

Education and Science tedmen



Vol 44 (2019) No 199 223-238

Quality of Inclusive Preschool Classrooms: Predictive Variables *

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Abstract

Preschool inclusion is an issue that has become more prominent and is frequently targeted in the literature in recent years. Previous studies regarding preschool inclusion were conducted with teachers, typically developing children, and children with disabilities as well as about how the inclusive practices could be more effective and which variables would affect the quality of preschool inclusion. Recently, the concept of "quality" in inclusive preschool becomes one of the current issues in the field. The quality of the inclusion is examined as the process quality, structural quality, and global quality it is influenced by several factors such as experience and education of teachers, teacher/child ratio and knowledge of teachers related to implementation of inclusive practices. The purpose of this study, which utilized correlational screening model, was to reveal the variables which predict the overall quality of inclusive preschool classrooms in Turkey. The data were collected by Teacher Information Form, Student-Teacher Relationship Scale, Opinions Relative to Integration of Students with Disabilities, and Abilities Index in 47 preschool classrooms as well as the third researcher assessed the quality of the classrooms by using Inclusive Classroom Profile. To test the predictive value of all variables, a stepwise regression model was used. Analyses showed that the overall quality of the inclusive preschool classrooms was predicted by the teachers' opinions regarding inclusion, having courses related to preschool inclusion, and teachers' relationships with their students. The results are discussed in the framework of the existent literature and suggestions related to implications and future research are offered.

Keywords

Preschool inclusion Inclusion Quality Inclusive Classroom Profile Student-teacher relationship Abilities Index

Article Info

Received: 03.27.2018 Accepted: 06.18.2018 Online Published: 07.24.2019

DOI: 10.15390/EB.2019.7839

^{*} This study was conducted within the context of 1001 Scientific and Technological Research Projects Funding Program of The Scientific and Technological Research Council of Turkey (TÜBİTAK) with the project number of 114K649.

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Introduction

Preschool inclusion is implemented based on the laws and regulations in several countries and involves the provision of educational experiences to children with developmental disabilities alongside their typically developing peers within the same settings. Preschool inclusion offers benefits to children with developmental disabilities as well as for their typically developing peers and their families. High-quality environments provide opportunities for improving educational achievements of children in developmental areas (Henninger IV & Gupta, 2014). Preschool inclusion, however, means more than simply placing children with disabilities (CWD) in a setting with their typically developing peers as the expectations from the inclusion can only be met when the CWDs form social relationships, participate in various activities, and are provided with learning environments appropriate for all children (Odom, Buysse, & Sokukakou, 2011). In this regard, the concept of "quality" in inclusive preschool becomes one of the leading issues in the field.

Classroom quality is dependent upon several variables such as children, the experiences of teachers, the physical characteristics of the environment, in addition to legal regulations and teacher salaries (Cassidy et al., 2005). In a study by Phillips and Howes (1987) grouped these variables regarding classroom quality were grouped under headings of structural quality, process quality, and overall quality. Structural quality includes variables such as child-adult ratio, teacher education, teachers' salary, and the size of group (Cassidy et al., 2005; Slot, Leseman, Verhagen, & Mulder, 2015), along with variables, such as legal regulations, institutional policies and economic conditions, which togerher build a framework of process quality and constitute the dynamic dimension of the programs (Cryer, Tiezte, Burchinal, Leal, & Palacios, 1999; Phillipsen, Burchinal, Howes, & Cryer, 1997). Process quality includes experiences related to the interactions of children with their teachers, peers, and materials in the preschool environment in which they are educated; in other words, the proximal variables that affect child development (Cassidy et al., 2005; Slot et al., 2015; Vandell & Wolfe, 2000). The management style of institution's principal health and safety provisions, and the way the institutions provides support to families and children, and the beliefs of the teacher about child-rearing practices are also related to the process quality (Bryant, Burchinal, Lau, & Sparling, 1994; Phillipsen et al., 1997). Structural quality including teacher / child ratio and class size are more likely to be regulated by state and by licensing process, and are the foundation for process quality, although they have no direct effect on child care and the education provided by the school or day care center. On the other hand, process quality is related to environmental characteristics and are mediated by the relationships of children with adults and their peers (Cassidy et al., 2005; Wolery & Odom, 2000). In a large-scale study by NICHD Early Child Care Research Network (2002) the findings showed that structural quality has a direct effect on process quality, and process quality influenced children's outcomes (as cited in Cassidy et al., 2005). Finally, overall quality can be considered a combination of structural quality and process quality and provides a more comprehensive view of the quality of an institution (Hestenes, Cassidy, Hedge, & Lower, 2007; Hestenes, Cassidy, Shim, & Hedge, 2008). An assessment of overall program quality is accepted as critical to providing a basis for quality preschool services (Buysse, Skinner, & Grant, 2001).

