mean explained variance values.

Table 6

Correlation Matrix Between Scale Factors and Square Root of Mean Explained Variance Values (SREMEV)

Factor	1	2	3	4	SREMEV
1.Individual Obtain	.88				.74
2.Political Obtain	.01	.82			.68
3.Social Obtain	.45	.30	.78		.55
4.Economic Obtain	.55	.06	.35	.76	.69

When Table 6 is examined, the dark values represent the square root of the mean explained variance values as the diagonals of the matrix; on the other hand, open values express the correlation values between the factors as those outside the diagonal of the matrix. Accordingly, since the diagonal values calculated in all dimensions are larger than the off-diagonal values, it shows that the discriminant validity of the scale is provided.

Content Validity

Content validity is the determination of whether the scale items are suitable for the purpose and whether they contain the feature to be measured, with the opinions of field experts (Karasar, 2010). This study examined the literature in detail, and a 42-item draft scale form was prepared for the desire to gain legal power. This form, which was created later, was examined by a total of 6 experts, 3 of which are educational administration field experts, 1 assessment and evaluation specialist, and 2 language specialists, in order to be evaluated in terms of scope, comprehensibility, measurability, and clarity. After the opinions received, the Content Validity Ratio (CVR) of the scale was calculated as .94, while the Content Validity Index (CVI) for the whole scale was calculated as .59. Based on the content validity rates developed by Yurdugül (2005), 1 item below .80 was removed from the scale. The scale draft form, which was determined as 41 items, was determined as 32 items after the analysis.

Reliability Analysis

Reliability is that the measurement tool can give the same results when repeated under the same conditions (Ergin, 1995). It consists of reliability, sensitivity, consistency, and stability sub-dimensions. Of these, the sensitivity depends on the units included in the measuring instrument. The small gap between these units increases the sensitivity. Consistency is expressed as that the measured property of each item is close to the property measured by the whole test. On the other hand, stability is getting similar results in subsequent measurements (Tezbaşaran, 2008). The reliability coefficient is between 0-1. As this value approaches 1, the scale becomes reliable (Ural & Kılıç, 2006). In order to ensure the reliability of the scale, the internal consistency coefficient and test-retest reliability coefficient were calculated. Table 7 shows the factors of the scale and the reliability coefficients for the whole.

Table 7

Reliability Coefficients of the Scale of Willingness to Obtain Legal Power

Factors	Number of Items	Internal Consistency Coefficient (Cronbach's Alpha)	Structural Reliability
Factor 1	12	.97	.92
Factor 2	7	.96	.86
Factor 3	7	.95	.82
Factor 4	6	.94	.80
SWOLP	32	.95	.94

When the data in Table 7 are examined, the internal consistency of the four-factor scale is *.94-.97*. The structural reliability coefficient of the four factors varies between *.80* and *.94*. The internal consistency coefficient of the entire scale was found to be *.95*. The structural reliability was found to be *.94*. As another analysis to ensure reliability, the test-retest reliability coefficient was calculated. In this context, data obtained from 16 education administrators and 24 teachers who did not participate in the first survey two weeks after the first survey were analyzed. The test-retest coefficient was calculated as *“.92”*. This coefficient reveals that the scale is stable.

Discussion and Conclusion

While power is a very important concept both in daily life and in the field of organizational management, it is a phenomenon that is present in all relations between people in society. There is no social environment in which the individual with power does not exist. According to Russell (1990), it is a relational concept in the form of the ability to direct others to behave in the direction desired by the individual. Anderson and Brion (2014), on the other hand, defined it as having asymmetrical control over valuable resources. These resources are monetary, such as salaries and bonuses; social, such as dignity and social participation; and physical, such as working conditions and places.

Regarding the sources of power and where it comes from, it is possible to say that the social, political, economic, and individual activities that make up this power affect the formation of power (Bayrak, 2001). Research findings by Greene and Elffers (2005) and Liu and Fang (2006) stated that individuals want more power because of their personal characteristics. The study conducted by Özkalp and Kirel (2011) revealed that individuals with a high need for power exhibit behaviors to influence others and show their power by keeping their personal characteristics in the foreground and using their status.

