

## School Managers, Emotion Management Competencies During Change Management' Scale: Development, Validity And Reliability

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### Abstract

The purpose of this study is to develop a valid and reliable scale in order to determine the competencies of school managers in managing the emotions of teachers during the change process in schools. In this respect, an item pool, based on the literature and consisting of 52 items, was presented to get the experts' views. The final-form involving 40 items were constituted in line with the recommendations and suggestions and implemented among 312 teachers working in Uşak. The construct validity of the scale was tested with exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). In the result of (EFA), "The scale of emotions management competencies in the change process" which consists of 21 items, were appointed to have three factors. In addition to this, it was revealed that the scale explained the 77.11 percent of variance. In the analysis of items, it was revealed that item-total correlations and item distinctiveness were high. (CFA), which was implemented to confirm the construct, demonstrated the high levels of goodness of fit indexes in three- factor construct of the scale. The Cronbach's Alpha coefficients of the factors and the whole scale construct points that scale is reliable. In line with these findings, it can be concluded that the scale is a valid and reliable tool which can be used to determine the competencies of school managers in managing the emotions in the change process.

**Keywords:** Change, Emotion, Managing Emotions, Validity, Reliability

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### 1. Introduction

Nowadays, the acceptance of emotions of as a part of our lives, has revealed the importance of emotions in work and organizational life. Emotions, influence individuals private life and also professional life activities; their decisions and experiences. During management of educational organizations where human factor is in the foreground, especially in change management process it is very crucial not to ignore emotions and instead integrate it to the change management process (Kim, Bigman, Tamir 2015).

As the service of the educational organizations is non-physical and are given to humans via humans; it is very crucial to give the necessary importance to emotion management. Especially during the late years, emotion management competencies have been regarded between the most important social and emotional competencies. (Titrek, Bayrakçı, Zafer, 2009).

Goleman (2015) has defined emotion management as, not being under the influence of emotions or completely suppressing it during making decisions, forming options and presenting an opinion, but being able to come to a conclusion by confronting emotions. According to Brehm, the most important property of emotion is, its power to direct a person to act in a way.

If we would define emotion management in a general frame, it is; being aware of emotions, being able to use emotions in orientating, steering emotions and being able to use them in decision making stages. Emotion management competencies are inevitable requirement for school managers as, they are not only responsible for the workers behaviors but also their emotional well-being (Barutçugil, 2004).

We can define resistance as the emotional outcome of the unexpected changes in our daily lives and the development of a behavior against this can be defined as a resistance action. By humans very nature, resistance to change is an ingenious act. Change management abilities and emotion

management abilities integrate with each other (Klarner, By, Diefenbach, 2011).

In one of his investigations Piderit (2000) addressed the positive and negative effects of emotional confusion and defined that if managers will be able to manage workers emotions, they will be successful in change management.

Although there are many investigations about the general characteristics of organizations, there are only few that address the human side of organizations (Helvacı, 2015). According to the literature survey made in change management, it is obvious that there is an awareness about emotional intelligent and emotion management but there is not a study made about emotion management during change management. Most of the studies are about a person's personal emotion management which is a sub branch of emotional intelligence. In fact; in emotional organizations, emotions are not only important for a personal emotion management but also for others emotion management. Moreover, it is important for the organizational running. With the help of this work it is taught that using emotion management competencies on others will ease change management efforts and will help to reduce change resistance activities. Change management process has been divided into three processes; which are named preparation for change, implementation of change and institutionalization of change and it is aimed to develop a scale that will measure emotion management competencies of school managers by taking teachers opinions.

## **2. Method**

This part of the study includes the works done for emotion management competencies during change management scale, which are the creation of item pool, work group and data analysis.