In recent years, the quality of preschool inclusion has been accepted one of the most important factors that affects inclusive practices (Odom et al., 2011). Quality is defined as a concept that can be considered in many aspects and the quality of preschool inclusion is evaluated in terms of different components that can affect practices (Yılmaz & Karasu, 2018). Many countries have adopted an inclusive preschool approach. However, there are only a limited number of studies into the quality of these classrooms. One of the first studies of inclusive classroom quality was conducted in Portugal and examined the relationship between the quality of inclusive preschool classrooms and the social

acceptance of children with disabilities yielding results which indicate that no significant relationship exist between the quality of the practices and the social acceptance of the children, measured through peer ratings (Aguiar, Moiteiro, & Pimentel, 2010). Soukakou (2012) developed an instrument (Inclusion Classroom Profile, ICP) in the United Kingdom for assessing the quality of inclusive preschool classrooms proposing ICP as a reliable and valid tool and found that the quality of the inclusive preschool classrooms in the United Kingdom was generally "good". In the United States, the quality of early childhood special education classrooms was investigated regarding the early literacy environment of children and the findings showed that the structural and instructional dimensions of quality were low to moderate (Guo, Sawyer, Justice, & Kaderavek, 2013). In another study, in which the quality of preschool practices in the Head Start classrooms was assessed by practitioners through observations and interviews, the overall quality of the classrooms was found to be good, although the practitioners indicated that the greatest challenge quality inclusion was the inadequacy of professional development (Muccio, Kidd, White, & Burns, 2014). Soukakou Winton, West, Sideris, and Rucker (2015) adapted the ICP for the US context, and having completed reliability and validity studies, they compared the quality of four different programs, namely, child care programs, Head Start classrooms, public preschools and developmental day programs. Their findings revealed that the qualty scores of child care programs were significantly lower than those of other programs (Soukakou et al., 2015). In similar study conducted with the same tool in Greece, the quality of inclusive preschool classrooms was found to be poor, and not only the teachers' professional experience but also their experiences related to the special education did not have an association with the quality of inclusive preschool classrooms (Fyssa & Vlachou, 2015; Vlachou & Fyssa, 2016). Finally, in Swedish study which used ICP, Lundqvist, Westling, and Siljehag (2016), found out that the overall quality of the preschool classrooms varied from "poor" to "good", although the inclusive practices in the classrooms were similar.

Studies related to the quality are more likely to emphasize the relationship between the variables related to the structure and process dimensions of the quality (Cassidy et al., 2005; Phillipsen et al., 1997). Even though previous studies suggested that teacher salaries and teacher education, as structural quality variables, are the best indicators of the process quality (Howes, Phillips, & Whitebook, 1992; Scarr, Eisenberg, & Deater-Deckard, 1994), there have been conflicting findings (Slot et al., 2015). There have been other studies in which the quality of preschool classrooms are compared, and the predictive value of a number of variables are exmined in the context of overall quality (Buysse, Wesley, Bryant, & Gardner, 1999; Hestenes et al., 2007; Hestenes et al., 2008; La Paro, Sexton, & Snyder, 1998). The results in the published studies showed that the overall quality of inclusive preschool classrooms was better than (see Buysse et al., 1999; Hestenes et al., 2007; Hestenes et al., 2008) or similar to (La Paro et al., 1998) the quality of noninclusive preschool classrooms. In two of these studies, the variables that predict the overall quality of inclusive preschool classrooms were examined with Hestenes et al. (2007) indicated that among the variables such as teacher education, professional experience, having a course on special education, and child-teacher ratio; only child-teacher ratio predicted the quality of inclusive preschool classrooms. In addition, Buysse et al. (1999) found out that teacher education, experience, knowledge and skills were important predictors of the overall quality of inclusive preschool classrooms.

The Quality of Preschools in Turkey

In Turkey, the overall quality of preschool classrooms has been examined in some studies using the Early Childhood Environment Rating Scale (ECERS), and it was found that, although there were no differences between the quality of the preschools regardless of the institutions to which they were affiliated and the services offered, the overall quality varied from "very little" to "good" (Aksoy, 2009; Feyman, 2006; Gol-Guven, 2009, 2017; Gören-Niron, 2013; Güçhan-Özgül, 2011; Kalkan, 2008; Solak, 2007; Tekmen, 2005). Feyman (2006) comparing the quality of private and public preschools showed

that the quality of private preschools' quality was better than that of public ones, while Solak (2007) and Gol-Guven (2009) suggested that there were no significant differences between the two types of the preschools, in that the quality was low in both school settings. In addition, public preschools had *low scores* in furniture and display of works and motor activities subscales and *higher scores* in language and reasoning and personal care routines subscales of the ECERS (Güçhan-Özgül, 2011).

