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Developing a Classroom Management Skills Inventory for Preschool Teachers and the Correlation of Preschool Teachers' Classroom Management Skills with Different Variables

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Abstract

The purpose of this study is to develop a measurement tool for determining preschool teachers' classroom management skills according to their own perceptions and to evaluate preschool teachers' classroom management skills based on different variables. 520 teachers participated in the inventory development process and the data from 413 teachers was taken into consideration for the analysis. This study followed descriptive research design in that it compared teachers' classroom management scores with different variables. According to the results, our inventory was found as a reliable and valid measurement tool for investigating preschool teachers' classroom management skills. In addition, the results indicate that there is no significant difference in preschool teachers' classroom management skills according to level of education, having assistant personnel in the classroom and working hours whereas there is a significant difference according to teachers' age, type of educational institutions that teachers are graduated from, teaching experience, working status, class size and children's age.

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Introduction

The classroom environment where a considerable part of the academic year takes place is the living space in which teaching and learning activities are carried out, and student-teacher interaction occurs intensively. This environment has an impact on teacher behaviours as well as students' school attitude, social skills and academic achievement (Aydın, 1998; Erden, 1998; Ök, Göde, & Alkan, 2000). Classroom management is one of the most important elements of effective teaching. In recent years much research has indicated that students' behaviours and academic achievement change depending on how well teachers manage their classes. Both positive and negative behaviours of students are directly related to teachers' behaviours. Behaviours of all students can change when the teacher sets up an effective classroom management system and changes her or his behaviours (Sucuoğlu, 2008).

It is known that teachers' classroom management is related to children's interpersonal relations, approach to gender, and learning experiences (Kesner, 2000; Wylie & Thompson, 2003). An organized classroom environment with a few rules that are not rigid provides independence and flexibility (Jingbo & Elicker, 2005). Denham (2006) contended that the education environment that teachers organize using their knowledge and skills affects children's effective regulation of emotions in their interpersonal relations. The teacher's classroom management is in relation to some concepts

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such as adult-child communication, misbehaviours, classroom order, and disorder (Carter & Doyle, 2006).

According to Kounin (1970), classroom management can be defined as "motivating children for learning, planning activities that are appropriate for children's development, and that encourage their active participation, managing and providing feedback for children's work". In a poorly managed classroom, effective teaching and learning cannot occur, students' motivation for learning cannot be at the sufficient level, and the desired behaviours cannot be developed in students at the expected level. For these reasons, the most important role of the teacher is to create a well-organized, supportive and effective environment (Başar, 2001; Emmer & Stough, 2001; Finger & Bamford, 2010).

It is obvious that the atmosphere that is created by the teacher is crucial in facilitating children's learning. Especially the preschool period is the first stage of children's learning lives, and critical to the development of positive school attitude in children. In addition, preschool education serves as a bridge for children's transition into elementary education, the preschool curriculum is composed of continuous activities, and children are with their teacher all the time throughout the day. This makes it even more important that the preschool teacher has effective classroom management skills (Jacobson, 2003).

When the research in classroom management in Turkey was examined, it was seen that in our educational system classroom management is traditionally considered a way of maintaining discipline in the classroom, and thus most of the research is related to behaviour regulation and interpersonal relations. Little research, on the other hand, investigated classroom organization, effective time management and planning-scheduling activities (Şentürk & Oral, 2008). When the research in preschool education was examined, it was seen that Şahin, Tantekin-Erden and Akar (2011) conducted a study with preschool teachers working with 3-6 year old children, and the preschool teachers identified the main factors of classroom management as school infrastructure, teacher attributions, student profile, and the physical environment of the classroom. This study emphasized that the variables related to the physical environment that affect classroom management are class size and classroom space; temperature, lighting and sound features; and furniture and materials. Akman, Baydemir, Akyol, Arslan and Kükütçü (2011) carried out a study to reveal teachers' views on behaviour problems in the preschool period, and found out that teachers could not reach a common definition of behaviour problems, and that they interpreted and defined behaviour the problems they had encountered in their own teaching experiences considering their own students.

