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The Effects of Preschool Teachers' Qualification and Competency on Young Children's Development

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Abstract

The purpose of the study was to examine the effects of preschool teachers' qualification (education level, teaching experience, major, and certification) and competency variables (teaching efficacy and teacher-child interaction) on young children's development (cognition, language, and social development). The data came from 5th Wave of Panel Study on Korean Children (PSKC) from the Korea Institute of Child Care and Education, and the multiple regression analyses as well as Pearson's correlation analyses were used. The results showed the positive associations between teachers' competency (teaching efficacy and teacher-child interaction) and child development. However, we did not find significant effects of teachers' qualification on young children's development. Based on the results, we proposed a policy implication that teacher qualification needed to be discussed with teacher competency to improve teacher quality.

Keywords: *Early childhood teachers of Korea, teachers' competency, teaching efficacy, teacher-child interaction*

1. Introduction

Preschool teachers are one of the key factors that profoundly affect young children's development. Previous studies have shown that preschool teachers' qualification and competence are closely related to quality of teaching and positive development of young children [1-3]. In order to improve the teacher qualification, the researchers have suggested some major policy implications such as integrating different types of certificates, requiring of the minimum level of education, or even taking national-wise examinations [4]. In addition, standardization of basic salary and policy alternatives to minimize the salary gaps among various types of preschools were also proposed as ways to improve preschool teachers' working condition [5].

Teachers' variables such as education level, teacher certification, and teaching experience are important and regarded as the structural quality [6]. For improving quality of teaching in early childhood education, the OECD report [7] advises on jurisdictions to require preschool teachers to have at least a bachelor's degree. This suggestion is based on the previous studies that preschool teachers should acquire general knowledge [3] and intellectual ability above average [8] to teach the young children. Teachers' education level and certification are also considered for the indicators of teacher quality [9], and having bachelor's degree and teacher certificate were reported as factors to increase the effectiveness of early childhood education and care [10].

However, Tout, Zalow, and Berry [11] found that there was little association between teachers' certificates and quality of teaching. Shin & Oh [12] also reported that preschool teachers' education level and the years of teaching experiences did not predict the quality of teaching. In addition, there has been no research that

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examined the relationship between preschool teachers' major and teaching quality along with child development. Therefore, more empirical research is required on the effects of teacher qualification variables on the early childhood development.

On the other hand, preschool teachers' competency variables are associated with the process quality which is the important aspect of effective teaching [13]. Bandura [14] views teachers' teaching efficacy as the most important mechanism for conscious teaching behaviors that influence their teaching. Cobanoglu and Capa-Aydin [15] suggest that preschool teachers' teaching efficacy exerts its influence on implementing the national curriculum. In other words, preschool teachers' teaching efficacy influences teaching behaviors, and as a result it also influences child development.

The teacher-child interaction is another important factor of preschool teachers' competency [16-17]. The teacher-child interaction has impacts on the learning process of young children. Teacher-child interaction is not only related with teaching efficacy but also positively associated to children's language, cognitive, and social development [18]. In other words, effective teachers provide high-quality teaching and show high-competency on interaction with children. It is assumed that preschool teachers' teaching efficacy influences how teachers implement the curriculum, with which might be positively associated with the development of young children. Preschool teachers' competency on teacher-child interaction influences on children's development in social skills such as peer interaction [19]. Moreover, the quality of teacher-child interaction has impacts on child's language and cognitive development [20].

Based on the related literature review above, the present study investigated the relationships between preschool teachers' qualification variables (education level, teaching experience, major, and teacher certificates) as well as their competency variables (teaching efficacy and teacher-child relationship) and young children's development in language, cognition, and social aspects. The research question for the study is:

[Research question] How do preschool teachers' qualification variables (education level, teaching experience, major, and certification) and competency variables (teaching efficacy and teacher-child interaction) affect young children's development?