In the first study, to assess inclusive preschools, the quality of 20 inclusive preschool classrooms in Ankara was assessed by using the ICP Turkish Form, and the quality scores were found to vary from inadequate to poor, based on qualitative and quantitative data (Yılmaz, 2014). The quality scores of inclusive preschool classrooms were found to be lower in six items than the other items; namely, support for communication, adult involvement in peer interactions, adults' guidance of children's play, transitions between activities, feedback and monitoring children's learning. On the other hand, the item scores related to the adaptation of group activities, space and materials/equipment and membership to score relatively higher than the other items of the ICP. The author attributed the higher scores to that all CWD that attended inclusive preschool classrooms had mild disabilities, while the low scores were attributed to the limited knowledge, skills and experience of the teachers on inclusive practices.

In the second study, teachers and independent observers assessed the quality of inclusive preschools, and found out that the quality of classrooms in preschools were evaluated differently by teachers and independent observers. According to the findings, a significant difference was identified between the assessments of preschool teachers and those of independent observers, with teachers rating their classrooms as being of better quality (Bakkaloğlu, Altındağ-Kumaş, & Aykaç, 2017). Although the teachers believed that the quality of their classrooms was high, the quality of classrooms generally was generally found to be low in inclusive preschools. In addition, data collected through interviews and observations showed that neither the typically developing children nor the CWD were offered high quality programs.

When the results of the two studies carried out in Turkey are considered together, the findings suggested that there was an intention to reveal the existing status of inclusive preschool classrooms in general, and that they failed to answer the question of how the quality of preschool inclusion could be improved, and which variables were effective in quality. If the CWD and their families are to benefit from inclusion at the highest level, the quality of the preschools should be improved before which, the quality of inclusive practices need to be comprehensively examined (Buysse & Hollingsworth, 2009). In this regard, new studies based on data collected from larger samples regarding which variables better predict the classroom quality would seem to be important if we are to gain necessary information on the current quality of inclusive preschool classrooms. In addition, assessing the quality of classrooms and related variables may serve to enlighten policymakers. Moreover, identifying the predictor variables might contribute to the formation of regulations for inclusion and setting of standards, while also guiding the professional development of the teachers.

The main purpose of this study is to identify the variables that predict the overall quality of inclusive preschool classrooms in Turkey. To this end, this study aims to find answers to the following questions:

- 1. How is the quality of inclusive preschool classrooms?
- 2. Do the characteristics related to teachers (educated about inclusion, opinions related to inclusion, relationships with the children), children with disabilities (developmental functions), and classrooms (classroom size) predict the quality of inclusive preschool classrooms?

Method

Research Design

This study adopts a predictive correlational research model (Fraenkel, Wallen, & Hyun, 2012). A multiple linear regression analysis was conducted to examine the predictive value of certain variables related to the teachers, students and classrooms on the quality of inclusive preschool classrooms.

Study Group

This study was conducted in 47 classrooms in 13 different independent preschools in which CWD are educated in Ankara, Turkey. The study group was identified through criterion sampling, as a purposive sampling method (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2010). The following inclusion criteria were used when forming the study group:

- 1. All classrooms were in independent preschools in which children aged 3 to 4 years-old are educated,
- 2. The presence of at least one CWD in the classroom, and
- 3. Of CWD access to a diagnosis report given by the Guidance and Research Centers in Turkey, and party to a placement decision for the inclusive classrooms.

The teachers and the parents of CWD who volunteered to participate in this study provided the necessary permission, and the study group was formed. Demographical data of the teachers (Table 1) and children with special needs (Table 2) are presented below. The classroom size of the classes that the data were gathered ranged between 11 to 26 and the mean number of students in these classrooms is 19.34 (sd=3.47).

Table 1. Demographical Characteristics of the Teachers

Variables		f	%
Age (years)	25-35	41	87.2
	36 and above	6	12.8
	Total	47	100
Professional experience	2-6 years	18	38.2
	7-11 years	23	49.1
	12- 21 years	6	12.7
	Total	47	100
Having education related to inclusion	Yes	19	40.4
	No	28	59.6
	Total	47	100

Table 2. Demographical Characteristics of the Children with Special Needs

Variables		f	%
	Girl	16	34
Gender	Boy	31	66
	Total	47	100
	39-48	11	23.4
A and (Mare the a)	49-60	34	72.3
Age (Months)	61-68	2	4.3
	Total	47	100
	Speech-Language Disorder	11	23.4
Type of disability	Physical-Health	9	19.1
	Hearing Impairment	5	10.6
	Autism	10	21.3
	Intellectual Disability	12	25.5
	Total	47	100

Data Collection Tools

Teacher Information Form: A demographic information form was developed by the researchers to collect data from the teachers about the age, gender, education, professional experience, education about inclusion, and classroom size (the number of children in the classroom that teachers work with).