In the literature there are studies that investigate the strategies teachers use for students' misbehaviours in the preschool period. The research that was conducted by Turla, Şahin and Avcı (2001) indicated that preschool teachers use punishment and reward in order to control children in the field of classroom and behaviour management. Sadık (2002) found out that preschool teachers use "verbal warning, explanation and physical closeness" to solve behaviour problems they have experienced in their classrooms. In her another study, Sadık (2004) investigated preschool teachers' behaviours through observation, and revealed that "preschool teachers tend to order children in a loud voice and use verbal warning most frequently" when they encounter behaviour problems. The study that was conducted by İflazoğlu and Bulut (2005) with an effort to evaluate preschool teachers' and student teachers' point of view related to classroom management demonstrated that "most of the teachers have a reactive approach to the problems encountered in the classroom". In another study carried out through observation and semi-structured interviewing, Bulut and İflazoğlu (2007) emphasized that "most of the teachers respond to behaviour problems with behaviours that can be classified as reactive". The other strategies teachers use to overcome behaviour problems are listed as "communication-cooperation with parents and preventive behaviours". Uysal, Akbaba and Akgün (2010) found out that "preschool teachers use most frequently verbal warning, nonverbal warning and type 1 punishment–reprimand, threat and use of reminders of punishment" to overcome misbehaviours in the classroom. Akgün, Yarar and Dinçer (2011) investigated the classroom management strategies that are used by preschool teachers in classroom activities, and revealed that

preschool teachers respond to misbehaviours by ordering, using negative facial expressions and sounds, and threatening more frequently than by asking questions, encouraging and using physical closeness. Akman, Aydos, Akar and Şansal (2014) investigated the behaviour change strategies that are used by special education teachers and preschool teachers working with children with disabilities and typically developing children, and most of the special education teachers and all of the preschool teachers stated that there is a difference between the behaviour change strategies used for children with disabilities and those used for typically developing children. The teachers indicated that it is necessary to take into account the types of disabilities children have, and emphasized that children with disabilities and typically developing children have different perceptions, intelligence levels, skills and needs. Ritz, Noltemeyer, Davis and Green (2014) conducted a study to explore the behaviour management strategies that are used by preschool teachers for children with misbehaviours, and found out that the teachers use various preventive strategies that can improve self-regulation skills in order to overcome children's misbehaviours. The teachers tend to use these strategies mainly during large group activities and transitions. The final aims of these strategies are: (a) to cease the misbehaviour, (b) to reduce the possibility of child's repeating the misbehaviour, and (c) to increase the possibility of replacing the misbehaviour with a more appropriate behaviour.

In Turkey studies are conducted to investigate teachers' classroom management skills and behaviour change strategies in elementary education, inclusive classrooms and preschool education. The studies that are conducted in preschool education utilize generally the observation technique (Akgün, Yarar, & Dinçer, 2011; Bulut & İflazoğlu, 2007; İflazoğlu & Bulut, 2005; Sadık, 2004; Uysal, Akbaba, & Akgün, 2010). Observation is essential to obtain a detailed, comprehensive and extended picture of certain behaviour, but it has some limitations such as being hard to quantify, having small sample size, and being costly (Yıldırım & Şimşek, 2003). In addition, in the literature there are not any scales that are designed for measuring preschool teachers' classroom management skills in line with the characteristics of the preschool period and the cultural nature of our country. For that reason, it is believed that the development of an inventory to determine preschool teachers' classroom management skills can contribute to determining the relationship between these skills and the predictor variables, and to carrying out preventive and supportive studies making use of various intervention programs. The purpose of this study is to develop an inventory to measure preschool teachers' classroom management skills based on their own perceptions, and to determine teachers' classroom management skills according to teachers' age, type of educational institution that teachers are graduated from, level of education, teaching experience, having assistant personnel in the classroom, working hours, working status, class size and age of children that teachers work with.