This study aimed to develop a scale to determine why people are willing to obtain legal power in education administration. The developed “Scale of Willingness of Obtain Legal Power” (SWOLP) is a scale developed as a five-point Likert scale with 32 items and four factors, the validity and reliability of which have been ensured. The scale development work was started with a literature review, an open-ended interview form was prepared, and the views of education administrators and teachers were used.

A draft containing 42 items was prepared by synthesizing both the literature information and the views of education administrators and teachers. The scale, which was prepared to measure the perceptions of researchers about their willingness to obtain legal power, was evaluated in terms of scope, clarity, measurability, and clarity to the opinion of a total of 6 experts, 3 of which are education administration field experts, 1 assessment and evaluation expert and 2 language experts. As a result of the Content Validity Ratio (CVR) evaluation, 1 item with a value below .80 was removed from the pool. Using the remaining 41 items in the draft form, it was applied to 390 participants.

Content validity and construct validity analyses were applied for the validity analysis of the scale. CVR and CVI were calculated based on expert opinions in content validity studies. EFA and CFA were performed in construct validity studies. In the study, the KMO test was determined as .92, and Barlett's Test of Sphericity was significant ($p < .05$). The data were at a suitable level for factor analysis. Within the scope of EFA, 9 items were removed from the scale because some items were below .45.

In order to determine the factor number of the scale, basic axes factor analysis Promax rotation technique was applied, and the scale consisted of 32 items and 4 factors. Under the first factor, 12 items had load values between .77 and .93. In the second factor, 7 items had load values between .80 and .96. In the third factor, 7 items had load values between .68 and .97, and in the fourth factor, load values There were 6 items between .72 and .93.

The factors obtained were named by taking into account the common characteristics of the items. In this context, the first factor was named as "individual obtain", the second factor as "political obtain", the third factor as "social obtain" and the fourth factor as "economic obtain". In the "individual obtain" dimension, educational administrators and teachers gain power based on legal power, job performance, responsibility, professional competence, vision, leadership, rational decision making and conflict management skills. The "political obtain" dimension includes educational policy, professional career opportunities, and sanctioning power, while the "social obtain" dimension includes the expansion of the social circle, acquisition of communication skills, and increased social prestige. The "economic obtain" dimension consists of increased income, improved living standards and working conditions.

The total variance of the scale factors is 77.46%. It was found that the factors obtained in this case explained the perception of the willingness to obtain legal power by 77.46%. The goodness of fit values obtained from the research were $CMIN=634.48$, $df=451$, $CMIN/df=1.40$, $RMSEA=0.4$, $NFI=.92$; $CFI=.97$; $IFI=.97$; $RMR=.02$; $GFI=.82$; $AGFI=.80$ that the scale provides construct validity. The fact that the diagonal values calculated as a result of the research are larger than the off-diagonal values indicates that the discriminant validity of the scale is provided. While the scale's internal consistency coefficient (*Cronbach's Alpha*) was found to be ".95," the test-retest reliability coefficient was determined as ".92".

The findings of this research show that the Scale of Willingness to Obtain Legal Power (SWOLP) can be used as a valid and reliable scale. This scale can be used in research to measure the perceptions of educational administrators about their

willingness to obtain legal power, or it can be adapted to measure the perceptions of different occupational groups regarding their willingness to obtain legal power.

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Statement of Responsibility

The research was produced from the doctoral thesis titled “The Willingness to Legal Power in Education Management resolution in the Context of Political Behaviors Exhibited” conducted by Yalçın Varol YILDIZBAŞ under the supervision of Assoc. Prof. Sevim Öztürk.

Conflicts of Interest

This research is derived from a doctoral thesis. There is no conflict of interest between the authors.

