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EDITED BY

Luis Felipe Dias Lopes,
Federal University of Santa Maria, Brazil

REVIEWED BY

Francisco Manuel Morales Rodriguez,
University of Granada, Spain
Daniela Pegoraro,
Federal University of Santa Maria, Brazil

*CORRESPONDENCE

Jiyoung Lee
✉ jlee@tsu.edu.ph

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The mediating effect of teacher commitment in the relationship between burnout and role performance of early childhood teachers

Sungwon Kim¹ and Jiyoung Lee^{2*}

¹Industrial Education Department, Chongshin University, Seoul, Republic of Korea, ²College of Arts and Social Studies, Tarlac State University, Tarlac City, Philippines

The purpose of this study is to examine the mediating effect of teacher commitment on the relationship between burnout and role performance of early childhood teachers. The sample consisted of 207 early childhood teachers in Seoul and Gyeonggi Province, selected through convenience sampling. Data collection was conducted over a period of 1 month in November 2020 with teachers who agreed to participate in the study. The results of this study were as follows: First, there was a negative correlation between early childhood teachers' burnout and commitment, and between burnout and role performance. Furthermore, there was a positive correlation between teachers' commitment and role performance. Second, early childhood teachers' teacher commitment was found to partially mediate the relationship between burnout and role performance. This study is significant in that it is being published at a time when the integration of early childhood education and childcare is just beginning in South Korea, and it addresses the topic of teachers who will be most directly affected by the integration.

KEYWORDS

early childhood teachers, burnout, teacher commitment, role performance, kindergarten, childcare center

1 Introduction

Early childhood is a critical period for laying the foundation for life, particularly in relation to the people with whom children interact. Specifically, early childhood is a period in which life habits, behavioral methods, and understanding of situations are acquired through imitation. Therefore, the behavior, tone, and attitude of early childhood teachers may have a direct impact on young children (Cho et al., 2018). In that sense, highly qualified teachers are key to a high-quality early learning experience. Research has proven that children who attend high-quality preschool are better prepared for school and their future careers (NAEYC, 2015). The quality of teachers is also crucial for parents to feel comfortable leaving their children in the educational institution (Kim, 2019).

Previous research shows that the quality of early childhood education is influenced by teachers, and that teacher quality and role performance are important variables (Lee and Lee, 2006). Phajane (2014) also argued for the importance of the teacher's role in childcare quality, emphasizing that nothing is more important than the good performance of early childhood teachers who have actual interaction with and direct influence on children. For this reason, it is necessary to improve the work competency of early childhood fields by enhancing teachers' role performance and responsibility which have a decisive influence in the process of early

childhood development. The role performance of the early childhood teacher means performing the expected behavioral patterns for the job and status of a teacher (Phajane, 2014). The roles required of early childhood teachers are diverse. Teachers are required to play the role of caregivers who provide sensitive, responsive, and warm care. They are expected to perform professional roles as a learning facilitator, a learning environment organizer, an educational activity planner, and a curriculum evaluator. They are also required to serve as parent educators and counselors, as well as perform administrative duties (Nam and Jo, 2021). Unlike elementary, middle, and high school, early childhood education does not have a set textbook, therefore early childhood teachers make many decisions about curriculum and operations (Choi, 2021). In addition, early childhood teachers have a more comprehensive and diverse role than elementary, middle, and high school teachers and must demonstrate the ability to be flexible in the operation of the early childhood curriculum (Kim and Seo, 2019).

Early childhood teachers play important and diverse roles but experience physical and psychological challenges due to overwork, poor treatment, and low social recognition (Lee and Cha, 2022; Nam and Jo, 2021). Adapting to the recently revised national curriculum (Lee and Cha, 2022) also lead to psychological burnout in early childhood educators, and burnout can lead to negative experiences in all aspects of an individual's life, including lethargy, low motivation, and loss of energy, leading to a decrease in quality of life (Koo et al., 2017) and further contributing to turnover (Choi, 2017; Park, 2019). Psychological burnout in early childhood teachers can affect their quality of life, lower the quality of education, and negatively impact young children. Therefore, the prevention and management of psychological burnout is important not only for the health of early childhood teachers but also for the holistic development of young children (Nam and Jo, 2021).

