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A Study on Developing Teacher Participation in Decision-Making Scale*

Research Article

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ABSTRACT

The primary purpose of the present study is to develop teacher participation in decision making scale to find out teachers' states of participating in decision making in studies to be conducted. Literature review was conducted and an item pool including 30 items was formed and the draft form was given to 307 teachers working in 65 high schools of Mersin city centre during the 2017-2018 Academic Year. Exploratory factor analysis was conducted with the help of the data obtained and the scale form including three dimensions and ten items was reached as a result of the analysis. The scale form including ten items was given to 193 teachers from the same universe, confirmatory factor analysis was conducted with the help of these data and scale construct was tested this way. Exploratory and confirmatory analysis results showed that the scale form which included ten items and three dimensions could be used in studies to be conducted related with teachers' states of participating in decision making in the field.

Keywords:
School, teacher, participating in decision making

Introduction

The state, which is an institutionalised power, has an effective power of sanction in accordance with realizing societal objectives through political, ideological and economical ways. The state can enter every area of life with this power it possesses (Tezcan, 2009). Based on this power, the state considers that it has the authority to raise individuals in line with its ideological assumptions through education and schools, which are the sub-domains of education. Within this context, the primary objective of education in Ancient Greece and Rome was to raise citizens loyal to political authority (Şişman, 2009). This objective of education is a truth that undeniably exists in our day. Educational purposes are applied through programs and the purpose is students' integration in the society they live in together with loyalty to political authority. The most important

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factor in realizing programs is teachers. Just like employees of other professions, teachers are also influenced by a large number of factors while fulfilling their duties in the education process. It is thought that the state of participating in the decision making process in their own school is among the factors teachers are influenced by.

Employees get the chance to express their thoughts clearly by overcoming the strict and firm structure of classical management through participating in the decision (Çetin, 2009). Decision making process can be accepted as one of the important processes of school management. Schools can be successful as long as they meet teachers' needs. Managers who believe that schools can succeed with teachers helping in making decisions tend to assess the participation of teachers positively (Eriş, Kayhan, Baştaş and Gamar, 2017). It can be said that school principals who share decisions will also share success.

Aydın (2010) stated that participating in decision making helps individuals to adapt to organizational purposes and practices. Bursalıoğlu (2012) stated that employees who will be affected by the decision will tend to participate in the practice within the extent that they participate in the process of decision making. Participating in decision making enables the individuals to get a chance to operationalise their thoughts about the decision. It is an expected situation for individuals who see their ideas reflected in the organization they work in both to support these practices and to be happier. It has been found that higher organizational efficiency can be seen in employees by making them participate in decision making (Hoy and Miskel, 1978, cited from. Uras, 1995). For this reason, it can be said that making employees participate in the decision making process will increase success.

Hoy and Miskel (2010) stated that being given a chance to participate in the stage of identifying policies increases teachers' spirits. It is difficult to say that teacher participation is provided in the process of identifying primary policies in national education of our country. However, at least in the stage of transforming these policies into practices in schools, participation of teachers in decision making can increase the quality of decisions. According to Memişoğlu (2013), teachers should be made to participate in decision making in schools to a great extent. One of the prerequisites of providing participation in decision making is having information about the issue to be decided. In this context, teachers are expected to participate in decisions which are especially about their education. Aydın (2010) stated that teachers have a higher tendency to participate in decision making in issues of teaching and program. Yıldırım (2014), who stated that a new practice occurs with every decision taken, also expressed that in cases when the content of decision is not known, the chances for the implementation of the decision will decrease, it will cause rumours and get away from the purpose. It can be said that employees who are aware of the decision making process increase the possibility of realizing the purposes that require making the related decision.

However, the most important point that should be remembered is providing participation of teachers not to all decision making processes, but only to decisions about them. Aydın (2013) stated that employees will have a high tendency to participate when they have interests. Employees whose decisions are accepted without questioning in issues they are not related with can prioritise their own interests over the interests of the organization if these two clash. It is necessary for an individual who will participate in decision making to have interest and expertise about the decision to be made. Here, we can see the concept of acceptance region.

