

Crisis Management Skills of School Administrators in Terms of School Improvement: Scale Development †

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ABSTRACT

The aim of this study is to develop a measurement tool for school administrators to use crisis management skills in terms of school development as pre-crisis (PC), crisis moment (CM) and post-crisis (PC). In the study, the steps of the process carried out for this purpose are explained. In the scale development process, firstly, scanning of the literature was carried out and similar scales were examined. Expert opinion has been consulted for the validity of the scale. The study group of the survey has 216 vocational high school teachers working in North Cyprus in the 2016-2017 school year. Factor analysis was performed to determine the validity of the scale. The results of the factor analysis revealed that the scale factor was a factor and that the total factor variance was 50,211% for one factor. The reliability coefficient of the scale (Cronbach alpha) was found to be 0.95. The value of Kaiser-Meyer Olkin (KMO) was found to be 0.917. Therefore, this scale has led to the conclusion that school administrators can accurately and credibly measure crisis management skills in terms of school development.

Keywords: crisis, scale development, school manager, school improvement

INTRODUCTION

Organizations can see extraordinary situations that suddenly appear over time. These extraordinary situations, which put organizations in trouble, are called crises. It is useful to emphasize the definition of crisis and school development in terms of better understanding of the measurement tool that is being studied. The dictionary meaning of the crisis is, a rough time, depression, crisis in a country or between countries, society or a life of a corporation (TDK, 2014). According to Can (2005), crisis refers to a job, a mixed phase of an event, a difficult situation to get out of, a sudden upsurge and a dangerous moment in the direction of deterioration. Crises are unexpected. Loosemore (1998) defines the crisis as a situation in which an individual, group or organization experiences caused by sudden changes and can not come from above using normal-ordinary methods (Tuğcu, 2004). There is a natural difference between caught prepared and unprepared persons in unexpected situations (Kadıbeşgil, 2003). Özdemir (2002) defines the crisis as a tension situation that threatens its existing values, aims and assumptions by making the adaptation mechanisms inadequate, preventing, anticipating, prompt and urgent responses. On the other hand, Aksoy (2003) expresses the organizational function as the situation that interferes with the functioning of the living organism, disrupting the crisis, disorganization of the organization, obstructing the healthy functioning and intervening. Ogel (2005), the crisis is an unexpected, unforeseen event that requires immediate intervention and resolution, which prevents the individual from performing it's normal functions of the group or organization. What is important for organizations is; It is not to look for ways to postpone the crisis, but rather to feel that the crisis is coming before reached and to complete the pre-crisis preparations, or to get out of the crisis with minimal damage or even some positive results (Narbay, 2005). It is important to know how to prepare for a crisis and how to handle it in the event of a crisis. Precautions should be taken to avoid repetition and early warning systems should be developed. Moreover, it can be said that the manager must follow and analyze the

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Contribution of this paper to the literature

- The literature contribution of this study is to develop a measurement tool for school management's crisis management skills in terms of school development.
- School managers' crisis management skills not only distinguish pre-crisis, post-crisis and post-crisis scale from other crisis scales in terms of school development, but they also increase their readiness level for crime.
- This article provides a significant contribution to the literature on school management levels of school managers' crisis management skills.

external environment continuously in order to be prepared and to be protected from crisis. In order for the crisis to be minimized or even beneficial, It can be argued that the causes of the crisis should be based on sound analysis of the dimensions, effects and direction, and that the necessary measures should be taken in place, on time and in a practical way. In the past, the crisis plans at schools were about how the school would be emptied only when there was a gas leak or a fire. Today, schools have to be prepared for car bombings, suicide attempts and armed raids, as well as biological, chemical, and radiological attacks (Brickman et al., 2004). The task of management is to make decisions based on a combination of knowledge and experience. Crises are, naturally, short and unexpected situations that a few managers control with either existing knowledge or practical experience (Parsons, 1996). It is emphasized that a well-managed crisis can be transformed into a frenzy, taking the necessary precautions in advance and taking the crisis with the least harm, and putting the life of the organization and the individuals in danger, can be regarded as a great success (Baran, 2007).