### **Building up an item pool and the frame of the scale**

An item pool in order to measure the emotion management competencies of school managers with help of the opinions of teachers, was prepared based upon the emotion management and change management literature. The range of the form is composed of the emotional management competencies which a manager should own for a effective change management process. The scale is constructed to determine managers emotion management competencies according to the teachers answers to the survey. During the creation of item pool, the item preparation rules were taken into consideration and it was paid attention not to prepare items that would canalize participants, not to measure more than one opinion, and to be understandable. As a result of the literature survey, an item pool consisting of 58 items has been prepared.

In the second step, in order to determine the content validation, all the 58 items were sent to 5 experts in educational management, 2 assessment and evaluation specialists and 1 linguist. Moreover 5 teachers read all the items to determine whether they were understood well. According o the feedbacks given by teachers and experts the numbers of items were reduced to 40 items.

In order to determine the emotion management competencies of school managers, the scales answers were developed according to the 5 points likert scale with the answers; "I strongly disagree (1), I agree slightly (2), I agree moderately (3), I agree (4), I agree strongly (5)".

### **Participants**

The form developed to measure the emotion management competencies of managers, was applied to teachers in 2016-2017 academic year to 328 teachers in Uşak province. The surveys were checked after applying and 312 of them were used for data analysis. 1 point was given to "I strongly disagree", 2 points for "I agree slightly", 3 points for "I agree moderately", 4 points for "I agree" and 5 points for "I strongly agree".

### **Data Analysis**

In the data analysis process, firstly; in order to measure the acceptability of factor analysis Keiser-Meyer-Olkin (KMO) and Bartlett's test was made. After testing the appropriateness of sampling adequacy to make factor analysis, expletory factor analysis has been made. To determine every items appropriateness for the whole scale, total item correlation was calculated and to test the rated power of every item the 27% lower and upper limits variation was tested with t-test. In order to verify the construct validity of the scale, confirmatory factor analysis was made. As the result of the division the chi-square value into degrees of freedom, is smaller than 3, indicates to an excellent harmony (Kline, 2005). For this reason the "chi-square degrees of freedom < 3" equation was used as a criterion. Moreover to test, the scales' reliability, to every factor of the scale and to the whole scale the Cronbach's Alpha coefficients were calculated.

### 3. Findings

This part comprises, the data obtained from validity and reliability analysis work. It also includes explanatory factor analysis, item analysis and confirmatory factor analysis results.

#### Validity Study: Factor Analysis and Item Analysis

##### Exploratory Factor Analysis

By the means of the data obtained from 312 teachers, in order to test the scales construct validity, exploratory factor analysis was made. First the KMO and Barlett's Test values were analyzed, and were determined whether they are suitable for factor analysis or not. The outcomes of KMO and Barlett's Test are in Table 1.

<b>Kaiser Meyer Olkin Sample Size Adequacy</b>		,980
	<b>X<sup>2</sup></b>	15091,632
<b>Barlett Test</b>	<b>df</b>	780
	<b>p</b>	.000

Table 1 As it can be understood from the Table 1, the scales' Barlett's Test result is .000 level meaningful [ $\chi^2=15091,632, p < .001$ ]. The outcomes calculated for Kaiser Meyer Olkin size is more than the accepted value (.60) (Büyüköztürk, 2007). This shows that the scale is suitable for the factor analysis.

By making principal components analysis for the construct validity of the emotion management competencies scale, the factors of the scales were determined. Varimax Rotation was carried out and its eigenvalue more than 1.00, 3 factors were determined. By investigating the factor load, it was determined that there were items having factor loads less than .40. These items were deleted from the scale and all the analysis were made again. As a result items (9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33) were deleted from the scale (Büyüköztürk, 2007). After the repeated analysis, it was found out that all the items have factor loads more than .55. Moreover, it was found out that with deletion of some of the items the variance value increased. As a result, its eigenvalue is more than 1.00, a scale with 21 items and 3 factors was obtained. In Table 2, you can see the scale's factor load and the variance value.

