

## The Effects of Early Childhood Teachers' Professional Development and Intrapersonal Intelligence on Their Teacher-Child Interactions

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**Abstract:** Quality childcare and education play a significant role in the well-being of children (Kim & Yang, 2016). One of the vital factors of quality childcare and education is teacher-child interactions (Kim & Kim, 2020). The purpose of this study is to examine the professional development and intrapersonal intelligence of early childhood teachers on their teacher-child interactions. The sample comprised of 324 early childhood teachers in South Korea. The empirical data was collected by administering the Professional Development Scale for Early Childhood Teachers (Baik & Cho, 2004), the Adult Introspective Intelligence Scale (An & Oh, 2013), and the Teacher-child Interaction Scale (Lee, 2003). The collected data was analysed using SPSS 24.0, along with descriptive statistics, Pearson's correlation analysis, and the analysis of multiple regressions. The results revealed statistically significant positive correlations between professional development, intrapersonal intelligence, and teacher-child interactions of early childhood teachers. Moreover, early childhood teachers' professional development and intrapersonal intelligence statistically significantly affected their teacher-child interactions. This finding suggests that the professional development and intrapersonal intelligence of teachers should be supported and improved to increase the quality of teacher-child interactions. Theoretical and practical implications along with directions for further research are discussed.

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### 1. Introduction

The numbers of working women and dual-income families have dramatically increased in South Korea. With this increase, the types of parenting for young children have also changed from home-based caring to center-based caring. Since most young children are enrolled in childcare institutions such as kindergarten classrooms and childcare centers, interest in improving the quality of care and education in early childhood has also increased. Teachers in childcare institutions play several important roles which include both parenting and teaching in everyday routines so the quality of interactions of teachers with young children directly affects the young children's socio-emotional and language development (Kim, 2015). Teacher-child interactions are also important in that they provide a framework and guidelines for young children to understand and interact with others in early social relationships (Kweon, 2013). Therefore, we focused on the importance of teacher-child interactions of early childhood teachers and investigated the factors related to them.

### 2. Significance of the Study and Review of Related Studies

Kim (2015) and Kweon (2013) have suggested that the professional development of early childhood teachers is a crucial factor in determining the quality of teacher-child interactions. The professional development of teachers encompasses various aspects of teacher development, which include the level and process of thinking for teachers, the cognitive processes and beliefs inherent in their actions, and the self-concept of themselves as teachers (Baik & Cho, 2004). Early childhood teachers, as professionals, need to acquire professional knowledge and skills, as well as the ability and autonomy to apply them in practice (Oh & Han, 2005). Thus, early childhood teachers need to recognize themselves as professionals in education and continuously strive to perform their required roles, such as learning enough knowledge and skills, looking back on themselves, and having critical and reflective thinking (Kim, 2015).

A high level of professional development in teaching leads to the quality childcare and education (Kang & Chung, 2018). Previous researchers have linked higher professional development with better teacher-child interactions (Kim, 2015), (Kim, 2013), (Lee, 2019). That is, the level of professional development of early childhood teachers was shown to have direct correlations with their own teacher-child interactions. The previous study with childcare teachers (Kweon, 2013) also reported that teachers with a high level of professional development showed excellent performance in their teacher-child interactions.

On the other hand, the intrapersonal intelligence of early childhood teachers was reported as another variable that affects teacher-child interactions. Intrapersonal intelligence is one of eight multiple intelligences proposed by Gardner (2001). Intrapersonal intelligence refers to the various abilities that are related to know oneself, understand one's emotion, thoughts, desires, and fears, figure out one's capability, and establish one's identity through self-

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reflection (Seo & Kim, 2018). This is regarded as an important type of intelligence that enables individuals to understand and regulate their abilities and emotions so that they can outline their future and eventually achieve self-realization. Intrapersonal intelligence, the basis of all the other types of intelligence, also plays as a drive that can activate other types of intelligence (An & Oh, 2013). Humans can achieve social and psychological maturity by observing and looking back on their inner selves through intrapersonal intelligence (Jeong, 2018). Intrapersonal intelligence, as a result, was found to help early childhood teachers improve their quality in teaching by objectively understanding themselves (Shin, 2014). The results of previous research indicated that early childhood teachers with a higher level of intrapersonal intelligence showed a higher level in their teacher-child interactions (Seo & Kim, 2018), (Shin, 2014). Although few studies examined the effects of the intrapersonal intelligence of early childhood teachers on teacher-child interactions, we may infer its impact based on the relationships reported in previous studies.

Although the professional development and intrapersonal intelligence of early childhood teachers are related to their teacher-child interactions, previous researchers have not addressed how those variables are comprehensively related. Therefore, we analyzed the relationship between them and investigated the effect of the professional development and intrapersonal intelligence of Korean early childhood teachers on their teacher-child interactions.

### 3. Objectives of the Study

- To find out the relationships between the professional development, intrapersonal intelligence, and teacher-child interactions of early childhood teachers in South Korea.
- To find out the effects of professional development and intrapersonal intelligence of early childhood teachers in South Korea on their teacher-child interactions.