Method

This study has two dimensions. The first dimension is the development of an inventory to measure teachers' classroom management skills. The second dimension is the comparison of teachers' inventory scores according to various variables. Within this framework, this study utilizes the descriptive research model.

Participants

The participants of the study are composed of the preschool teachers that have a bachelor's degree, and that work in public and private preschools in the academic year 2009-2010. The inventory development study was conducted with 520 teachers, and the comparative analyses were carried out with 413 teachers due to the missing demographic data. The teachers that volunteered to fill in the inventory, and that could be accessed took part in the study. Convenience sampling that is a non-randomised sampling type (Balcı, 2001) was utilized to access the participating teachers. The descriptive statistics related to the participants demonstrate that 162 (39.3%) teachers are in the 20-24 age group, 88 (21.2%) teachers are in the 25-29 age group, 61 (14.7%) teachers are in the 40 and over age group, 55 (13.5%) teachers are in the 30-34 age group, and 47 (11.3%) teachers are in the 35-39 age group.

308 (74.5%) teachers with a bachelor's degree, 92 (22.3%) teachers with an associate degree, and 13 (3.2%) teachers with a master's degree participated in the study. 51.8% of the teachers (n=214) were graduated from the Open Education Faculty, and 48.2% of them (n=199) were graduated from the relevant departments of the formal education faculties.

Regarding teaching experience, 229 (55.4%) teachers have a teaching experience of 0-5 years, and 184 (44.6%) teachers have a teaching experience of 6 years and over. 232 (56.1%) teachers have a working status of permanent staff, and 181 (43.9%) teachers have a working status of contract or paid staff. 211 (51.1%) teachers have assistant personnel in the classroom while 202 (49.9%) teachers do not have assistant personnel in the classroom. 301 (72.8%) teachers are employed full-time whereas 112 (27.2%) teachers are employed half-time.

Regarding class size, 239 (57.8%) teachers work with 16 or more children while 174 (42.2%) teachers work with 15 or less children. 198 (48.1%) teachers work with children between 61-72 months, 109 (26.3%) teachers work with children between 49-60 months, and 106 (25.6%) teachers work with children between 36-48 months.

Data Collection Tool

The data collection tool is composed of two parts. The first part includes the Teacher Information Form, which consists of 13 questions related to teachers' personal and professional information. The second part includes the "Classroom Management Skills Inventory for Preschool Teachers" that is developed by the researchers to measure teachers' classroom management skills. Teachers are asked to score themselves between 1 ("Strongly disagree") and 5 ("Strongly agree") on each item. If the total score is high, it means that teachers have good classroom management skills. The validity and reliability data of the inventory are presented in the findings part.

Data Analysis

In data analysis, coefficient of internal consistency and test-retest reliability coefficient of the "Classroom Management Skills Inventory for Preschool Teachers" were calculated, and in order to test the construct validity of the inventory, factor analysis was conducted with the data that was received from the responses of 520 teachers.

The "Classroom Management Skills Inventory for Preschool Teachers" was administered to preschool teachers in order to reveal the relationship of teachers' classroom management skills with various variables. Regarding the statistical analysis technique used in the study, frequencies and percentages were calculated to demonstrate the distribution by personal and professional variables. In addition, the independent samples t-test and one-way analysis of variance (ANOVA) for independent samples were utilized to see if there was a difference between the scores of the "Classroom Management Skills Inventory for Preschool Teachers" resulting from independent variables, and when the test results were significant, the Turkey test was conducted to find out the source of difference. In data analysis the significance level was accepted to be 0.05.

Findings

The study findings are composed of two parts. The first part presents the findings related to the development of the inventory, and the second part presents the findings related to the participating teachers' personal and professional attributions, and whether there is a difference between the scores of the "Classroom Management Skills Inventory for Preschool Teachers" according to these attributions.

The validity and reliability results of the "Classroom Management Skills Inventory for Preschool Teachers" are presented below.