In order to catch the information age and to become a knowledge and technology society, it is necessary to educate the universal thinking, locally behaved human type, to increase the competitiveness of the individual and society continuously and to support the education system with technology education at every stage. In this framework, a new culture of teaching and learning has emerged. Hesapcioglu (2004) suggests that society's expectations and criticism from the school cause the school to change; That the demands and criticisms that lead to new school understandings make it necessary for schools and teachers to develop. Parallel to social development, organizations are also inevitable to change. Especially the education system / schools have to educate the people who generate the society, according to the demands of the society. Developments in public administration also affect organizational structures and constitute the main source of changes in the structural and operational functions of organizations (Eryilmaz, 2010).

Organizations do not evolve spontaneously. Organizations develop with the influence of public administration personnel (organization, public policy, financial resources, public officials, norm organization and people). The education system is also influenced by the new public order as the most important element of the society and it has to be a development center where the individuals suitable for the new-world adjustment competencies are trained (Eryilmaz, 2010). According to Rolff (2008), school development moves alongside organizational development and personal development on the one hand, and on the other, within a given system. According to Balci (2002), school development is either fairly quantitative directional or direction is quantitative; Dominantly based on the destruction of psychological biased beliefs on non-school factors by quantitative paradigm. School development forces educators to address school cultures, examine beliefs and values, and achieve a common understanding of the desired future for students and schools (Turan, 2006). At the center of school development, there is teaching and teachers, students and parents. Individual schools, the engine of school development, enhance learning and teaching quality. Teachers, parents and students become clear to innovations and changes by following the program clearly and systematically. This makes daily life in school easier and more beneficial. On the other hand, the school takes a position that responds to changing social problems and prepares students well for the future. According to Rolff (2008), this kind of school development, on the one hand moves together with organizational development and personal development and on the other hand, within the framework of a certain system.

School development is the period when a failed school becomes successful. For this reason, the desire to change may come from different sources. System-wide changes come from the government, individual school change requests come from local education authorities or the school itself. Under the change, the school may be in crisis or seeking effectiveness (Mortimore, 1993, akt Balci, 2002 a.).

Van Velzen et al. (1985, Balci, 2002a) define school development as a systematic effort to change learning conditions and other related internal conditions to achieve educational objectives more effectively in one or more schools. The international school development work regards change in education as a school development approach. This definition foresees careful planning, management and continuity even in difficult situations, teaching and learning orientation, and support for organizational conditions (Balci, 2007).

Purpose and Significance

The purpose of this study is to develop a measurement tool for school managers to determine crisis management skills in terms of school development. Crises are situations that unexpectedly arise and put organizations' assets in danger.

It is possible to survive the crises harmlessly, but be prepared for crises. In our country, studies about the crisis of schools are inadequate. In the literature, there is minute amount about crisis management in schools. The results obtained with this research; It is important that school administrators identify crisis management skills in terms of school development, organize in-service training on crisis management, and emphasize that schools should be more conscious in this regard.

METHOD

Participants

The sample of the study consisted of 216 vocational high school teachers in North Cyprus, during 2016-2017 education and training period, and it aimed to develop a measurement tool for "crisis management skills in terms of school managers' school improvement". In this study, stratified random sampling method is used. Stratified random sampling is a process in which a certain number of subgroups for the sample are selected in the same way as the total number (Fraenkel & Wallen, 2006). For this study, a sample of 48% of the target population was used. There are 453 vocational teachers from all regions and 216 teachers from five regions (11 schools) surveyed in 2016-2017 voluntarily agreed to participate. There are evaluations in the literature that there are not a large number of items in the measure and that if the structure of the factors that are revealed is strong, it will have a sample of 100-200 persons and that according to common belief the sample group should be at least five times the number of items in the measure (Büyüköztürk, 2002). When the number of items to be measured (33) and the size of the group applied (216) are considered, both criteria are met in terms of sample size to be subjected to factor analysis.