Hoy and Miskel (2010) stated that employees' effects are limited when they participate in the decision making process of issues within their acceptance region, while their effects will be higher when they participate in the decision making process of issues outside their acceptance region. For this reason, increasing the quality of decisions made requires making employees participate in decisions outside their acceptance region. Knowing the decisions within or outside acceptance regions of teachers while determining the decisions they will participate in will give important ideas about which decision making processes they should be made to participate in.

There are studies which have shown that participating in decision making is associated with organizational variables such as job satisfaction (Başar, 2017; Demirtaş and Alanoğlu, 2015; Köklü, 2012), organizational justice (Lau, 2014), burnout and risk taking (Michailidis and Banks, 2016), school climate (Acet, 2006), communication levels (Uygun Takmaz, 2009) and organizational commitment (Başyiğit, 2009). It is thought that the analysis of the variable of participating in decision making which is associated with a large number of organizational variables will help to understand a great number of perceptions and attitudes in school organization. For this reason, it can be said that it is important to find out in a correct way the perceptions of teachers about participation in decision making.

It can be seen that the scales used in literature about teachers' participation in decision making in schools have almost the same content and that in general all scales have two sub-dimensions of educational and managerial decisions (e.g. Açıkgöz, 1984; Başyiğit, 2009; Köklü, 1994; Turgut, 2010; Yavuz, 2001). However, it is thought that rather than decisions' being educational and managerial, whether they are within the interests or expertise of teachers is about their participation in decision making. Educational or managerial, it is expected for teachers not to participate in decision making if it is not within their interests and expertise, while they are expected to participate in decision making if it is within their interests and expertise. Due to these deficits seen in the existing scales used in literature, it was thought that a scale for participation of teachers in decision making should be developed to be used in studies conducted in the field. In this context, the related study is expected to make up a significant deficit in the related field.

Method

Research Method and Study Group

The purpose of developing scale is not to generalize the results, but to apply the developed scale to similar groups in studies conducted in the future. In order to develop Teachers Participation in Decision Making Scale, a literature review was conducted and a pool of 42 items was formed by making use of previously developed scales (Açıkgöz, 1984; Başyiğit, 2009; Köklü, 1994; Turgut, 2010; Yavuz, 2001). After an item pool was developed about teachers' participation in decision making in schools, content validity of the items was checked first. Scale development studies about participation in decision making were analyzed and it was analyzed how decisions were classified in these studies. Baykul (2000) stated that experts' opinions should be taken about whether the item pool can measure the required behaviours, whether it includes a scientific error and whether it is understandable in terms of language. Opinions of three experts in the field and two teachers were taken about the item pool formed in the existing study. As a result of the opinions taken, the items which were thought to come from the same root were combined, the items which were recommended to be excluded were reviewed and a draft scale form consisting of 30 items was prepared. Next to the items of the draft Scale form, the options "never" (1), "rarely" (2), "sometimes" (3), "mostly" (4) and "always" (5) were added with 5 Likert type grading. The aforementioned draft scale form was given to a total of 307 teachers chosen with simple random sampling method among a total of 3194 teachers working in state high schools within the city centre of Mersin.

Exploratory factor analysis (EFA) was conducted on the data obtained and the items which could be excluded from the scale were excluded after taking the opinions of experts. In order to test the validity of the finalized Scale with excluded items, a different sample consisting of 193 teachers chosen from the same universe through simple random sampling method was chosen and with the data obtained from this sample, the scale was exposed to CFA and the structure of the scale was confirmed. Demographic characteristics of the study groups which were given the draft and finalized scale form are shown in Table 1.

Table 1. Demographic Characteristics of the Study Group

Demographic variables	Draft form (n = 307)		Final form (n = 193)	
Gender	**n**	**%**	**n**	**%**
Female	150	48.9	103	53.4
Male	157	51.1	90	46.6
Educational status				
Bachelor's degree	261	85	157	81.3
Postgraduate	46	15	36	18.7
Faculty				
Faculty of education	210	68.4	126	65.3
Other faculties	97	31.6	67	34.7
Professional seniority				
1-5 years	40	13	37	19.2
6-10 years	76	24.8	37	19.2
11-15 years	121	39.4	31	16.1
16-20 years	41	13.4	36	18.6
21 years and over	29	9.4	52	26.9

Table 1 shows the distribution of the variables of gender, educational status, faculty and professional seniority in the samples which were given the draft and finalized forms of the scale.