Validity

The validity of the inventory was tested through content validity and construct validity. While developing the inventory, the researchers firstly wrote 70 items based on the literature in classroom management in preschool education (Aydın, 1998; Başar, 2001; Finger & Bamford, 2010; Kounin, 1970) and their personal professional experiences. It was taken into consideration that both positive and negative statements were used to write the inventory items. The items were written in such a way that they would not include any factual statements, they would be clear and to the point, and they would not include multiple judgements and double negation (Tezbaşaran, 1996). For content validity, the inventory is examined by a group of experts in terms of the purpose of the measure and whether the inventory represents the content that this purpose necessitates (McGartland, Berg-Weger, Tebb, Lee, ve Rauch, 2003). After the items were written and revised, the inventory was submitted for expert opinion to five faculty members that teach the classroom management course in the undergraduate programs of preschool education departments. The experts reviewed the items in terms of whether they measure teachers' classroom management skills, and evaluated the items according to appropriateness and understandability. As a result, the inventory development study was conducted with 520 teachers and the inventory was composed of 55 items.

Within the scope of the validity studies of the inventory, the principle components factor analysis was conducted with the teachers' inventory scores in order to test the construct validity of the inventory. The *Kaiser-Meyer-Olkin* (KMO) measure of sampling adequacy, which is utilized to determine whether the sample is adequate for factor analysis, was calculated as .86 which is highly above the recommended value of .60. This value can be considered adequate based on the literature and expert opinions (Büyüköztürk, 2005). When the *Chi-Square Test* result that is obtained through the *Barlett Sphericity Test* is significant, it means that the data is multivariate normally distributed. The *Barlett Sphericity Test* result was calculated as 5425.58 ($p<0.01$) which is statistically significant. These results show that the collected data is adequate for factor analysis (Aiken, 2000, Pett, Lackey ve Sullivan, 2003).

The first factor analysis that was conducted using the principle components analysis indicated that the 55 items were divided into eight factors with eigenvalues above 0.01, and that these factors explained 30% of the variance. When the scree plot was examined, it was noticed that there was a remarkable decrease after the second factor. The analyses were repeated using *Varimax Rotation*, and 15 items were eliminated considering the criteria that factor loadings should not be below .30, items should not have substantial loadings on more than one factor, and the difference between the factor loadings of an item on two different factors should be above .10 (Tabachnick & Fidell, 1989). As a result of the last analysis, the two-factor structure is composed of 40 items having factors loadings between .30 and .67. When the inventory items are considered, the first factor is identified as the professional skills factor, and the second factor is identified as the teacher-child interaction factor. The item "I make sure that children participate in setting classroom rules" can be given as an example for the first factor, and the item "I have an authority based on obedience in the classroom" for the second factor. As a result of the rotation, it was determined that the first factor is composed of 31 items, and the second item is composed of 9 items. The factor loadings of the items on the first factor range between .301 and .646. The factor loadings of the 9 items on the second factor range between .405 and

.677. These values indicate that the inventory provides a valid measure. The possible highest and lowest scores of the inventory are 200 and 40, respectively. The negative items in the inventory (24, 29, 31, 33, 35, 36, 38, 39 and 40) are reverse coded items.

Table 1 presents which factor the items are related to and the factor loadings of the items.

Table 1. Factor Structure of the "Classroom Management Skills Inventory for Preschool Teachers"

Items	Factor 1	Items	Factor 1	Items	Factor 2
S18	.646	S33	.498	S47	.677
S9	.639	S1	.490	S50	.651
S24	.627	S4	.478	S55	.588
S25	.622	S27	.467	S42	.582
S30	.617	S16	.466	S54	.572
S11	.597	S5	.462	S20	.479
S21	.591	S38	.460	S51	.423
S15	.589	S41	.458	S28	.416
S22	.579	S48	.440	S45	.405
S44	.550	S8	.419		
S3	.548	S12	.374		
S10	.545	S14	.339		
S23	.544	S53	.326		
S26	.535	S46	.307		
S2	.530	S52	.301		
S7	.511				

Açıklanan Varyans: Faktör1: % 20,642 Faktör2: % 8,765 Toplam:% 29,40

Reliability

The reliability of the inventory was tested through Cronbach alpha coefficient of internal consistency and test-retest reliability coefficient.