2. Method

2.1. Subjects

Data came from a nationwide longitudinal study, the Panel Study on Korean Children (PSKC) of the Korea Institute of Child Care and Education (KICCE). Data have been collected from 2008, and the data from 2008 (Wave 1) to 2015 (Wave 8) are available to the public. Data from the PSKC were collected through a stratified multistage sampling technique, and 2,150 families chose to participate in the Wave 1 of PSKC in 2008 [21]. We examined Wave 5 (children were age 4; 1,703 families) in the present study, and the subjects were 970 four-year-old children whose parents as well as their childcare center/kindergarten teachers participated in the surveys along with their teachers. Trained Investigators of KICCE visited the sample households and childcare centers/kindergartens in order to conduct interviews using Computer-Assisted Personal Interviewing or sent survey questionnaires.

Among 970 young children 51.8% were boys, and 48.2% were girls. In terms of birth order, the majority were the first or the second child; first child 44.5%, the second child 44.1%, and the third or up 11.4%. The range of age was 50 months to 55 months; 50 months 12.1%, 51 months 22.7%, 52 months 29.5%, 53 months 24.9, 54 months 7.5%, and 55 months 0.3%. In terms of education and care institution, 65.4% of young children went to childcare centers, and 34.6% went to kindergartens. Age of teachers at childcare centers/kindergartens ranged 24 to 57 years. In terms of education level, 9.5% of teachers graduated from high schools/vocational institutions, 88.6% graduated from colleges/universities, and 0.2% graduated from graduate schools.

2.2. Measures

2.3.1. Young Children's Development

For young children's development, the present study used the composite scores of two measures; Language and Cognitive Development Scale (LCDS) [22] and the Penn Interactive Peer Play Scale (PIPPS) [23]. LCDS consisted of 24 items, and teachers responded to the questions on checklist (1 = *Yes*, and 0 = *No*). Responses were summed, with higher scores indicating higher ability in language and cognitive development. Coefficient α for this measure was .84. PIPPS was used to measure young children's social development since their interactions in peer play was regarded as indicators of young children's social development [24]. PIPPS was translated into Korean and established its validity and reliability in a Korean sample by Choi and Shin [25]. This subscale consisted of 30 items, and teachers responded to questions on a 5-point Likert-type scale (1 = *not at all* to 5 = *all the time*). Responses were summed, with higher scores indicating desirable social interactions. Coefficient α for this measure was .89.

2.3.2. Teachers' Qualification

Teachers' qualification was composed of education level, teaching experience, major, and teacher certification. Education level included high schools/vocational institutions, colleges/universities, and graduate schools. Teaching experiences was measured in years of teaching experiences. Major included early childhood education, childcare/child studies, and others. Certification included two types; childcare teachers' certificate and kindergarten teachers' certificate.

2.3.3. Teaching Efficacy

Teaching efficacy was measured using Teaching Efficacy Scale (TES) that was developed by Kim and Kim [26]. TES consisted of 7 items, and teachers responded to questions on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). Responses were summed, with higher scores indicating higher teaching efficacy. Coefficient α for this measure was .84.

2.3.4. Teacher-child Interaction

Teacher-child interaction was measured using Teacher-child Interaction subscale from Early Childhood Observation Instrument (ECOI) [27]. Kim [28] translated the scale into Korean and established its validity and reliability in a Korean sample. This subscale consisted of 10 items, and teachers responded to questions on a 5-point Likert-type scale (1 = *not at all* to 5 = *all the time*). Responses were summed, with higher scores indicating desirable teacher-child interactions. Coefficient α for this measure was .89.

2.3. Data Analyses

The data was analyzed using SPSS ver. 12.0. Descriptive statistics such as means and standard deviations along with Pearson's product moment correlation coefficient were yield. To test the research question, a multiple regression analysis was conducted.

3. Results

3.1. Preliminary Analyses

Means, standard deviations, and correlations among the main study variables are presented in Table 1. Child development (M = 23.37, SD = 4.03) was positively correlated with teaching efficacy (M = 3.38, SD = .46; r= .31, p < .01) and teacher-child interaction (M = 4.22, SD = .45; r = .29, p < .01). In addition, the association between teaching efficacy and teacher-child interaction was significantly moderate in a positive direction (r = .36, p < .01).