**Table 2 Items Faktoral Pattern, Factor Load and Variance Percentage**

<b>Items</b>	<b>Factor Loads</b>		
	<b>Fac 1</b>	<b>Fac 2</b>	<b>Fac 3</b>
<b>Principals;</b>			
<b>Item 4:</b> Create a positive psychological state in us before starting a change.	.775		
<b>Item 5:</b> Maximizes our energy by activating our emotions before a change starts.	.773		
<b>Item 3:</b> Acts in a particular manner in order to increase our enthusiasm towards a change, before the change starts.	.764		
<b>Item 6:</b> Organizes many surprises to make our emotions ready for a change before a change starts.	.752		
<b>Item 2:</b> Does not allow our personal habits to increase the tension of school before a change.	.707		
<b>Item 7:</b> Makes an effort to change our negative emotions into positive emotions before a change.	.703		
<b>Item 1:</b> Takes precautions to prevent resistance reactions before a change.	.684		
<b>Item 8:</b> Makes an effort to excite the change before a change.	.669		
<b>Item 15:</b> Brings the positive sides of the events into the forefront, that happen		.757	
<b>Item 25:</b> Displays sensitivity to our beliefs during a change.		.736	
<b>Item 16:</b> Creates an environment in which we can express our feelings easily during a change.		.723	

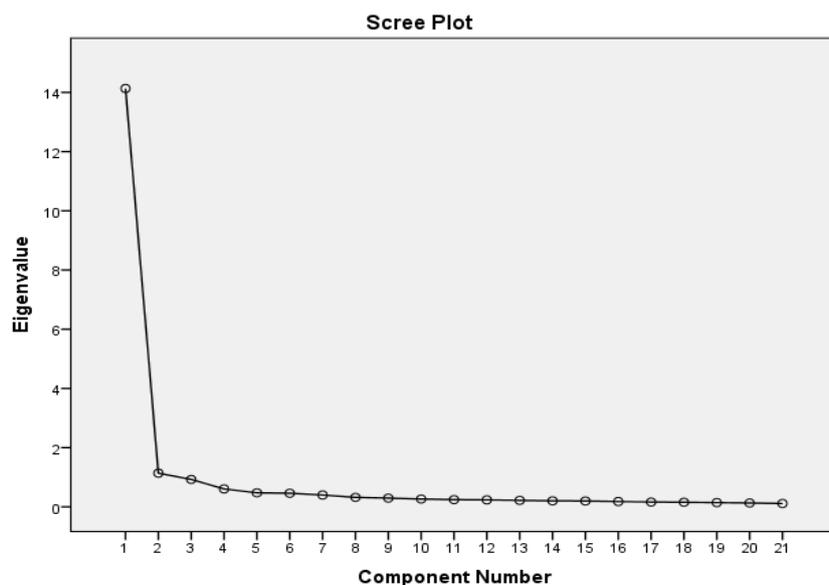
<b>Item 23:</b> Behaves frankly while helping us during the change.	.684
<b>Item 21:</b> Calms us down when we get a duty because of the change, during a change.	.677
<b>Item 17:</b> Organizes events that make us happy during a change.	.629
<b>Item 22:</b> Establishes an open communication channel so that we can convey our emotional problems during a change.	.625
<b>Item 38:</b> Reassures us about that sustainability of the new situation after a change.	.812
<b>Item 39:</b> Gives us emotional support to eliminate potential anxiety and worry that may occur with the new change.	.765
<b>Item 40:</b> Makes us feel victorious because of the state that has come with the change.	.718
<b>Item 37:</b> Appreciates the ones who make an effort to inveterate the new situation.	.687
<b>Item 36:</b> Creates loyalty to the new situation which comes with the change.	.679
<b>Item 34:</b> Rewards us for developing the qualifications we got after a change.	.661

Factor 1: Emotion Management During Preparation for the Change: Variance: %27.83  
 Factor 2: Emotion Management During Implementation of the Change: Variance: %24.97  
 Factor 3: Emotion Management During Institutionalization of the Change : Variance: %24.30

**Total Variance: %77,11**

Measurement on the metric ruler							
Post test Number of teachers	No selection	1	6	7	8	9	10
	1	1	3	4	15	22	16

As seen in Table 2, according to the results of expletory factor analysis the scale consists of 21 items and 3 dimensions. All the 2 factors variance is 77,11%. The 3 dimensions are named "Emotion Management During Preparation for The Change", "Emotion Management During Implementation of The Change" and "Emotion Management During Institutionalization of The Change". The scales Scree Plot is as seen in the Graphic 1.