Data Analysis

In scale development studies, the method frequently referred to for testing the construct validity of the scale in question is factor analysis. Factor analysis is grouped in two as EFA which is used to find out under which subtitles the items in the scale are gathered, and as CFA which is used to test whether this construct determined can be confirmed (Seçer, 2015). In order to find out whether the data collected met the single normality assumption, it was tested whether Kurtosis and Skewness coefficients were normally distributed. Tabachnick and Fidell (2013) stated that in cases when Kurtosis and Skewness values differ between +1.50 and -1.50, the data are normally distributed. The data were transferred to SPSS 22.00 program and EFA was conducted, later CFA was conducted on the collected data with LISREL 8.80 program in order to confirm the final form of the scale. In CFA, it was found whether the scale model was fit by taking the threshold points shown in Table 2 as reference (Çokluk, Şekercioğlu and Büyüköztürk, 2016).

Table 2. Fit Indices for CFA Model

Fit Criteria	Good Fit	Sufficent Fit
χ^2/df	≤ 3	≤ 5
RMSEA	$\leq .08$	$\leq .10$
SRMR	$\leq .05$	$\leq .10$
NFI	≥.95	$\geq .90$
NNFI	≥.95	$\geq .90$
CFI	≥.95	$\geq .90$
IFI	≥.95	$\geq .90$

As can be seen in Table 2, χ^2/df value lower than 3 shows good fit, while χ^2/df value lower than 5 shows sufficient fit. In addition, RMSEA value up to .08 means good fit (less than 0.5 means perfect fit), values between .08 and 1 show sufficient fit and values higher than 1 show that the model fit is insufficient. SRMR value less than .05 shows perfect fit, while values up to 1 show sufficient fit.

Results and Interpretation

The draft form prepared in the study was applied on the samples, data analyses were conducted, the finalized scale was given to a different sample and the values obtained were interpreted.

Results of the application of the scale's draft form

As a result of the factor analysis of draft form data, a six-dimension scale structure with a Kaiser Mayer Olkin (KMO) value of .90, Bartlett sphericity test of 6584.98 (df=435; p=.000) and which explained 69.82% of the total variance was found. KMO is accepted as the sample sufficiency measurement technique (Seçer, 2015). KMO value less than .50 is interpreted as it is not possible to continue factor analysis, while .90 and higher show that there is a perfect level of sample sufficiency (Çokluk et al, 2016). In addition, Seçer (2015) stated that variance rate explained by a scale should be at least higher than 52%. The value obtained related with KMO value shows that the sample is sufficient for the scale and the explained value of total variance shows that factor analysis can be continued. The results obtained showed that each item had a high rate of explaining the variance in the common factor together. Since the scale had six dimensions, the data were analyzed again by using Varimax rotational technique. With the condition of load values of the items in each factor being higher than .30, there should be a difference of at least .10 between item load values. Not being able to meet this condition is called overlapping problem (Seçer, 2015). When item load values of the scale were analyzed, rotated components analysis showed that the scale had an overlapping item problem. In order to be able to get rid of this overlapping problem, each time items with a load factor of below .0 and which had the closest load value to each other were found, they were excluded from the list and factor analysis was repeated. This process was repeated until the overlapping problem was solved, later item content was analyzed to find out in which sub-dimensions the remaining items gathered and opinions of experts were taken about whether there were items that should not be excluded from the scale in terms of content. As a result of these processes, a three-dimension scale structure with a three dimensional scale structure consisting of 14 items was obtained. KMO value of the scale was found as .84, and Bartlett sphericity test was found as 2531,08 (df=91; p=.000). In the 14-item scale obtained, it was found that some of the items collected under the same factor were different from each other in terms of content. These items, which the experts stated that they would not cause a problem in terms of content validity when excluded from the scale, were excluded and analyzed again. Table 3 shows the items collected under the three factors of teacher participation in decision making scale, the load values obtained about the scale, eigenvalue and the explained variance values.