In order to calculate test-retest reliability coefficient, 20 participating teachers were identified and the inventory was administered one more time to these teachers three weeks after the first administration. It was considered that an interval of three weeks between the two administrations was sufficient taking into account that the interval between the two administration should be long enough to avoid participants' recalling the inventory content which would affect the scores of the second administration, but also it should be short enough to avoid any changes in the participants' measured attributions (Büyüköztürk, Çakmak, Akgün, Karadeniz ve Demirel, 2009). The scores of the second administration were utilized to calculate *Pearson's product-moment correlation* coefficient.

Table 2 presents the reliability coefficients that were calculated through test-retest reliability coefficient and coefficient of internal consistency.

Table 2. Test-Retest Reliability Coefficient and Coefficient of Internal Consistency of the "Classroom Management Skills Inventory for Preschool Teachers"

	Test-Retest	Internal Consistency (Cronbach α)
Professional Skills	.87	.88
Teacher-Child Interaction	.83	.70
Total	.91	.83

As shown in the table, the coefficient of internal consistency (Cronbach α) of the "Classroom Management Skills Inventory for Preschool Teachers" was calculated as .83. The coefficients of internal consistency of the sub-dimensions of professional skills and teacher-child interaction are .88 and .70, respectively. The test-retest reliability coefficient was calculated as .87 ($p<.01$) for the professional skills sub-dimension, .83 ($p<.01$) for the teacher-child interaction sub- dimension, and .91 ($p<.01$) in total for the inventory.

The reliability coefficients that were calculated through the abovementioned tests indicate that the inventory provides a reliable measure.

The results of the independent samples t-test and one-way analysis of variance (ANOVA) for independent samples are presented below which demonstrate the findings related to the personal and professional attributions of the participating teachers and whether there is a difference between the the "Classroom Management Skills Inventory for Preschool Teachers" scores of the teachers according to these attributions.

Prior to these analyses, the correlations between the sub- dimensions and the total score of the "Classroom Management Skills Inventory for Preschool Teachers" were determined calculating *Pearson's product-moment correlation* coefficient. The analysis results indicate that there is a high positive correlation (.861) between the professional skills sub-dimension and the total score, and again a high positive correlation (.726) between the teacher-child interaction sub- dimension and the total score. The correlation between the sub- dimensions and the total score is significant at the .01 level. In the interpretation of the correlation analysis results, it was considered that an association between 1.00-0.70 is high, between 0.70-0.30 is medium, and between 0.30-0.00 is low (Büyüköztürk, 2005). This result shows that the inventory measures similar constructs related to teachers' classroom management skills. In other words, if a teacher has a high score on one sub-dimension of the inventory, she or he also tends to have a high score on the other sub-dimension and the total inventory. Within this framework, the comparative analyses were conducted based on the total scores of the inventory.

Table 3. ANOVA Results for the "Classroom Management Skills Inventory for Preschool Teachers" Scores According to Teachers' Age

Teachers' Age	**n**	$\bar{X}$	**s**	**F**	**P**	**Source of Difference (Tukey)**
(1) 20-24	162	157.53	1.64	28.295	.000	1-2 1-3 1-4 1-5
(2) 25-29	88	177.17	1.50			
(3) 30-34	55	174.60	1.54			
(4) 35-39	47	175.95	2.01			
(5) 40+	61	175.54	2.23			
Total	413	168.74	.95			

The table indicates that there is a statistically significant difference in teachers' classroom management skills according to their age ($F(4\text{-}408)= 28.295$, $p<.05$). The results of the Tukey test that was conducted to understand which age groups lead to this difference demonstrate that the scores of the teachers in the 20-24 age group are significantly lower than the scores of the teachers in other age groups.