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References

- Altinkurt, Y., Yılmaz, K., Erol, E., & Salahlı, E. T. (2014). Okul müdürlerinin kullandığı güç kaynakları ile öğretmenlerin örgütsel sinizm algıları arasındaki ilişki [The relationship between the power sources used by school principals and teachers' perceptions of organizational cynicism]. *Journal of Teacher Education and Educators*, 3(1), 25-52.
- Anderson, C., & Brion, S. (2014). Perspectives on power in organizations. *Annual Review of Organizational Psychology and Organizational Behavior*, 1(1), 67-97.
- Aslanargun, E. (2009). *İlköğretim ve lise müdürlerinin okul yönetiminde kullandığı güç türleri [Types of power used by primary and high school principals in school management]*. Doktora Tezi, Ankara Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.
- Aslanargun, E., & Eriş, H. M. (2013). Öğretim elemanlarının sınıf yönetiminde kullandıkları güç türleri ölçeğinin geliştirilmesi [Developing a scale of power types used by instructors in classroom management]. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 17(2), 207-220.
- Aydın, M. (2010). *Eğitim yönetimi [Education management]*. Ankara: Hatipoğlu Yayınevi.
- Bakan, İ., & Büyükbese, T. (2010). Liderlik "türleri" ve "güç kaynakları" na ilişkin mevcut-gelecek durum karşılaştırması [Current-future situation comparison of leadership "types" and "power sources"]. *Karamanoğlu Mehmetbey Üniversitesi Sosyal ve Ekonomik Araştırmalar Dergisi*, 2, 73-84.
- Balcı, A. (1995). *Sosyal bilimlerde araştırma [Research in social sciences]*. Ankara: Ankara Üniversitesi Eğitim Bilimleri Fakültesi.
- Başaran, İ. E. (2008). *Örgütsel davranış: İnsanın üretim gücü [Organizational behavior: The productive power of human]*. Ankara: Ekinoks Yayınları.
- Başaran, İ. E., & Çınkır, Ş. (2011). *Türk eğitim sistemi ve yönetimi [Turkish education system and management]*. (3. Baskı). Ankara: Ekinoks Yayınevi.
- Bayrak, S. (2001). Yönetimde bir ihmal konusu olarak güç ve güç yönetimi II [Power and power management as a matter of neglect in management II]. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi*, 6(1), 23-42.
- Bulut, Y., & Bakan, İ. (2005). Yönetici ve yöneticilik üzerine Kahramanmaraş kentinde bir araştırma [A research on managers and management in the city of Kahramanmaraş]. *Selçuk Üniversitesi İİBF Sosyal ve Ekonomik Araştırmalar Dergisi*, 5(9), 63- 89.
- Bursalıoğlu, Z. (2016). *Eğitim yönetiminde teori ve uygulama [Theory and practice in education management]*. Ankara: Pegem Yayınları.
- Büyükoztürk, S., Çakmak, E. K., Akgün, O. E., Karadeniz, S., & Demirel, F. (2008). *Bilimsel araştırma yöntemleri*. Ankara: Pegem Akademi.
- Büyükoztürk, Ş. (2009). *Sosyal bilimler için veri analizi el kitabı [Data analysis handbook for social sciences]*. Ankara: Pegem Akademi.
- Can, H., Aşan, Ö., & Aydın, E. M. (2006). *Örgütsel davranış [Organizational behavior]*. İstanbul: Arıkan Yayınları.