Improvement of Scale

The purpose of developing the scale is to structure the materials in terms of the subject (Erkuş, 2014). For this reason, in order to measure the teachers' crisis management processes in terms of school development, the scale was firstly established in the preparation phase of the scale.

Creation of Item Pool

After the negotiations in the qualitative dimension of the survey, 46 items of the material pool were created by using the project which is also known as the school development project and defined by 10 sub-chapters by Hale (2000). In addition, 16 articles have been written in the related literature, using the work on management processes and crisis management. Thus, a 62-item pool of pre-crisis, crisis moment and post-crisis themes of "crisis management skills in terms of school management's school development" was introduced, taking into consideration the views of the principal and assistant principals selected from the target mass of the scale.

Receive of Expert Opinions for Scope and Appearance Validity

The indication of whether the material is sufficient in quantity and quality to measure the behavior (characteristic) to be measured is valid in scope (Büyüköztürk, 2011). Expert opinions were received from 6 field experts, using the item opinion form, in order to determine the adequacy of coverage and the adequacy of the items in the repository to measure the managers' crisis management processes in terms of school development. When formulating the Article Opinion Form, firstly, a statement reflecting the scope of the scale and the expectations of the experts was presented. Expert opinions on the suitability of the items for coverage were obtained using a triple rating scale (1 point for "Not eligible", 2 points for "Partially eligible", 3 points for "Completely eligible"). When determining the appropriateness of the material, the average score of each item was calculated and compared with the actual upper limit of the appropriate option at mid-point of 2.5 (Kılıç Çakmak, Güneş, Çiftci and Üstündağ, 2011).

According to Erkuş (2014), in the method of examination of empirical and statistical substances, the items which the experts have agreed to remain, some are passed by eye, others are discarded. Accordingly, 22 items with an average score less than 2.5 were excluded, 6 items were arranged and 40 items were obtained. The items are randomly arranged on the data collection tool. All the written materials were examined by a faculty member of Atatürk Faculty of Education with a PhD degree in order to evaluate Turkish language appropriateness.

Table 1. OYOGKYBÖKMO and Bartlett Test result for the scale

KMO and Bartlett Test Result	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.917
Bartlett's Test of Sphericity Approx. Chi-Square	6339.684
df	528
Sig.	.000

A statement of purpose for the draft scale and a directive reflecting expectations from the participants were prepared. Awareness statements were scaled by a five-point Likert scale. Likert type grades; It is in the form of "Always (5)", "Mostly (4)", "Sometimes (3)", " Rarely (2)", "Never (1)". For items containing all positive expressions, "Always" corresponds to 5 points and "Never" corresponds to 1 point. As the total score obtained from the scale increases, the evaluation scores of teachers' crisis management processes and school development also increase. All materials contain positive expressions. Finally, the draft scale, prepared for the preliminary experiment, was evaluated by three faculty members with a doctoral degree experienced in scale development. In this process, in the direction of expert opinions; Whether it is an expression of awareness, the way in which the materials are expressed, the suitability for the purpose of the work, and the validity of the scope. In a scale-up trial, the sample should only represent the extent of the measured characteristic, be heterogeneous and consist strictly of voluntary participants (Erkuş, 2014). According to this, with the draft scale prepared for the preliminary experiment, the volunteer teachers were implemented in the schools at vocational high school level. Karasar (2012), states that the number of participants for the preliminary trial in the course of the development of a scale should not be less than 50. Preliminary trial application was carried out with a 40-item draft scale and 220 participants.

Collection of Data

The data were collected by the researcher after 7 days of training. A preliminary trial was conducted with a total of 220 participants. The mean response time of the scale was 20 minutes. At the end of the application, 4 missing questionnaires were not evaluated and a total of 216 participants returned the questionnaire.