Table 4. ANOVA Results for the "Classroom Management Skills Inventory for Preschool Teachers" Scores According to Level of Education

Level of Education	**n**	$\bar{X}$	**s**	**F**	**P**	**Source of Difference (Tukey)**
Associate Degree	92	168.7717	2.10578	2.756	.065	-
Bachelor's Degree	308	168.2175	1.10010			
Master's Degree	13	181.0769	3.46496			
Total	413	168.7458	.95595			

As the table presents, there is no statistically significant difference in teachers' classroom management skills according to their level of education ($F\ (2\text{-}410)=2.75$, $p>.05$).

Table 5. T-Test Results for the "Classroom Management Skills Inventory for Preschool Teachers" Scores According to Type of Educational Institution

Type of Education	n	$\bar{X}$	S	sd	t	p
Open Education	214	160.21	20.75	411	10.381	.000
Formal Education	199	177.95	12.61			
Total	413					

The table indicates that there is a statistically significant difference in teachers' classroom management skills according to type of educational institution from which they are graduated (t(411)= 10.38, p<.05). The scores of the teachers that are graduated from formal education faculties are higher than the scores of the teachers that are graduated from open education faculties. This demonstrates that teachers' classroom management skills vary significantly according to type of educational institution.

Table 6. T-Test Results for the "Classroom Management Skills Inventory for Preschool Teachers" Scores According to Teaching Experience

Experience	n	$\bar{X}$	S	sd	t	p
0-5 Years	229	162.41	20.61	411	7.923	.000
6 Years and Over	184	176.62	14.40			
Total	413					

The table demonstrates that there is a statistically significant difference in teachers' classroom management skills according to their teaching experience (t(411)= 7.923, p<.05). The results indicate that the scores of the teachers having teaching experience of 6 years and over are significantly higher than the scores of the teachers having teaching experience of 0-5 years.

Table 7. T-Test Results for the "Classroom Management Skills Inventory for Preschool Teachers" Scores According to Working Status

Working Status	n	$\bar{X}$	S	sd	t	p
Permanent	232	171.14	18.14	411	2.863	.004
Contract/Paid	181	165.67	20.59			
Total	413					

As shown in the table, there is a statistically significant difference in teachers' classroom management skills according to their working status (t(411)= 2.863, p<.05). The results indicate that the scores of the teachers having a working status of permanent staff are significantly higher than the scores of the teachers having a working status of contract/paid staff.

Table 8. T-Test Results for the "Classroom Management Skills Inventory for Preschool Teachers" Scores According to Having Assistant Personnel

Assistant Personnel	n	$\bar{X}$	S	sd	t	p
Yes	202	167.79	19.89	411	.976	.330
No	211	169.65	18.97			
Total	413					

The table demonstrates that there is no statistically significant difference in teachers' classroom management skills according having assistant personnel in the classroom (t(411)= .976, p>.05).

Table 9. T-Test Results for the "Classroom Management Skills Inventory for Preschool Teachers" Scores According to Working Hours

Working Hours	n	$\overline{X}$	S	sd	t	p
Full-time	301	169.40	18.62	411	1.137	. 256
Half-time	112	166.96	21.43			
Total	413					

The table shows that there is no statistically significant difference in teachers' classroom management skills according working hours (t(411)= 1.137, p>.05).

Table 10. T-Test Results for the "Classroom Management Skills Inventory for Preschool Teachers" Scores According to Class Size

Class Size	n	$\overline{X}$	S	sd	t	p
15 and less	174	157.64	20.17	411	11.33	. 000
16 and more	239	176.82	14.20			
Total	413					

As shown in the table, there is a statistically significant difference in teachers' classroom management skills according class size (t(411)= 11.33, p<.05). The results indicate that the scores of the teachers working with 16 and more children in the classroom are significantly higher than the scores of the teachers working with 15 and less children in the classroom.