### 4. Research Questions of the Study

- **Research question 1.** What are the relationships between the professional development, intrapersonal intelligence, and teacher-child interactions of early childhood teachers in South Korea?
- **Research question 2.** How does the professional development and intrapersonal intelligence of early childhood teachers in South Korea affect their teacher-child interactions?

### 5. Research Methods

#### 5.1. Population and Sample

The population includes early childhood teachers of South Korea. The investigators used simple random sampling technique and randomly selected 324 early childhood teachers in South Korea. As for the background information of the sample, 54.6% ( $n = 177$ ) were single and 45.3% ( $n = 147$ ) were married. In terms of their teaching experiences, 84.6% ( $n = 274$ ) worked under 10 years, 14.2% ( $n = 46$ ) worked 11-20 years, and 1.2% ( $n = 4$ ) worked over 21 years. In terms of the ages of the participants, 18.8% ( $n = 47$ ) were under 25, 27.2% ( $n = 68$ ) were 25-29 years old, 29.6% ( $n = 74$ ) were 30-39 years old, and 24.4% ( $n = 61$ ) were over 40 years old. As for the educational levels of the participants, 4.3% ( $n = 14$ ) graduated only from high school or training centers, 25.9% ( $n=84$ ) graduated from a 2-3 year college, 62.3% ( $n = 202$ ) graduated from a 4 year college, and 7.4% ( $n = 24$ ) graduated from graduate schools.

#### 5.2. Procedure to Collect the Data

We distributed self-report questionnaires from December 20, 2019 to February 21, 2020 to 340 early childhood teachers who were working as homeroom teachers for 3-5-year-olds in kindergarten classrooms and child care centers in Metropolitan areas of South Korea. Participants were informed of their rights and were assured that their participation in the survey was voluntary and their responses would be kept confidential. We distributed the questionnaires and asked the subjects to answer them, then collected the completed forms. After we eliminated the survey questionnaires that showed unusual patterns in the replies (such as repeating the same numbers throughout the questionnaire) and those left unanswered, 324 valid questionnaires (95.3%) were retained and utilized in the data analyses.

#### 5.3. Measures

**Teacher-child interactions.** We measured teacher-child interactions using The Scale of Teacher-Child Interactions of Early Childhood Teachers, which was developed and validated by Lee (2003). The scale consists of 30 items (e.g., "I support young children to participate in activities with proper behavior when they are not engaged."). Three sub-scales are emotional interactions (10 items), verbal interactions (10 items), and behavioral interactions (10 items). The questionnaires were rated on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The higher the score was, the higher was the level of a teachers' teacher-child interaction.

Cronbach's  $\alpha$  in this study was .93 for emotional interactions, .90 for verbal interactions, .88 for behavioral interactions, and .97 for the total.

**Professional development.** We measured the professional development using The Scale of the Professional Development of Early Childhood Teachers, which was developed and validated by **Baik and Cho (2004)**. The scale consists of 55 items (e.g., "I think an early childhood teacher is a good vocation for me."). The three sub-scales are knowledge and skills (27 items), self-understanding (13 items), and ecological context (15 items). The questionnaires were rated on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Cronbach's  $\alpha$  in this study was .94 for knowledge and skills, .92 for self-understanding, .86 for ecological context, and .96 for the total.

**Intrapersonal intelligence.** We measured intrapersonal intelligence using the Intrapersonal Intelligence Scale for Adults, developed and validated by **An and Oh (2013)** and the revision for early childhood teachers, by **Choe (2018)**. The scale consists of 35 items including four sub-scales: self-reflection (6 items), self-understanding (9 items), self-regulation and emotional use (15 items), and self-planning (8 items). The questionnaires were rated on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Cronbach's  $\alpha$  in this study was .82 for self-reflection, .89 for self-understanding, .67 for self-regulation and emotion, .91 for self-planning, and .91 for the total.

#### 5.4. Statistical Techniques Used in the Study

All statistical analyses were conducted using SPSS version 24.0. Descriptive analyses such as frequencies and means (*SD*) were calculated to figure out the background information of the subjects and the tendencies of the main variables. Cronbach's alpha was calculated to verify the reliabilities of measures used in this study. In order to answer the first research question and to test the statistical significance, we conducted Pearson's correlation analysis. Also, in order to answer the second research question and to determine whether professional development and intrapersonal intelligence affect teacher-child interactions, we conducted multiple regression analyses.

#### 6. Data Analysis and Interpretation

**Table.1.** Descriptive statistics and correlations between professional development, intrapersonal intelligence, and teacher-child interactions ( $N=324$ ).