- Cattell, R. B. (1978). *The scientific use of factor analysis in behavioral and life sciences*. New York: Plenum.
- Çokluk, Ö., Şekercioğlu, G., & Büyüköztürk, Ş. (2014). *Sosyal bilimler için çok değişkenli istatistik SPSS ve LISREL uygulamaları [Multivariate statistics for social sciences SPSS and LISREL application]*. 5. Baskı, Ankara: Pegem Akademi Yayınları.
- Dikili, A. (2014). Örgütlerde güç kavramı: Eleştirel Yönetim Çalışmaları ile Kaynak Bağımlılığı Yaklaşımı'nın bakışlarına dair karşılaştırmalı bir analiz [The concept of power in organizations: A comparative Analysis of the Views of Critical Management Studies and Resource dependence approach]. *Yönetim Bilimleri Dergisi*, 12(23), 141-164.
- Erdoğan, İ. (2010). *Eğitim ve okul yönetimi [Education and school management]*. (8. Baskı). İstanbul: Alfa Basım Yayın Dağıtım.
- Ergin, Y. D. (1995). Ölçeklerde geçerlik ve güvenilirlik [Validity and reliability in scales]. *M. Ü. Atatürk Eğitim Fakültesi Eğitim Bilimleri Dergisi*, 7, 125-148.
- Erkuş, A. (2011). Çok boyutlu lider-izleyici etkileşiminde kişilik özelliklerinin ve güç kaynaklarının rolü [The role of personality traits and power sources in multidimensional leader-follower interaction]. *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 25(1), 127-152.
- Foucault, M. (1980). *Power/knowledge: Selected interviews and other writings*. Vintage.
- French, J. R., & Raven, B. (1959). *The bases of social power*. (Ed. D. Cartwright). In studies in social power. Ann Arbor: Institute for Social Research.
- Greene, R., & Elffers, J. (2005). *İktidar: Güç sahibi olmanın 48 yasası [Power: The 48 laws of power]*. 5. Basım, İstanbul: Altın Kitapları.
- Hair Jr, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). SEM: An introduction. *Multivariate data analysis: A global perspective*, 5(6), 629-686.
- Hodgkinson, C. (2008). *Yönetim felsefesi [Management philosophy]*. (Trans. Ed. İ. Anıl ve B. Doğan). İstanbul: Propedia Yayınları.
- Hoy, W. K., & Miskel, C. G. (2010). *Eğitim yönetimi: Teori, araştırma ve uygulama [Education management: Theory, research and practice]*. (Ed. S. Turan). Ankara: Nobel.
- Kalaycı, Ş. (2010). *SPSS uygulaması çok değişkenli istatistik teknikleri [SPSS application multivariate statistical techniques]*. 5. Baskı, Ankara: Asil Yayınları.
- Karagöz, Y., & Kösterelioğlu, İ. (2008). İletişim becerileri değerlendirme ölçeğinin faktör analizi metodu ile geliştirilmesi [Developing evaluation scale of communication skills with factor analysis]. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, 21, 81-98.
- Karakaş, A. (2020). Okul müdürlerinin kullandıkları güç türlerinin temeline ilişkin öğretmen algılamaları: Fenomenografik bir araştırma [Teacher perceptions about the basis of the types of power used by school principals: A phenomenographic research]. *Eğitimde Nitel Araştırmalar Dergisi*, 8(1), 39-72.