Inclusion Classroom Profile (ICP): In this study, the overall quality of the inclusive preschool classrooms was assessed by ICP which is a scale that was developed by Soukakou (2012) to assess the overall quality of inclusive preschool classrooms. The tool suitable for classes of children aged 2-5 and in which at least one child has been diagnosed with some form of developmental disability, is educated alongside his or her typically developing peers. A pilot study of the scale was conducted in the United Kingdom, and its reliability and validity have been confirmed in several studies in which its psychometric characteristics have been tested. An internal consistency analysis to examine the reliability of its items revealed that its internal consistency is high ($\alpha = .79$). For its construct validity, its correlations with three different scales were examined, and it was found that it had a similar construct to the second version of the ECERS (Soukakou, 2012; Soukakou et al., 2015). ICP contains 12 items related to factors, such as adaptations of space, materials, and equipment, adult involvement in peer interactions, adult guidance of children's play, conflict resolution, membership,, relationships between adults and children, support for communication, adaptation of group activities, transitions between activities, feedback, family-professional partnerships and monitoring children's learning. An operational definition is given for each item, and characteristics related to its scoring were explained. ICP is a 7-point Likert type scale, in which inappropriate or even harmful practices are credited with 1 (one) point, while practices that may contribute to inclusion through supporting individualization are given 7 points. The implementation of the scale in the inclusive preschool classrooms requires 2.5-3 hour extensive observation process while for some of the items are scored from a teacher interview and a document review.

The adaptation of the scale for the Turkish context was made by Yılmaz (2014), and the interobserver reliability value was found out to be 92%. For the current study, the ICP Turkish Form's validity and reliability data were re-examined. As the quality indicators that are explained in fourth item of the scale were observed in very few classrooms, and indicators that are expressed with the two items (item 11 and item 12) were not observed in almost none of the classrooms and are given very low scores (close to zero), the variance of the item scores did not differ significantly. Therefore, data related to the factor structures and validity of the Turkish Form of the tool could not be obtained. The Cronbach's Alpha reliability coefficient for the data of the current study was .76, and which can be accepted as reliable (Pallant, 2005).

Opinions Relative to Integration (ORI): The opinions of preschool teachers regarding CWD in their classrooms were examined using this scale. ORI was developed by Antonak and Larrivee (1995) to examine teacher attitudes towards the education of students with disabilities alongside their typically developing peers in the general education classrooms. The instrument was adapted for the Turkish context by Kırcaali-İftar (1996). As a reliability study, its Cronbach's Alpha internal consistency coefficient was found to be .80. The scale can be filled out by the teachers and is a 5-point Likert type scale that comprises 20 items. The ORI addressed five factors; classroom management and opinions regarding inclusion, teacher's perceived ability to teach students with disabilities, benefits of inclusion, competence of student with the disability, and negative effects of inclusion. The lowest score that can be obtained from the scale is 20, while the highest score is 100. The higher the scores, the more negative the attitudes become.

Student-Teacher Relationship Scale-Short Form (STRS-SF): In this study, how the teachers evaluated their relationships with the CWD in their classrooms was assessed by a 15-item short form of the Student-Teacher Relationship Scale, which was developed by Pianta (2001). STRS-SF, which can be filled out by the teacher, has two sub-dimensions, namely conflict and closeness. This scale provides information about *conflicts* including teachers' perceived behaviors of children, negative interactions on the emotional aspect, and not being able to manage behaviors effectively; and the *closeness*, which comprised caring for the child sufficiently, and making positive emotional interactions. The conflict

dimension is measured by eight items, with the lowest possible score being 8, whereas the highest is 40. The closeness dimension comprises seven items in which the lowest score is seven and the highest is 35. STRS-SF was translated into Turkish by Şahin Asi and Ocak Karabay (2018) and reliability analysis revealed that the scale's internal consistency coefficients (Cronbach's Alpha) were .82, .84, and .76 for the entire scale, conflict subscale, and closeness subscale, respectively. The test-retest reliability of the scale was examined based on the data obtained from a group of different participants, and Pearson correlation values were found .87 .83, and .83, for the conflict subscale, closeness subscale, and the scale as a whole, respectively.

Abilities Index (AI): This scale can be used to assess the functions and abilities of babies and children with disabilities, and is based on parent, teacher or clinicians opinions (Simeonsson & Bailey, 1988). In this study, the AI was used to assess the developmental functions of the young CWD based on teacher opinions. The studies investigating the psychometric characteristics of Yİ showed that the reliability coefficient between the evaluators were .80 for teacher-parents dyad, .83 for professionals and parents and .89 for teachers and professionals. In addition, test-retest reliability for YI was found to be .90 for the data collected from the 40 teachers. (Bailey, Simeonsson, Buysse, & Smith, 1993). Moreover, it was found that the mean of Kappa values between the evaluators was .60 and parents, teachers and terapists stated that YI was a useful tool in order for assessing the developmental functions of babies and young children (Buysse, Smith, Bailey Jr., & Simeonsson, 1993).