Analysis of Data

SPSS 23.0 was used to analyze the data obtained from the application of the scale in response to responses from a total of 216 teachers who agreed to participate in the study. First, your scale is tested for validity and reliability. Kaiser-Meyer-Olkin (KMO) and Bartlett test (BTS) were applied to determine the suitability of the data for analysis. Significant increases in KMO and a significant Bartlett test indicate that the data are appropriate for factor analysis. In the scope of the research, the sample size required for factor analysis was examined and the study group was found sufficient (Tabachnick & Fidell, 2001). The construct validity factor analysis and internal consistency reliability test of the scale were examined by Cronbach's alpha coefficient. An exploratory factor analysis was performed to examine the validity of the structure of the scale. According to Tavşancıl (2006), factor analysis is one of the multivariate analysis techniques used to define the order between each item and the responses of respondents and to define the content of psychological dimensions.

FINDINGS AND COMMENTS

After the answers of the teachers were collected, the validity of the scale was examined. Factor analysis was applied to determine the validity of the structure of the scale. In the factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett (BTS) tests were performed to determine the adequacy of the data obtained from the sample. The KMO value obtained in this study is .917. This value indicates that the data obtained are suitable for factor analysis (**Table 1**).

Factor analysis was conducted to determine which of the 40 attitude items were appropriate for the scale. The distinction of each substance (substance-total test correlations) was examined. The item-test correlations, first factor loads and substance averages were calculated and the item test correlation was significant ($p < 0.05$). The factor load value was determined as 0.45, and it was found that 7 items remained below this value. The factor analysis was repeated for each item, starting with the item with the lowest factor value. Factor load values ranging from .454 to .831 in one dimension of the remaining materials after 7 items are removed are shown in **Table 2**.

Table 2. Factor Load Values of the Items

BC8	.831	CM6	.806	AC20	.794	AC8	.744	BC2	.706	BC9	.694	AC1	.649	BC16	.602	CM13	.454
CM2	.822	AC19	.804	CM1	.775	AC3	.743	AC7	.705	CM17	.693	BC19	.648	BC15	.549		
BC21	.807	CM8	.796	CM18	.774	AC15	.739	BC20	.702	AC11	.686	BC1	.618	CM4	.549		
CM20	.806	AC21	.796	CM10	.745	CM19	.727	AC16	.695	BC4	.656	BC5	.609	AC6	.506		

Table 3. Total Variance Values Explained for the Matters (33 items)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	16.569	50.211	50.211	16.569	50.211	50.211
2	1.937	5.870	56.081			
3	1.673	5.068	61.149			
4	1.439	4.361	65.510			
5	1.214	3.678	69.188			
6	1.129	3.422	72.611			
7	.918	2.782	75.393			
8	.817	2.476	77.868			
9	.759	2.300	80.169			
10	.684	2.072	82.241			
11	.571	1.732	83.972			
12	.538	1.630	85.602			
13	.481	1.457	87.059			
14	.437	1.324	88.383			
15	.417	1.262	89.646			
16	.385	1.166	90.812			
17	.332	1.005	91.817			
18	.282	.856	92.672			
19	.276	.837	93.510			
20	.250	.759	94.268			
21	.238	.723	94.991			
22	.227	.689	95.680			
23	.219	.665	96.345			
24	.203	.614	96.959			
25	.172	.521	97.480			
26	.155	.470	97.950			
27	.138	.417	98.367			
28	.117	.355	98.722			
29	.114	.346	99.068			
30	.096	.291	99.360			
31	.078	.237	99.597			
32	.071	.215	99.812			
33	.062	.188	100.000			

A total of 33 items remained after 7 items were taken from 40 items.

The scree plot graph is also examined to determine whether the “school managers’ scale of 33 items is single or multi-factor in the scale of crisis management skills in terms of school development”. As shown in the scree plot graph (**Figure 1**), the slope makes the plateau after the first point. At this point, the cutoff point for the number of factors was determined as one (Çokluk, Şekercioğlu and Büyüköztürk; 2010). When **Figure 1** is examined, a high acceleration decline is observed after the first factor. This shows that you have a general factor of your scale. Based on these results, it was decided that OYOGKYÖÖ should be one-dimensional.