- Karaman, A. (1999). *Profesyonel yöneticilerde güç yönetimi [Power management in professional managers]*. İstanbul: Türkmen Kitabevi.
- Karasar, N. (2010). *Bilimsel araştırma yöntemi [Scientific research method]*. Ankara: Nobel Yayın Dağıtım.
- Kline, P. (1994). *An easy guide to factor analysis*. London and New York: Routledge.
- Koşar, S. (2016). *Okul yönetiminde dinamikler: Güç, politika ve etkileme Türk eğitim sistemi ve okul yönetimi [Dynamics in school management: Power, politics and influence Turkish education system and school administration]*. Ankara: Pegem Akademi.
- Koşar, S., & Çalık, T. (2011). Okul öneticilerinin yönetimde gücü kullanma stilleri ile örgüt kültürü arasındaki ilişki [The relationship between school administrators' styles of using power in management and organizational culture]. *Kuram ve Uygulamada Eğitim Bilimleri Dergisi*, 17(4), 581-603.
- Kutlu, H. (2019). *Öğretmen yabancılaşması ve okul yöneticilerinin kullandığı güç stilleri arasındaki ilişkinin incelenmesi [Examining the relationship between teacher alienation and power styles used by school administrators]*. Yüksek Lisans Tezi, Karabük Üniversitesi Sosyal Bilimler Enstitüsü, Karabük.
- Liu, A. M., & Fang, Z. (2006). A power-based leadership approach to project management. *Construction Management and Economics*, 24(5), 497-507.
- Lunenburg, F. C., & Ornstein. A. C. (1996). *Educational administration*. (2nd Ed.). USA: Wadsworth Publishing Company.
- Mannheim, K. (1950). *Freedom, power and democratic planning*. New York: Oxford University Press.
- Marquis, B. L., & Huston, C. J. (2009). *Leadership roles and management functions in nursing: Theory and application*. Lippincott Williams & Wilkins.
- Mimaroğlu, H., & Özgen, H. (2008). Örgütlerde güç eşitsizlikleri ve cinsel taciz [Power inequalities and sexual harassment in organizations]. *Journal of the Cukurova University Institute of Social Sciences*, 17(1), 321-334.
- Mintzberg, H. (1985). The organization as political arena. *Journal of Management Studies*, 22(2), 133-154.
- Nietzsche, F. (1974). *The gay science*. (Trans. W. Kaufmann). New York: Vintage Books.
- Nunnally, J. C. (1978). *Psychometric testing*. New York: McGraw-Hill.
- Özkalp, E., & Kirel, Ç. (2011). *Örgütsel davranış [Organizational behavior]*. Bursa: Ekin Basım Yayın Dağıtım.
- Pfeffer, J. (1999). *Güç merkezli yönetim: Örgütlerde politika ve nüfuz [Power-centered management: Politics and influence in organizations]*. (Trans. E. Özsayar). İstanbul: Boyner Holding Yayınları.
- Rahim, M. A. (1989). Relationships of leader power to compliance and satisfaction with supervision: Evidence from a national sample of managers. *Journal of Management*, 15(4), 545-556.
- Robbins, S. P., & Judge, T. A. (2013). *Organizational behaviour*. (15. Ed.). Prentice Hall: Pearson Education, Inc.

- Russell, B. (1990). *İktidar [Power]*. (Trans. M. Ergin). İstanbul: Cem Yayınevi.
- Segars, A. H., & Grover, V. (1993). Re-examining perceived ease of use and usefulness: A confirmatory factor analysis. *MIS quarterly*, 517-525.
- Soysal, S. (2009). Nietzsche, güç istenci ve Darwincilik [Nietzsche, the will to power and Darwinism]. *Baykuş Felsefe Yazıları Dergisi*, 4, 243-274.
- Şimşek, M. Ş. (2010). *Yönetim ve organizasyon [Management and organization]*. (12. Baskı). Konya: Günay Ofset.
- Şimşek, Ö. F. (2007). *Yapısal eşitlik modellemesine giriş: Temel ilkeler ve LISREL uygulamaları [Introduction to structural equation modeling: Basic principles and LISREL applications]*. Ankara: Ekinoks Yayıncılık.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston: Allyn and Bacon.
- Tavşancıl, E. (2006). *Tutumların ölçülmesi ve SPSS ile veri analizi [Measurement of attitudes and data analysis with SPSS]*. Ankara: Nobel Yayın Dağıtım.
- Tatlıdil, H. (1992). *Uygulamalı çok değişkenli istatistiksel analiz [Applied multivariate statistical analysis]*. Engin Yayınları.
- Tezbaşaran, A. (2008). *Likert tipi ölçek geliştirme kılavuzu [Likert-type scale development guide]*. Ankara: Türk Psikologlar Derneği Yayınları.
- Titrek, O., & Zafer, D. (2009). İlköğretim okulları yöneticilerinin kullandıkları örgütsel güç kaynaklarına ilişkin öğretmen görüşleri [Teachers' views on organizational power sources used by primary school administrators]. *Kuram ve Uygulamada Eğitim Yönetimi Dergisi*, 15(60), 657-674.
- Ural, A., & Kılıç, İ. (2006). *Bilimsel araştırma süreci ve SPSS ile veri analizi [Scientific research process and data analysis with SPSS]*. Ankara: Detay Yayıncılık.
- Weber, M. (1947). *The theory of social and economic organization*. New York: Oxford University Press.
- Yaşlıoğlu, M. M. (2017). Sosyal bilimlerde faktör analizi ve geçerlilik: Keşfedici ve doğrulayıcı faktör analizlerinin kullanılması [Factor analysis and validity in social sciences: Using exploratory and confirmatory factor analysis]. *İstanbul Üniversitesi İşletme Fakültesi Dergisi*, 46, 74-85.
- Yukl, G., & Falbe, C. M. (1991). The importance of different power sources in downward and lateral relations. *Journal of Applied Psychology*, 76, 416-423.
- Yurdugül, H. (2005). Ölçek geliştirme çalışmalarında kapsam geçerliği için kapsam geçerlik indekslerinin kullanılması [Using content validity indexes for content validity in scale development studies]. *XIV. Ulusal Eğitim Bilimleri Kongresi, Pamukkale Üniversitesi Eğitim Fakültesi*, 28-30 Eylül Denizli, 1-6.
- Yücel, C. (1999). *Bureaucracy and teachers' sense of power*. Doctoral dissertation, Virginia Polytechnic Institute and State University, Blacksburg-Virginia.
- Zafer, D. (2008). *İlköğretim okulu yöneticilerinin kullandıkları örgütsel güç kaynaklarına ilişkin öğretmen görüşleri [Teachers' views on organizational power sources used by primary school administrators]*. Yüksek Lisans Tezi, Sakarya Üniversitesi Sosyal Bilimler Enstitüsü, Sakarya.