The psychometric properties of Turkish form of AI were examined by Sucuoğlu and Demir (2018). The validity and reliability studies of the Turkish Form provided critical proof of the psychometric properties of the scale. For the validity studies, discriminative validity (the scores of CWDs were higher than CWODs and the child with autism had lower functions in communication and social skills) and convergent validity (the scores of children with disabilities on social skills, inappropriate behaviors, intellectual functioning, and communication skills were correlated with Gazi Early Childhood Assessment Tool's psychomotor, social, cognitive, and language skills scores) analyses were made. The internal consistency coefficients which were examined by split half correlations were .89 for teachers and .78 for mothers. Inter-rater reliability between teachers and mothers was X=.47. Cohen's Kappa was X=.27. The exact agreement coefficient was X=.67. The correlation between the scores of CWDs given by teachers six months apart was X=.63. The scale consisted 19 items under nine different areas including hearing, behavior, purposeful communication, intellectual functioning, limbs, strength, physical health, eyes and structural state, with each item rated from 0 (zero means normal functioning) to 6 (6 means quite inadequate in functioning). Simeonsson (personal contact, June 2017) stated that the scores of the 19 items in the AI could be transformed into a total score by a special formula but he suggested that this total score should not be used as the sole criterion when making decision about a child. High scores which were obtained from the AI indicate low developmental functioning in a child, and that his or her needs are many; whereas low scores mean the opposite.

Data Collection Process

The independent preschools affiliated to the Ministry of National Education that targeted in this study, were visited in the spring semester of the 2015-2016 academic year. The teachers who have a CWD in their classroom were asked to fill out the Information Form, Opinions Relative to Integration, Student-Teacher Relationship Scale, and Abilities Index. In addition, one of the researchers made appointments with the teachers for an appropriate time when the CWD was present in the classroom. The researcher carried out observations in each classroom, for 2,5-3 hours and assessed the quality of the inclusive preschool classrooms through ICP.

Data Analysis

Having completed the descriptive analysis, for the identification of the certain variables that predicted the ICP mean scores, a multiple linear regression analysis was conducted. This analysis tested the predictive value of all the variables on the quality, through the use of a stepwise regression model. The normality assumptions for the predictive variables and dependent variables were examined by histograms, skewness-kurtosis values and normality tests; and the Mahalanobis and Cook distances of the variables were also examined from which it was determined that there were no outliers. The total

scores of the dependent and predictive variables met the assumptions for normal distribution (see Table 3).

Table 3. Descriptive Analyses of Predictive and Dependent Variables Included in the Regression Analysis

Management Teacher's perceived ability 10.91 3.00 15.00 2.55 597 .524 .133 .948 .148 .138 .948 .138 .948 .138 .138 .948 .13	Scale	Subscales	X	Min.	Max.	SD	Sa	K ^b	KSc	SWd
Teacher's perceived ability 10.91 3.00 15.00 2.55 597 .524 .133 .948 .134 .135 .948 .135 .948 .135 .948 .135 .948 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .948 .135 .135 .135 .948 .135 .135 .135 .948 .135 .135 .135 .948 .135 .1	Oninions	inclusion and classroom	27.61	18.00	37.00	4.62	.104	729	.119*	.977
Integration		Teacher's perceived	10.91	3.00	15.00	2.55	597	.524	.133	.948
student with disability Negative effects of inclusion 6.25 4.00 10.00 1.31 1.06 1.943 .291 .86 Student- Closeness 25.21 12.00 35.00 5.65 234 645 .077* .97 Teacher Conflict 32.23 13.00 40.00 7.55 839 548 .204 .86 Relationship Scale Total 57.44 34.00 75.00 10.63 339 983 .125* .05 Abilities Index Total 49.87 29.00 91.10 15.54 .758 .333 .099* .94 Classroom Size 19.34 11.26 26.00 3.47 199 406 .161 .96 Having .57 0 1.00 .49 311 199 .377 .62 Inclusion .57 0 1.00 .49 311 199 .377 .62	Relative to	Benefits of inclusion	12.51	8.00	18.00	2.44	.358	241	.136	.966
Total 63.08 49.00 83.00 7.26 .251 .251 .060* .98	Integration	-	5.78	2.00	8.00	1,60	301	695	.159	.933
Student- Closeness 25.21 12.00 35.00 5.65 234 645 .077* .97 Teacher Conflict 32.23 13.00 40.00 7.55 839 548 .204 .86 Relationship Scale Total 57.44 34.00 75.00 10.63 339 983 .125* .05 Abilities Index Total 49.87 29.00 91.10 15.54 .758 .333 .099* .94 Classroom Size 19.34 11.26 26.00 3.47 199 406 .161 .96 Having .57 0 1.00 .49 311 199 .377 .62 Inclusion .57 0 1.00 .49 311 199 .377 .62		O .	6.25	4.00	10.00	1.31	1.06	1.943	.291	.867
Teacher Conflict 32.23 13.00 40.00 7.55 839 548 .204 .86 Relationship Scale Total 57.44 34.00 75.00 10.63 339 983 .125* .05 Abilities Index Total 49.87 29.00 91.10 15.54 .758 .333 .099* .94 Classroom Size 19.34 11.26 26.00 3.47 199 406 .161 .96 Having .57 0 1.00 .49 311 199 .377 .62 Inclusion .57 0 1.00 .49 311 199 .377 .62		Total	63.08	49.00	83.00	7.26	.251	.251	.060*	.985
Relationship Scale Total 57.44 34.00 75.00 10.63 339 983 .125* .05 Abilities Index Total 49.87 29.00 91.10 15.54 .758 .333 .099* .94 Classroom Size 19.34 11.26 26.00 3.47 199 406 .161 .96 Having Courses About 1.57 0 1.00 .49 311 199 .377 .62	Student-	Closeness	25.21	12.00	35.00	5.65	234	645	.077*	.975
Scale Total 57.44 34.00 75.00 10.63 339 983 .125* .05 Abilities Index Total 49.87 29.00 91.10 15.54 .758 .333 .099* .94 Classroom Size 19.34 11.26 26.00 3.47 199 406 .161 .96 Having .57 0 1.00 .49 311 199 .377 .62 Inclusion .62 .63 .63 .64 .65 .66 <		Conflict	32.23	13.00	40.00	7.55	839	548	.204	.863
Classroom Size 19.34 11.26 26.00 3.47 199 406 .161 .96 Having Courses About .57 0 1.00 .49 311 199 .377 .62 Inclusion	_	Total	57.44	34.00	75.00	10.63	339	983	.125*	.050
Having Courses About .57 0 1.00 .49311199 .377 .62 Inclusion	Abilities Index	Total	49.87	29.00	91.10	15.54	.758	.333	.099*	.941
Courses About .57 0 1.00 .49311199 .377 .62 Inclusion	Classroom Size		19.34	11.26	26.00	3.47	199	406	.161	.967
Inclusion	Having									
	Courses About		.57	0	1.00	.49	311	199	.377	.629
ICP 2.02 1.36 3.09 37 34 68 1.08* 96	Inclusion									
2.02 1.00 0,07 .07 .04 .00 .100 .70	ICP		2.02	1.36	3,09	.37	.34	.68	.108*	.962