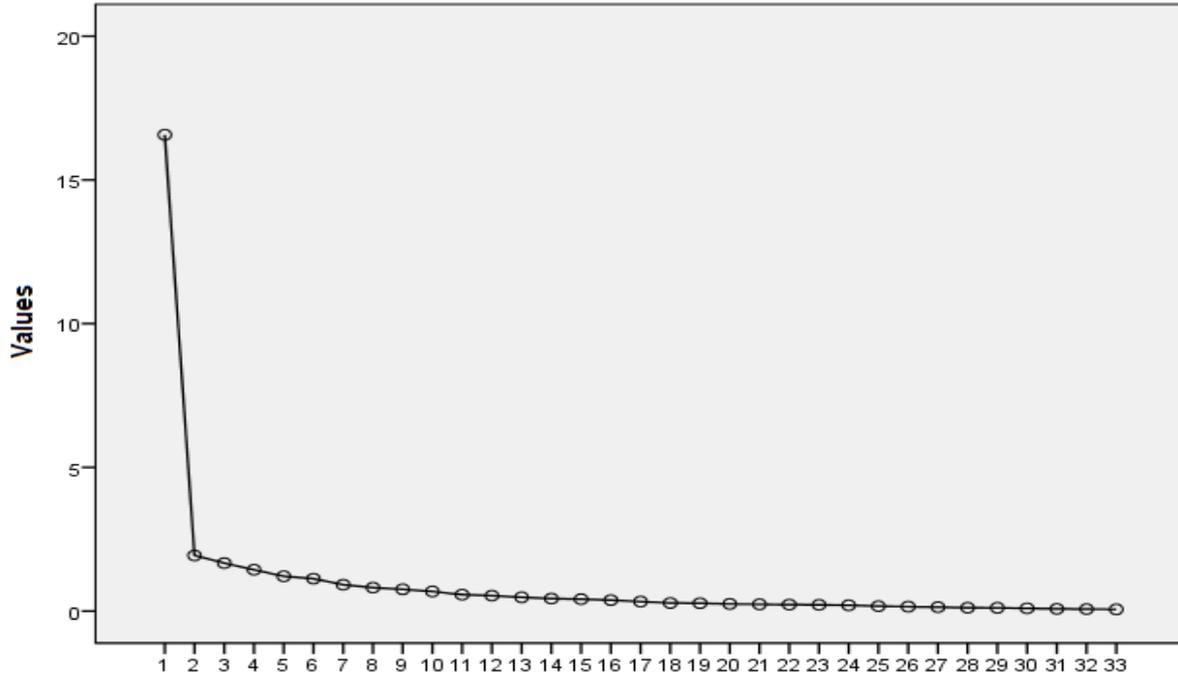


Figure 1. OYOGKYBÖ Scree Plot Chart

In the reliability analysis of OYOGKYBO, the Cronbach alpha value of all scales was calculated and found to be .95. The Guttman split-half coefficient obtained by the split-half method is .92. The fact that this coefficient is close to 1 indicates that the reliability of the scale is high. For this reason, it is possible to say that your scale has a high level of reliability.

CONCLUSION

In this study, it was aimed to develop a valid, reliable and useful new scale covering all of these, by examining the scales related to crisis management skills which consist of different and various sub-dimensions in the literature. It is thought that this scale, which can be considered as a step towards the development of similar scales, can be used as a reliable measurement tool for revealing the relations between the variables related to the school for researchers and a guide for subsequent studies. It can be said that the scale is more understandable in language and more economical in practice than similar measuring instruments currently in use. This makes the scale different from the others and provides convenience for practitioners. To determine the factor structure of the adapted scale, it was decided to keep the scale of 33 items measuring a specific construct as a result of the factor analysis. The results of factor analysis show that there is a factor of scale. Thus, this scale contributes to the literature review by a measure of the ability of school managers to measure the scale of crisis management skills in terms of school development. Findings related to the validity and reliability of the scale indicate that school managers have a measure of the quality of crisis management skills in terms of school development. The Cronbach alpha reliability coefficient of the scale was measured as 0.95. This result shows that the school manager's scale of crisis management skills in terms of school development is valid and reliable. However, the school management's crisis management skills are too dimensional to be limited by a single dimension in the study. More comprehensive school managers' crisis management skills scale with different variables can be developed.

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