Variables	①	②	③
① Professional Development	-		
② Intrapersonal Intelligence	.63**	-	
③ Teacher-Child Interactions	.76**	.63**	-
<i>M (SD)</i>	4.01 (.47)	3.87 (.45)	4.06 (.47)
<i>Skewness</i>	-.43	.07	-.51
<i>Kurtoses</i>	1.42	1.68	2.05

\*\*  $p < .01$

#### Interpretation of table-1.

The means and standard deviations for the study variables were as follows: professional development ( $M = 4.01$ ,  $SD = .47$ ), intrapersonal intelligence ( $M = 3.87$ ,  $SD = .45$ ), and teacher-child interactions ( $M = 4.06$ ,  $SD = .47$ ). The skewness (-.51~.07) and kurtosis (1.42~2.05) of the main variables indicated no violations of the normality of the distribution assumption. An examination of the correlations between the study variables were statistically significant ( $r = .47-.63$ ,  $p < .01$ ). As shown in Table 1, both the professional development ( $r = .76$ ,  $p < .01$ ) and intrapersonal intelligence ( $r = .63$ ,  $p < .01$ ) of the early childhood teachers were statistically significantly associated with their teacher-child interactions. The results imply that higher levels of professional development and intrapersonal intelligence were positively correlated with better teacher-child interactions.

**Table.2.** Effects of professional development and intrapersonal intelligence of early childhood teachers on teacher-child interactions ( $N = 324$ ).

Independent Variables	Teacher-Child Interactions			
	B	S.E.	$\beta$	$t$
(Constant)	.65	.16	-	4.20***
Professional Development	.61	.05	.61	13.56***
Intrapersonal Intelligence	.25	.05	.24	5.41***
$F = 253.99^{***}$ ( $Adj.R^2 = .61$ )				

\*\*\* $p < .001$ **Interpretation of table-2.**

For research question 2, the analyses of multiple regressions were conducted with the teacher-child interactions of early childhood teachers as the dependent variable and the two other factors (professional development and intrapersonal intelligence) as independent variables. As the variance inflation factor (1.66) and the tolerance limit (.60) were within acceptable limits, multicollinearity was not an issue. As shown in Table 2, the multiple regression model with the predictors of professional development and intrapersonal intelligence produced the following results:  $F = 253.99$ ,  $p < .001$ . Overall, both professional development ( $t = 13.56$ ,  $\beta = .61$ ,  $p < .001$ ) and intrapersonal intelligence ( $t = 5.41$ ,  $\beta = .24$ ,  $p < .001$ ) in the regression model positively affected teacher-child interactions. Together, the independent variables accounted for 61.0% ( $Adj.R^2 = .61$ ) of the variance in overall of the teacher-child interactions.

**7. Discussion and Recommendations**

The purpose of the study had two folds. One was to examine the relations between the professional development, intrapersonal intelligence, and teacher-child interactions of early childhood teachers. The other was to verify the effects of the professional development and intrapersonal intelligence of early childhood teachers on teacher-child interactions. First, the results showed a positive correlation between the professional development, intrapersonal intelligence, and teacher-child interactions of early childhood teachers. Our finding of the correlation between professional development and intrapersonal intelligence supports the result of the previous research done by Shin with early childhood teachers (Shin, 2014). Our finding is also in line with the results of previous research with childcare teachers as participants (Kim, 2013), (Kweon, 2013). The finding of the correlation between intrapersonal intelligence and teacher-child interactions supports the view that the high intrapersonal intelligence of early childhood teachers is associated with a high level of teacher-child interactions (Seo & Kim, 2018), (Shin, 2014).

Second, the results indicate that both professional development and intrapersonal intelligence positively affected teacher-child interactions. Our findings support the previous research results where the professional development of childcare teachers has a positive impact on their interactions with young children (Kweon, 2013), (Kim, 2013), (Lee, 2019). Kim (2015) also reported that the high recognition level of professionalism of teachers positively affect teacher-child interactions. The result in this study that the level of early childhood teachers' professional development positively affect their interactions in all subcategories of emotional, verbal, and behavioral interactions support the previous research are also consistent with the previous research results (Kweon, 2013), (Kim, 2013).

On the other hand, the intrapersonal intelligence of early childhood teachers was found to have a significantly positive effect on teacher-child interactions. This result is noteworthy because there has been little research on the mechanism whereby intrapersonal intelligence has an influence on practical interactions between teachers and young children. Our finding suggests that intrapersonal intelligence enhances teacher-child interactions, which also provides for the practice of quality childcare and education. This result could be interpreted with the importance of intrapersonal intelligence that is closely related to reflective thinking.

**8. Conclusion**

This study verifies that the professional development and intrapersonal intelligence of early childhood teachers can predict how a teacher-child interaction will be. Our results have some practical implications that highlight the importance of personal psychological factors, such as professional development and intrapersonal intelligence. Not only principals but also teachers should acknowledge that practical teacher-child interactions can differ by the level of professional development and intrapersonal intelligence. Considering that the interactions of early childhood teachers with young children are the key factors of quality care and education, the professional development and

intrapersonal intelligence of teachers must be encouraged and facilitated via teacher education programs and environmental support.

## Notes

This article is a part of the first author's master's thesis and was presented as a poster at the 2020 International Integrated Conference & Concert on Convergence.

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