^{*}p>.05; a: Skewness; b: Kurtosis; c: Kolmogorov-Smirnov; d: Shapiro-Wilk

Before conducting the regression analysis, the correlation coefficients between the predictive variables were examined, and the results are presented in Table 4.

Table 4. Pearson Correlation Coefficients for the Variables Included in the Regression Analysis

		Correlations						
	Х	SD	1	2	3	4	5	6
1. Abilities Index	49.87	15.54	1.00					
2. Opinions Relative to Integration	63.08	7.26	.166	1.00				
3. Student-Teacher Relationship	57.44	10.63	333*	042	1.00			
4. Classroom Size	19.34	15.54	011	.174	032	1.00		
5. Having Courses About Inclusion	.57	.49	030	.178	119	.048	1.00	
6. ICP	2.02	.37	223	.266	.296*	.236	275	1.00

^{*}p<.05

This table shows that the correlations between the variables were not high, therefore without the problem of multicollinearity the regression would be conducted (Tabachnick & Fidell, 2013). To examine the multicollinearity of the variables, the Variance Inflation Factor (VIF), tolerance value (TV), and condition index (CI) were also examined. The results (VIF≤10, TV>.20, CI≤30) indicated that there was no multicollinearity between the predictive variables and the dependent variable (Field, 2009).

Results

How is the Quality of Inclusive Preschool Classrooms?

The results of the descriptive analysis that measured the quality of the inclusive preschool classrooms assessed by the ICP, based on 12 items and the total score, are given in Table 5.

Table 5. Descriptive Analyses Regarding Dependent Variables in the Regression Analysis

ICP Items	N	X	SD	Min.	Max.
1. Adaptation of space and materials/ equipment	47	3.38	.67	2.00	5.00
2. Adult involvement in peer interactions	47	1.80	.61	1.00	3.00
3. Adults' guidance of children's play	47	2.02	.76	1.00	4.00
4. Conflict resolution	3	.08	.35	.00	2.00
5. Membership	47	2.19	.77	1.00	5.00
6. Relationships between adults and children	47	2.46	.85	1.00	4.00
7. Support for communication	47	1.72	.53	1.00	3.00
8. Adaptation of group activities	32	2.02	1.52	.00	4.00
9. Transitions between activities	47	2.02	.14	2.00	3.00
10. Feedback	47	1.87	.49	1.00	3.00
11. Family-professional partnership	47	1.00	.00	1.00	1.00
12. Monitoring children's learning	47	1.21	.41	1.00	2.00
Mean Score	47	2.02	.37	1.36	3.09

According to Table 5 the mean scores of the classrooms varied between 1.36 to 3.09. According to the ICP's assessment, a score 1 (one) is inadequate, three is minimal, five is good, and seven is excellent. In this regard, the overall quality of the inclusive preschools was found to be in the inadequate to poor range. While the adaptations of space and materials/equipment was assessed better than the other items; the support the communication, feedback, monitoring children's learning, and family-professional partnerships scores were low.