**Graphic.1:** The Scree Plot Graphic of the Scale

By examining the Graphic 1, it can be seen that the graphic curve is decreases in 3 spots, so it is

concluded that the scale has 3 factors.

**Item Analysis According to Total Correlation:**

By means of the data collected from the teachers, total item correlation was made in order to determine whether the scale can measure the same structure. According to the results of total item correlation, the results are between .74 and .86 (Buyukozturk, 2007). If the total item correlation is bigger than .30 means that the items show similar attitude. In other words, they all measure the same structure.

**Item Analysis Based on Item Discrimination Power:**

In order to the determine the items discrimination power the data collected from 312 teachers were analyzed. Within this frame, the 27% percent of the data sets upper and lowest group average difference was tested by the independent samples T-Test. The results obtained from the T-Test shows that all items 27% of upper and lowest group average differs statistically significant. This statically significant difference between the upper and lowest group for all items shows us the items discrimination power (Buyukozturk, 2007).

**Table 3.** The Results of Total Item Correlation according to Lower and Upper Groupç

		Lower %27 Group N=94		Üpper %27 Group N=94		t	p	Total Item Correlation
		Itm	Average	Ss	Average	Ss		
FACTOR 1	1	1.53	.56	3.84	.73	-22.745*	.000	.788
	2	1.48	.52	3.86	.55	-28.533*	.000	.831
	3	1.51	.57	4.07	.63	-27.463*	.000	.836
	4	1.41	.49	4.09	.61	-31.119*	.000	.860
	5	1.46	.50	3.89	.69	-25.979*	.000	.808
	6	1.45	.54	3.55	.75	-20.806*	.000	.749
	7	1.50	.63	3.92	.57	-26.055*	.000	.804
	8	1.53	.62	3.91	.58	-25.390*	.000	.829
FACTOR 2	15	1.71	.68	4.13	.63	-23.666*	.000	.795
	16	1.69	.72	4.01	.64	-21.816*	.000	.810
	17	1.60	.60	3.77	.71	-21.212*	.000	.797
	21	1.64	.75	4.05	.64	-22.285*	.000	.802
	22	1.64	.68	3.97	.80	-20.177*	.000	.791
	23	1.67	.77	4.11	.70	-21.346*	.000	.797
	25	1.89	.93	4.17	.71	-17.847*	.000	.757
FACTOR 3	34	1.64	.67	3.77	.79	-18.757*	.000	.750
	36	1.59	.66	3.90	.68	-22.197*	.000	.802
	37	1.65	.66	4.00	.71	-22.034*	.000	.807
	38	1.63	.69	4.00	.76	-21.140*	.000	.800
	39	1.65	.66	4.04	.70	-22.508*	.000	.802
	40	1.73	.83	3.98	.81	-17.656*	.000	.775

\*p< .001

FACTOR 1: Motivation for Preparation for the Change

FACTOR 2: Motivation for the Change Time

FACTOR 3: Motivation for Evaluation of the Change

### **Confirmatory Factor Analysis**

As a result of the exploratory factor analysis we got 21 items and 3 dimensions and to verify the dimensions confirmation factor analysis was made. The goodness of fit value of confirmatory factor analysis is [ $\chi^2 = 579.52$ ;  $Sd = 183$ ;  $\chi^2 / Sd = 2.79$ ;  $AGFI = 0.81$ ;  $GFI = 0.85$ ;  $NFI = 0.99$ ;  $CFI = 0.99$ ;  $IFI = 0.99$ ;  $RMR = 0.04$ ;  $RMSEA = 0.08$ ]. The confirmatory factor analysis table is on appendix 1. Evolution of goodness of fit value got by the analysis shows us a perfect fit and a valid scale (Çelik & Yılmaz, 2013; Kline, 2005).