Table 1. Means, Standard Deviations, and Correlations for the Main Study Variables

	Teaching efficacy	Teacher-child interaction	Child development
Teaching efficacy	-		
Teacher-child interaction	.36**	-	
Child development	.31**	.29**	-
M	3.83	4.22	23.37
SD	.46	.45	4.03

** $p < .01$

Table 2. Results of multiple regression analyses

Independent variables		Child development		
		B	*β*	*t*
Constant		14.66	-	10.69***
Education level	High schools/vocational institutions[d]	-.35	-.04	-.87
	Colleges/universities[d]	-.08	-.01	-.19
	Graduate schools[d]	-.81	-.04	-.99
Teaching experience		-2.09	-.02	-.49
Major	Early childhood education[d]	.49	.06	1.00
	Childcare/child studies[d]	.26	.03	.64
Certification	Kindergarten teacher's certificate[d]	-.08	-.01	-.23
	Childcare teacher's certificate[d]	.67	.08	1.45
Teaching efficacy		1.26	.14	3.42**
Teacher-child interactions		.83	.10	2.20*
F			5.63***	
R^2			.06	

** $p < .01$, *** $p < .001$
[d] dummy variable

3.2. Effects of Teacher Qualifications, Teaching Efficacy, and Teacher-child Interaction on Child Development

The multiple regression analysis was conducted to investigate the effects of preschool teachers' qualification, teaching efficacy, and teacher-child interaction on young children's development. We used teachers' qualification (education level, teaching experience, major, and certification), teaching efficacy, and teacher-child interaction as independent variables with young children's development as a dependent variable. Teachers' education level, major, and certification are converted to dummy variables and added to the model. The results of the multiple regression analysis were presented in table 2. The regression model was statistically significant ($F = 5.63$, $p < .05$). While teachers' qualification variables were not statistically significant, both teaching efficacy ($t = 3.42$ $p < .05$) and teacher-child interaction ($t = 2.20$, $p < .05$) were statistically significant as predictors of young children's development. These variables of teachers' competence were positively associated with child development, explaining 5.5% of variances in child development ($R^2 = .055$). Furthermore, teaching efficacy ($\beta = .14$) was more associated with child development than teacher-child interaction was ($\beta = .10$).

4. Conclusion and Discussion

The present study was designed to examine whether preschool teachers' qualification (education level, teaching experience, major, and teaching certification) and competency (teaching efficacy and teacher-child interaction) is associated with young children's development. In this sample of the 5th Wave of PSKC, we found some evidence for effects of preschool teacher's competency variables such as teaching efficacy and teacher-child interaction on young children's development. However, we did not find significant effects of teachers' qualification such as education level, teaching experience, major, and certification on young children's development.

Overall, the current study proved the importance of preschool teachers' competency such as teaching efficacy and teacher-child interaction in young children's development. This result supports some previous findings that partially proved the association of teachers' teaching efficacy and teacher-child interaction with children's developmental outcomes [29-30]. Furthermore, the findings suggest that the important aspects in teaching might be not just external structural qualification but internal competency that teachers possess. This finding does not mean that teachers' qualification is invalid but put some emphases on quality control for appropriate pre-service and in-service teacher education programs. Based on the results of the current study, we suggest that teacher training programs should try to enhance teachers' teaching efficacy and include practical sessions on teacher-child interaction.

As a limitation, since this study used 5th Wave of the PSKC, more research is needed to generalize the findings. In addition, we suggest future research with additional variables that are related to teacher qualification and competencies in order to validate preschool teachers' impacts on child outcomes more in detail. For instance, it was reported that if the types of institutions and working condition change, the relationships between teacher quality and child outcomes might also change [31], and workforce qualifications affected teachers' competence [32]. Despite the aforementioned limitations, the present study contributes to our understanding of preschool teachers' competency in young children's development by examining these issues using a nationwide sample.

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