Table 11. ANOVA Results for the "Classroom Management Skills Inventory for Preschool Teachers" Scores According to Children's Age

Children's Age (month)	N	$\overline{X}$	s	F	P	Source of Difference (Tukey)
36-48	106	163.4528	2.04483	5.605	.004	1-2 1-3
49-60	109	171.4954	1.84447			
61-72	198	170.0657	1.28859			
Total	413	168.7458	.95595			

The table indicates that there is a statistically significant difference in teachers' classroom management skills according children's age (F(2-410)=5.605, p<.05). The results of the Tukey test that was conducted to understand which age groups lead to this difference demonstrate that the scores of the teachers working with children between 36-48 months are significantly lower than the scores of the teachers working with the other age groups.

Discussion, Conclusion and Suggestions

The first aim of the study is to develop an inventory to measure preschool teachers' classroom management skills based on the main characteristics of positive classroom management. In this context, the study findings indicate that the factor loadings of the inventory items range between .301 and .677. The factor loading of .45 and over is accepted to be a good criterion of validity, but the factor loading of .30 can also be accepted for a small number of items (Büyüköztürk, 2005). In this respect, it can be indicated that the factor loadings of the inventory items are acceptable. Regarding the reliability of the inventory, the coefficients of internal consistency (Cronbach α) of the inventory are calculated as .83, .88, and .70. The test-retest reliability coefficients are .91, .87, and .83. When the test-retest reliability coefficient is calculated as .70 and over, the inventory is accepted to be reliable (Büyüköztürk, 2005). These results indicate that the validity and reliability values of the inventory are adequate.

It is essential to consider the fact that factor analysis is a mathematical process and it should always be interpreted based on theories and common sense (Beavers, Lounsbury, Richards, Huck, Skolits & Esquivel, 2013). In this context, in this study the factor analysis results are accepted to be sufficient considering the theoretical foundations. However, it can be suggested to conduct a confirmatory factor analysis with the data that is collected from a different sample group.

The second aim of the study is to reveal preschool teachers' personal and professional attributions and whether there is a difference in teachers' classroom management skills according to these attributions. The findings show that the teachers in the 25 and over age group have better classroom management skills than the teachers in the 20-24 age group, and that the teachers with teaching experience of 6 years and over have better classroom management skills than the teachers with teaching experience of 0-5 years. In this respect, it can be said that the increase in the length of time in teaching profession, and having more professional experience have a positive effect on teachers' classroom management skills. When the studies with similar findings are examined, it is seen that O'Brien and Goddard (2006) found out that teachers have poor classroom and behaviour management skills and they require knowledge in his field in their first year in the profession. Yeşilyurt and Çankaya (2008) revealed that "teachers with teaching experience of 21 years and over have better classroom management skills than those with less teaching experience". Turla, Şahin and Avcı (2001), on the other hand, found out that "there is no statistically significant difference in teachers' classroom and behaviour management problems according to teaching experience", and Denizel-Güven and Cevher (2005) revealed that "there is no significant difference in teachers' classroom management skills according to teaching experience". When the varying results of the relevant studies are taken into account, it can be said that teaching experience has an important impact on teachers' classroom management skills, but it should not be considered as a single factor, but together with some other factors such as professional development.

The findings of this study demonstrate that there is no significant difference in teachers' classroom management skills according to their level of education. The findings of the study conducted by Yeşilyurt and Çankaya (2008) revealed that "the teachers with an associate degree have better classroom management skills than the teachers with a bachelor's degree". However, Sucuoğlu, Ünsal and Özokçu (2004) found out that "teachers' classroom management scores do not differ according to their level of education". The results of this study that was carried out by Sucuoğlu, Ünsal and Özokçu (2004) showed that holding a bachelor's degree does not provide an advantage contrary to what is expected. Nevertheless, Denizel-Güven and Cevher (2005) found out "a significant difference in teachers' classroom management skills according to level of education". All these results demonstrate that knowledge and skills that are expected to be acquired by student teachers in pre-service education can be used in a proper manner their professional lives depending on their personal attributions such as patience, sense of responsibility, willingness, etc.