Annexes

Annex 1: Scale of Willingness of Obtain Legal Power (SWOLP)

<i>After carefully reading each of the following statements, To what extent you agree, mark the appropriate option with an "X". by marking (X).</i>	Never Agree	Little Agree	I Agree A Little	I agree a lot	I totally agree
Legal power, individual/individual;					
1. It enables them to make rational decisions at the organizational level.	①	②	③	④	⑤
2. Increases work performance	①	②	③	④	⑤
3. Increases responsibilities	①	②	③	④	⑤
4. Increases professional competence	①	②	③	④	⑤
5. Allows you to achieve your goals	①	②	③	④	⑤
6. Enhances your vision	①	②	③	④	⑤
7. Prevents professional burnout	①	②	③	④	⑤
8. Increases enterprise uptime	①	②	③	④	⑤
9. Develops leadership skills	①	②	③	④	⑤
10. Provides problem solving skills	①	②	③	④	⑤
11. Affects mental health	①	②	③	④	⑤
12. Provides conflict management skills	①	②	③	④	⑤
13. Improves social relations	①	②	③	④	⑤
14. Makes it difficult to establish informal relationships	①	②	③	④	⑤
15. Increases communication skills	①	②	③	④	⑤
16. Makes it easy to collaborate	①	②	③	④	⑤
17. Makes it tolerant towards stakeholders	①	②	③	④	⑤
18. Increases social reputation	①	②	③	④	⑤
19. Makes it easier to establish authority over others	①	②	③	④	⑤
20. Increases the income	①	②	③	④	⑤
21. It raises the standard of living	①	②	③	④	⑤
22. Improves working conditions	①	②	③	④	⑤
23. Causes unfair advantage	①	②	③	④	⑤
24. Provides an opportunity to earn additional income	①	②	③	④	⑤
25. Causes more spending	①	②	③	④	⑤
26. Provides opportunity to determine education policy	①	②	③	④	⑤
27. Strengthens relationships with top management	①	②	③	④	⑤
28. Provides professional career opportunities	①	②	③	④	⑤
29. Increases organizational recognition	①	②	③	④	⑤
30. Facilitates participation in union activities	①	②	③	④	⑤
31. Increases enforcement power	①	②	③	④	⑤
32. Causes political behavior	①	②	③	④	⑤



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