Do Characteristics of Teachers, Children with Special Needs and Classrooms Predict the Quality of Inclusive Preschool Classrooms?

A stepwise model was used to conduct a multiple linear regression analysis to examine whether variables such as the teachers' opinions related to inclusion, their relationships with the students with special needs, having courses about inclusion, the functional ability level of CWD, and classroom size predicted the scores of ICP. In this context, statistically significant variables in stepwise model are included in the analysis, and statistically significant predictors are selected by the program respectively (Field, 2009). The results obtained via linear regression analysis are given in Table 6.

Table 6. Regression Analysis Table for the Predictive Variables of ICP

Predictor variables		В	SE	β	t
Model 1 R: .296; R ² : .088; F: 4.320; p=.043	1. Student-teacher relationship	.011	.005	.296	2.078
Model 2	1. Student-teacher relationship	.011	.005	.308	2.231
<i>R</i> : .406; <i>R</i> ² : .165; <i>F</i> : 4.353; <i>p</i> =.019	2. Opinions relative to integration	.015	.007	.279	2.022
36.1.10	1. Student-teacher relationship	.010	.005	.274	2.061
Model 3 R: .502; R ² : .252; F: 4.820; p=.006	2. Opinions relative to integration	.017	.007	.331	2.468
	3. Having education in inclusion	228	.102	301	-2.229

As seen in Table 6, predictive variables were added to the regression analysis in a step by step manner, and three models were formed. In the first model, the *student-teacher relationship* was the predictive variable, in the second model the variable *teachers' opinions related to inclusion* was added to the model; and in the final model *having courses about inclusion* variable was added to the two previous variables. Findings showed that these three predictive variables explained 25% (R^2 : .252) of the change in the dependent variable. The model that was formed to account for the ICP total score was significant at the α =.05 level (F=4.820, p<.05). In the model which explained the change in the predicted variable utmost (R^2 : .252), when other independent variables are kept constant, it is seen that one unit increase in the student-teacher relationship could lead to .010 unit increase in classroom quality scores (B=.010), one unit increase in the teachers' opinions related to inclusion would lead to .228 unit decrease (B=.017), one unit decrease in the having courses about inclusion would lead to .228 unit decrease (B=.228). According to the final model, the predictive variable that contributed most to the dependent variable was *teachers' opinions related to inclusion* (β =.331), the second one was *having an education on inclusion* (β =.301), and the last one was *student-teacher relationship* (β =.274).

Discussion

This research that had the aim to identify the predictive variables of the quality in inclusive preschool classrooms might be considered as making significant contributions to both national and international literature with its findings. In the framework of the studies conducted in Turkey regarding preschool inclusion, our results may be discussed in several dimensions. Firstly, our finding related to the quality of inclusive preschools would seem to be consistent with two previous Turkish studies (Bakkaloğlu et al., 2017; Yılmaz, 2014) and showed that the present quality of inclusive preschool classrooms is poor. This might be explained by several factors such that preschool teachers have a) only limited knowledge about inclusion and/or children with special needs (Altun & Gülben, 2009; Sucuoğlu, Bakkaloğlu, Demir, Akalın, & Karasu-İşcen, 2014; Varlıer & Vuran, 2006); b) limited competence in individualizing instruction and adapting the activities (Özen, Ergenekon, Kürkçüoğlu, & Genç, 2013; Tufan & Yıldırım, 2013); and c) need knowledge to be able to work with children with special needs (Akalın, Demir, Sucuoğlu, Bakkaloğlu, & İşcen, 2014; Er-Sabuncuoğlu, 2016; Rakap, Balikci, Parlak-Rakap, & Kalkan, 2016). Because of the limited knowledge, skills, and experiences of the teachers regarding inclusion, the findings related to the quality of the inclusive preschool classrooms might not be surprising. When we consider that high quality inclusion consists of the dimensions of individualization and adaptation of the instruction, as well as the use of support strategies (Barton & Smith, 2015), and when it is acknowledged that the findings of the studies reveal the limitations of the teachers in these dimensions, it would appear that we still have a long way to go in improving the quality of inclusive preschool classrooms.