### **Reliability Study**

To determine the 21 item and 3 dimension "Emotion Management Competencies During Change"s reliability Croanbach's Alpha coefficient was calculated. The values for Dimension 1 named "Preparation for Change" is .95, Dimension 2 named "Implementation of The Change" is .94 and Dimension 3 named "Institutionalization of Change" is .93. The whole value for the scale is .97. According to the results it can be said that the scale is valid and reliable.

## **4. Conclusion and Suggestions:**

In this survey it is aimed to develop a scale to measure school managers emotion management competencies during change periods. In literature survey we couldn't find another scale measuring emotion management competencies of managers during change period. This was the reason for developing a scale and trying to fill this part of the literature. As a result of the literature survey, an item pool consisting of 58 items has been prepared. In the second stage, in order to determine the content validation, all the 58 items were sent to 5 experts in educational management, 2 assessment and evaluation specialists and 1 linguist. Moreover 5 teachers read all the items to determine whether they were understood well. According to the feedbacks given by teachers and experts the numbers of items were reduced to 40 items.

In order to determine the data's consistence for factor analysis Kaiser-Meyer-Olkin (KMO) and Barlett's Test of sphericity was made. After determining the samples sizes adequateness, exploratory factor analysis was made. As a result of this analysis a 21 item and 3 dimension scale was obtained. All the factor loads got from the analysis were consistent with the values figured in literature (Buyukozturk, 2007). In addition to this all the 3 dimensions of the scales variance is 72.23%. These dimensions of the scale are named "Emotion Management Before Change", "Emotion Management During Change" and "Emotion Management During Institutionalization of Change".

To test all the items suitability to the scale total item correlation was taken into consideration and to determine the items ability to discriminate the upper and lower group difference was tested with T-Test. To test a construct validity of the scale, confirmatory factor analysis was made. The goodness of fit value results obtained from confirmatory factor analysis were coherent with the values given in the literature (Çelik & Yılmaz, 2013). After insuring the construct validity of the scale all the dimensions Croanbach's Alpha factor was calculated and was found quite enough (Buyukozturk, 2007). As a result of all the analysis it was concluded that the 21 item 3 dimensions scale was reliable and valid. The scale can be found in appendix 2.