The results of the study demonstrate that teachers' classroom management skills differ significantly according to type of educational institution. The teachers that are graduated from formal education faculties have better classroom management skills than the teachers that are graduated from open education faculties. However, Turla, Şahin and Avcı (2001) found out that "there is no difference in teachers' classroom and behaviour management problems according to type of educational institution", and Sucuoğlu, Ünsal and Özokçu (2004) revealed that "teachers' classroom management scores do not differ significantly according to type of educational institution", which do not support the findings of this study. It is believed to be essential that student teachers who will work with children throughout their professional lives should study face to face with lecturers during pre-service teacher education so that they can receive feedback for their studies and practices. It is crucial that especially preschool teachers who are responsible for guiding children's development, education and learning processes prepare for teaching during four years of formal education in the university environment. Moreover, universities aim at not only educating professionals but also developing scientific and critical thinking skills in individuals.

The significant difference between the teachers with a working status of permanent staff and the teachers with a working status of contract/paid staff can indicate that the former has higher organizational ownership. Because contract or paid teachers are temporary staff, they may not seem themselves as a part of the institution that they work for, and they may not feel responsible and competent due to the possibility of leaving the institution in the near future.

In the study it is found out that having assistant personnel in the classroom and being employed full-time or half-time does not have a significant effect on teachers' classroom management skills. The factors such as professional experience, being graduated from formal education faculties, working status, etc. have more important effects on teachers' classroom management skills.

When children attributions are examined, it is determined that the teachers working with 16 and more children in the classroom have better classroom management skills than the teachers working with 15 and less children, and that the teachers working with children at the age of 49 months or over have better classroom management skills than the teachers working children between 36-48 months. Classroom management can be easier for teachers when they work with 16 or more children in the classroom because this would support group interaction and provide for more diversified activities. Teachers working with younger children would experience more difficulty in the basic fields of classroom management such as understanding instructions and following rules due to children's developmental abilities. Yalçınkaya and Tombul (2002) found out based on teacher perceptions that "teachers' classroom management skills differ according to class size" which is in line with the findings of this study while Denizel-Güven and Cevher (2005) revealed that "there is no significant correlation between class size and teachers' classroom management skills" which does not support the findings of this study.

Recent studies include intervention programs for teachers' classroom management skills in terms of developing the desired behaviours in preschool children in the classroom, developing preschool children's social skills, and preventing or reducing children's behaviour problems. These studies indicate that there is a change in teachers' perception of positive classroom management and that teachers put the skills they have learned into practice, and the follow-up studies demonstrate that teachers continue to implement these skills (Carter & Van Norman, 2010; Carlson, Tiret, Bender, & Benson, 2011; Driscoll, Wang , Mashburn, & Pianta, 2011; Wenz-Gross, & Upshur, 2012).

As a consequence, the "Classroom Management Skills Inventory for Preschool Teachers" provides a valid and reliable measure, and preschool teachers' classroom management skills do not differ significantly according to level of education, having assistant personnel in the classroom and working hours whereas there is a significant difference according to teachers' age, type of educational institution, teaching experience, working status, class size and children's age.

Uysal, Burçak, Tepetaş and Akman (2014) investigated prospective preschool teachers' and prospective classroom teachers' perceptions of classroom management through metaphors, and found out that the categories include positive perceptions except for one category that includes negative perceptions. It can be suggested to conduct studies that explore whether prospective teachers' positive perceptions maintain in their professional lives, and the relationship between positive perceptions and classroom management skills.

Although there is no significant difference according to level of education, the scores of the teachers with a master's degree is higher than the scores of the teachers with an associate or bachelor's degree. For that reason, it is recommended to compare classroom management skills of teachers with a master's degree and those of teachers with a bachelor's degree with a larger sample group. Because teachers assess their classroom management skills based on their own perceptions, it is suggested to conduct future studies utilizing research designs including multiple tools such as observation and interviewing. Based on these results, it can be recommended to develop mentorship programs in which experienced teachers support novice teachers in the fields such as classroom management, and to develop comprehensive in-service education models that would support teachers' classroom management skills. It is suggested for the future studies to utilize the developed inventory to measure teachers' classroom management skills and to develop and evaluate intervention programs in our country as well.

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