Secondly, in the context of quality, each variable related to process and structural quality, as well as in a more comprehensive sense, overall quality is critical, and all related variables are important predictors of the developmental achievements of children (Vandell & Wolfe, 2000). To include CWD in preschool classrooms, it seems that, by determining which variables are predictive of certain dimensions of quality, one can make the appropriate arrangements in terms of the support to be provided to teachers. Previous studies have emphasized further that inclusive practices may be improved upon through teacher education and the supports provided to them (Buysse et al., 1999; Hadadian & Hargrove, 2001), and the challenges of teachers related to inclusion are indicated as one of the most important obstacles in the way of inclusion (Essa et al., 2008; Pivik, McComas, & Laflamme, 2002; Soodak et al., 2002). This study has shown that the quality of the inclusive preschool classrooms is largely related to the teachers with the highest predictors of the overall quality of an inclusive classroom being teachers' opinions on inclusion, having education in inclusion, and their relationships with CWD. The factors related to teachers were identified as predictors of the quality of inclusion which may support the notion that the teachers are a critical factor in inclusive preschools (Avramidis, Bayliss, & Burden, 2000; Burke & Shutherland, 2004; Hestenes & Carroll, 2000; Odom, 2000; Wolery & Wilbers, 1994). In this regard, our results can be considered as in line with the findings of Buysse et al. (1999) who indicated that the teachers' education, experience, knowledge, and skills are the most important indicators of overall quality of preschool inclusion. Keeping in mind the studies explained above, this study is thought to reveal important indicators of the steps to be taken to improve the quality of preschool inclusion. It is a cornerstone for the quality that the educators who work with the preschool children have education on preschool inclusion and related topics (Fukkink & Lont, 2007), and teachers who have better education would more likely to have more positive attitudes towards inclusion (Hsien, Brown, & Bortoli, 2009). Therefore, improving the quality of preschool inclusion requires teachers to be enrolled in professional development programs and provided necessary support.

Thirdly, the studies related to overall quality in international literature indicate that the quality of inclusive preschool classrooms in Turkey and Greece are similar and mediocre in both countries, while the quality scores of the classrooms in the USA is better than the other two countries (Fyssa & Vlachou, 2015; Muccio et al., 2014; Vlachou & Fyssa, 2016; Yılmaz, 2014). In Greece, likewise in Turkey, teachers have limited competence in providing children's participation in classroom activities, supporting their engagement and guiding their play (Fyssa & Vlachou, 2015; Vlachou & Fyssa, 2016). In a study that was conducted in the USA Head Start classrooms by Muccio et al. (2014), the quality scores of classrooms range between minimal and good. Although the attitudes of teachers about preschool inclusion are positive, it is emphasized that there are important obstacles for preschool inclusion quality such as professional development inadequacies, conditions of classroom environment and lack of personnel capacity. Considering together the many factors that affect inclusive practices (Loreman, 2007), as well as the differences and similarities in the systems of different countries, it is apparent that not only teacher education and support but also the systems for effective and successful preschool inclusion should be considered by policy makers, principals, and researchers who investigate the many aspects of the inclusive classrooms.

Limitations and Suggestions

This study is a critical one which shows the predictive variables of the quality of the inclusive preschool classrooms in our country. The findings of this study on the one hand support the results of the previous studies which examined the quality of inclusive preschool classrooms in our country; on the other hand, in the current study due to data collection utilizing observations, realistic information regarding quality of the classrooms were provided. Moreover, considering the fact that there are a limited number of studies which have examined the predictive variables of quality of preschool classrooms, this study is thought to significantly contribute to the field. However, while the findings of this study are interpreted, some limitations of it must be considered. In this regard, following suggestions can be made for future studies. Firstly, as the scores on ICP, which was used to assess the general quality, were both too low and homogenous, the psychometric properties of the scale was not examined in detail yielding a need to further examine the validity and reliability of ICP by collecting more data. Secondly, variables that predict the classroom quality in this study were limited to the children's developmental functioning, student-teacher relationship, opinions of teachers regarding inclusion, whether they had courses about inclusion and group size variables. Different variables related to the teachers, children, and schools that could affect the overall quality of the classrooms (e.g., adaptation that the teachers use, problem-solving skills, interaction/communication among children, physical conditions of the school, and so forth) can be included in future research, and thus detailed information regarding various dimensions of the quality can be obtained. Finally, the data of this research were collected from independent public kindergartens in Ankara city. In future research, data from different cities, special or public preschools can be obtained to examine the quality of preschool classrooms where children with special needs are educated and variables that predict preschool inclusion quality can be examined in our country in detail.

Conclusion

This study has shown that the general quality of the inclusive preschool classrooms is between "poor" and "limited" and student-teacher relationship, teachers' opinions related to inclusion, having courses about inclusion predict the quality of the classrooms. The findings of the study provide a unique perspective for quality of inclusive classrooms. Hence the quality of preschool inclusion is related to the variables associated with teachers, to increase the quality improvements must be made in these variables. Therefore, considering the fact that the most critical variable for preschool inclusion is the classroom quality, supporting teachers about the effective inclusive practices and have them gain knowledge and experience regarding this become priority issues.

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