Table 3. Teacher Participation in Decision-making Scale EFA Results

Items	1. Factor load values	2. Factor load values	3. Factor load values	Communalities (Extraction)
1. My view is taken about what the methods to be used in exams should be.	**.77**			.69
2. My view is taken about the organization and assessment of my clan.	**.86**			.78
3. My view is taken about how many classes a week the teachers will teach in my clan.	**.74**			.72
4. My view is taken about the determination of days and places of watch duties in the school.		**.83**		.74
5. My view is taken about the running of school canteen.		**.90**		.84
6. My view is taken about the use of financial resources of the school.		**.86**		.73

7. My view is taken about studies to be conducted on the success, special conditions and problems of students.			**.79**	.71
8. My view is taken about studies to be conducted and precautions to be taken about the academic states and absences of students.			**.82**	.73
9. My view is taken about collaborative works to be conducted to increase students' success.			**.85**	.51
10. My view is taken about half term and end of the term activities to be performed.			**.65**	.76
Eigenvalue	**4.26**	**1.91**	**1.09**	
Cumulative Variance (%)	**27.14**	**23.82**	**21.77**	

When Table 3 is examined, it can be seen that there are three items with item load values of .74, .77 and .86 in the first dimension. When the content of these items in this dimension were analyzed, it was found that all three items were about the group functioning and this dimension was called "*Clan decisions dimension*". Item load values of the items in the second dimension were .83, .86 and .90. When the content of these items in this dimension were analyzed, it was found that these items were about the general functioning of the school and this dimension was called "*School management dimension*". Lastly, item load values of the four items in the third dimension were found as .65, .79, .82 and .85. When contents of the items were analyzed, it was found that these items included the issues about students and this dimension was called "*Student Affairs and Academic Decisions Dimension*".

The three dimensions of the 10-item teacher participation in decision making scale explained 72.73% of the total scale together. For the scale in general, Cronbach Alpha (α) internal consistency coefficient was calculated as .85, while it was calculated as .86 for clan decisions dimension, as .77 for school management dimension and as .81 for student affairs and academic decision dimension. These values show that the internal consistency of the 10-item scale is high. High internal consistency of the scale means that it has a homogeneous structure as predicted (Çokluk et al, 2016).

Results of the application of the scale's final form

In order to confirm the scale construct of the final form of the prepared scale, it was given again to 193 teachers chosen from the universe the scale was previously conducted on and with the data obtained, CFA analysis was conducted. It has frequently been emphasized in literature that CFA should be conducted with

data collected from a different sample than the one exposed to EFA (Cabrera-Nguyen, 2010). CFA model obtained showed that the scale had high item load values and the Model is shown in Figure 1.

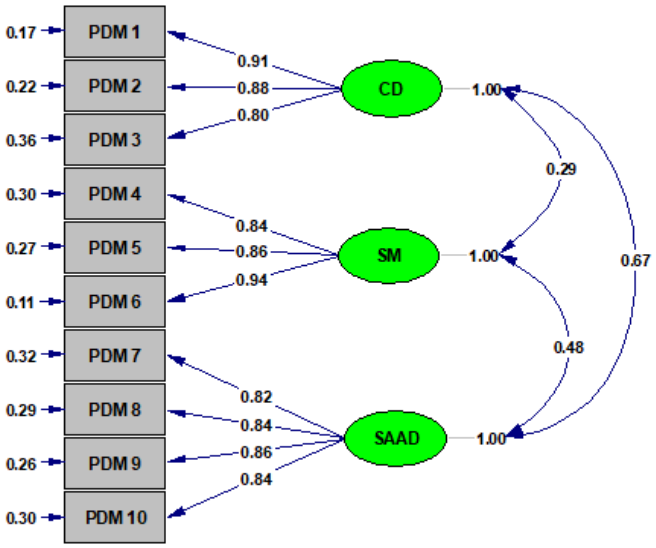

Figure 1. Teacher Participation in Decision-making Scale CFA Model

PDM: Participation in Decision-making; **CD:** Clan Decisions; **SM:** School Management;

SAAD: Student Affairs and Academic Decisions

Figure 1 shows that item load values of the scale were high and that the determined construct of the scale was confirmed. Table 4 shows the model fit values of the scale's CFA.