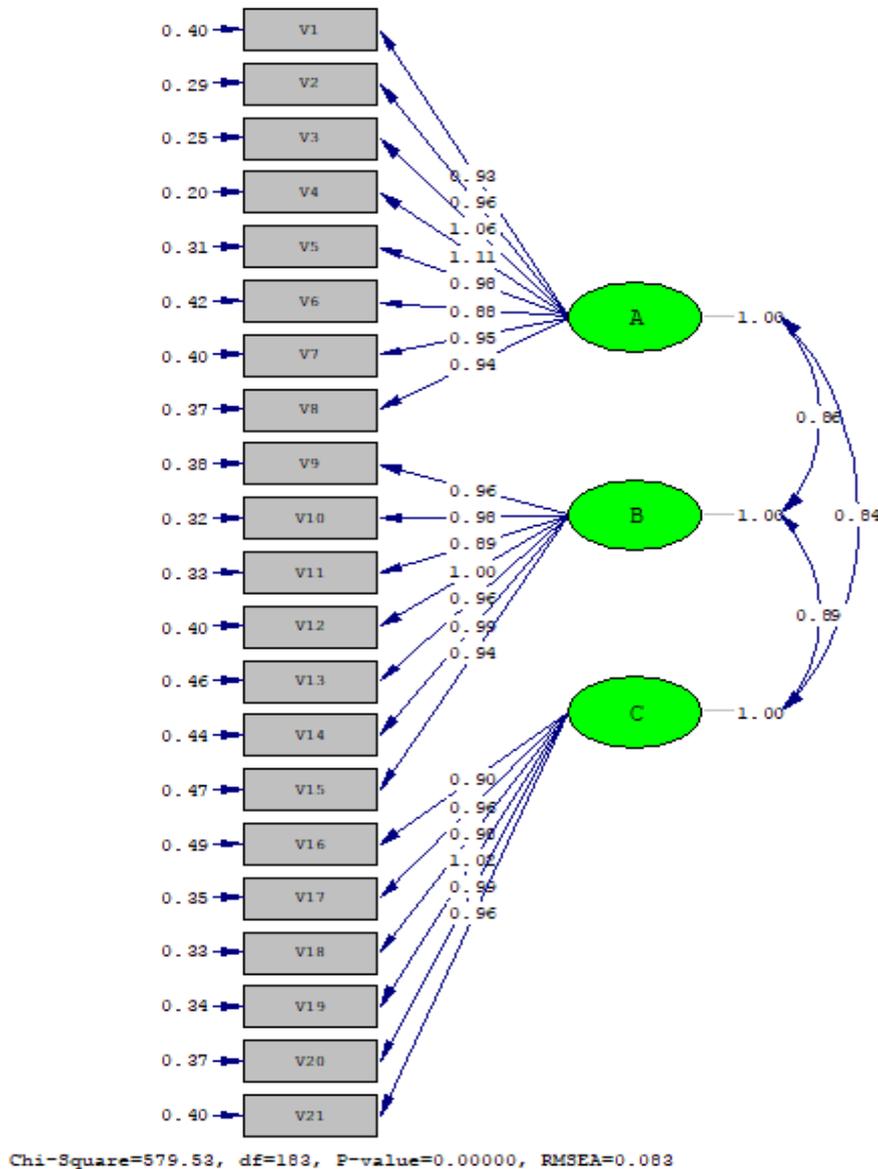
With the help of "Emotion Management Competencies Scale" further surveys can be made by associating managers emotion management competencies during change periods with teachers attitudes towards change or associating with teachers other organizational behaviors can be investigated. Also with the help of a white sample, the validity and reliability of emotion management competencies scale can be tested again.

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#### Appendix: 1 DFA



## Appendix 2 Emotion Management Competencies Scale

Our manager;

- 1: Creates a positive psychological state in us before starting a change.
- 2: Maximizes our energy by activating our emotions before a change starts.
- 3: Acts in a particular manner in order to increase our enthusiasm towards a change, 6: before the change starts.
- 4: Organizes many surprises to make our emotions ready for a change before a change starts.
- 5: Does not allow our personal habits to increase the tension of school before a change.
- 6: Makes an effort to change our negative emotions into positive emotions before a change.
- 7: Takes precautions to prevent resistance reactions before a change.
- 8: Makes an effort to excite the change before a change.
- 9: Brings the positive sides of the events that happen into the forefront during the change.
- 10: Displays sensitivity to our beliefs during a change.
- 11: Creates an environment in which we can express our feelings easily during a change.
- 12: Behaves frankly while helping us during the change.
- 13: Calms us down when we get a duty because of the change, during a change.
- 14: Organizes events that make us happy during a change.
- 15: Establishes an open communication channel so that we can convey our emotional problems during a change.
- 16: Reassures us about that sustainability of the new situation after a change.

**17:** Gives us emotional support to eliminate potential anxiety and worry that may occur with the new change.

**18:** Makes us feel victorious because of the state that has come with the change.

**19:** Appreciates the ones who make an effort to inveterate the new situation.

**20:** Creates loyalty to the new situation which comes with the change.

**21:** Rewards us for developing the qualifications we got after a change.