Table 4. Teacher Participation in Decision-making Scale Fit Indices

Paths	β	χ^2 / df	**RMSEA**	**NNFI**	**NFI**	**CFI**	**IFI**	**SRMR**
CD ⇔SM	.29							
CD ⇔ SAAD	.67	**1.39**	**.05**	**.99**	**.98**	**.99**	**.99**	**.03**
SM ⇔SAAD	.48							
Fit		Good Fit	Good Fit	Good Fit	Good Fit	Good Fit	Good Fit	Good Fit

Fit values of the scale shown in Table 4 mean that the model of the scale's CFA is very good. When the standardized correlation values were controlled, positive association was found between clan decisions dimension and school management decisions (β = .29), student's affairs and academic decisions dimension (β = .67) and between school management dimension and academic decisions dimension (β = .48). Çokluk et al. (2016) stated that correlation values between factors should not be very high (β > .85) for a distinctive validity. EFA and CFA results for the reliability and validity of the scale show that the 10-items scale has a very strong construct and that the scale is sufficient enough to be used in studies.

Discussion and Conclusion

In the present study, which aimed to develop a measurement tool with a high validity and reliability for finding out the levels of teachers in participating in the decisions made in schools according to their own perceptions, scale development process recommended in literature was followed to a great extent (Büyüköztürk, 2002; Çelik and Yılmaz, 2013; Çokluk et al., 2016; Seçer, 2015). In the study, first literature review was conducted and an item pool was formed by taking experts' views. In their study they conducted on scale development process content analysis, Şahin and Boztunç Öztürk (2018) stated that literature review

had a significant place in the process of forming item pool in scales developed about the field of education. In addition, it was found that both literature review and experts' opinions were used in some studies.

Using EFA and CFA together in testing construct validity of scales developed in the field of education is frequently preferred (Şahin and Boztunç Öztürk, 2018). In the present study, EFA was conducted to find out the factor structure of the data. Next, the theoretical model that was formed was confirmed with CFA. While conducting EFA, sample size, correlation values, factor rotation, reporting the factor structure, deleting items that show overlapping problem, methods used while deciding on the number of factors and the variance rate explained should be paid attention to (Cabrera-Nguyen, 2010). In the present study, these issues mentioned were followed in the order of analysis and the related values were given within the content of the study.

While conducting CFA, the theoretical model described correctly should be shown visually as a measurement model, not only one but also different fit indices should be used to find out the model fit, and it should be explained whether error corrections were made if there is a recommended modification for the model (Cabrera-Nguyen, 2010). In the present study, the model formed in CFA was given visually in the study and it was found that modification was not required in the final form of the scale and the fit values of the fit indices used (χ^2 / df, RMSEA, NNFI, NFI, CFI, IFI and SRMR) were given in tables.

The draft scale form was given to 307 teachers and EFA and CFA were conducted with the help of the data obtained and "Teacher Participation in Decision Making Scale" which included 10 items and three dimensions was created also by taking the views of experts into consideration. The scale obtained was given to 193 teachers and EFA and CFA were conducted again with the data obtained. As a result of these analyses, it was found that the scale explained 72.73% of the total variance. Of the scale dimensions, Clan Decisions dimension includes three items and it has an internal consistency coefficient of .86, while School Management dimension includes three items and it has an internal consistency coefficient of .77 and Student Affairs and Academic Decisions dimension includes four items and it has an internal consistency coefficient of .81. The rate of variance explained by the scale is very high. The high variance value explained by a scale is accepted as the criterion that the scale measures the concept and construct that it needs to measure well (Büyüköztürk, 2002). In addition, CFA values (χ^2/df = 1.39, RMSEA = .05, SRMR= .03, NFI = .98, NNFI = .99, CFI = .99 and IFI = .99) show that the model has a good fit.

Good model fit values show that the construct of the scale formed with the help of CFA is supported. These results can be interpreted as a proof that the scale is sufficient in measuring the states of teachers' participation in decision making. The fact that the scale in question was used only on teachers working in high schools can be accepted as the limitation of the study. It can be said that the scale can be used in studies to find out teachers' levels of participating in decision making.

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