Teacher commitment is an important factor for teachers (Yidiz, 2017), and teacher commitment affects the quality of teaching and performance (Dee et al., 2006; Rayo et al., 2022). The success of education depends on teachers' skills, knowledge, attitudes, and values, as well as their professional competence and commitment based on their responsibility for effective teaching (Mwesiga and Okendo, 2018). Recent empirical research has shown that individualized teaching, family support for learning and teacher commitment affect children's well-being (Rahmatullah et al., 2024). High commitment is a characteristic of a passionate teacher and has a positive effect on student achievement (El Kalai et al., 2022; Kushman, 1992). In the case of early childhood teachers, the higher the teacher's commitment, the greater the educational effect, and the higher the teacher's sense of unity and immersion in the early childhood education institution, the higher the quality of educational performance (Kang and Shon, 2017).

Studies regarding early childhood teachers' role performance have been conducted on the relationship between self-leadership, teaching passion (Seo and Park, 2021), and teaching effectiveness (Kim and Seo, 2019). However, research on the relationship between burnout and teacher commitment is scarce. Therefore, this study aims to examine the mediating effect of commitment in the relationship between early childhood teacher's burnout and role performance. The results of this study will broaden the understanding of the variables related to the role performance of early childhood teachers and are expected to be preliminary data for enhancing the role performance of early childhood teachers.

2 Theoretical background

2.1 Burnout and role performance

Burnout is an individual's psychological and physical exhaustion that occurs in the course of work (Freudenberger, 1974). Maslach and Jackson (1986) defined burnout as including the following three characteristics: First, emotional exhaustion refers to the state where an individual depletes their emotional resources, unable to muster the energy or capacity required to give of themselves or care for others any longer. Second, depersonalization in interpersonal contexts manifests as impersonal and dehumanizing attitudes or emotions in relationships. It typically presents as negative, cynical attitudes or reactions to clients, colleagues, or work situations. Third, reduced personal accomplishment is characterized by a tendency to evaluate one's work negatively and a reduced sense of satisfaction or efficacy in one's work. Psychological burnout is emotional exhaustion, which is a state of mind in which an individual is unable to devote themselves fully to their work, expresses cynical and negative attitudes and emotions to themselves and others, and leads to a negative evaluation of others and oneself due to a lack of personal achievement (Maslach et al., 2001). In the case of early childhood teachers, as a result of exposure to severe physical and psychological stress coming from excessive work, poor work environment, and low quality of life, their power, energy, motivation, and enthusiasm to perform the duties are reduced and exhausted (Koo et al., 2017). In addition to psychological symptoms such as decreased enthusiasm for the teacher's job and low self-esteem, burnout causes physical symptoms such as headaches and insomnia, making it difficult to perform successful duties (Choi, 2021). A high level of burnout is a major cause of early childhood teacher turnover (Choi, 2017; Park, 2019). Furthermore, teacher turnover leads to turnover of fellow teachers, lower morale, and lower quality of early childhood education (Yang, 2011). It has been shown that the higher the burnout of the early childhood teacher, the more difficult it is to fulfill the role (Cho, 2015). However, it was found that there is no significant relationship between burnout and the role performance of early childhood teachers (Lee and Moon, 2015). Given these inconsistent results, this study tries to explore, the relationship between burnout and the role performance of early childhood teachers.

H1: Early childhood teachers' burnout will negatively correlate with role performance.

2.2 Burnout and teacher commitment

Teacher commitment is the psychological attachment that teachers have while operating the curriculum (Ro, 2004). Teacher commitment is the psychological attachment that teachers have while operating the curriculum (Ro, 2004). Research on the relationship between childcare teacher burnout and teacher commitment is an important topic in the fields of education and childcare. Oh (2015) found a significant negative correlation between childcare teacher's burnout and organizational commitment. Akdemir (2019) found a negative and significant relationship between teachers' level of burnout and their level of organizational commitment. Additionally, studies that did not target teachers (Demirel et al., 2017; Yasmin and Marzuki, 2015) reported that as member burnout increases, organizational commitment decreases. Accordingly, this study presented the following hypothesis.

H2: Early childhood teachers' burnout will negatively correlate with teacher commitment.

2.3 Teacher commitment and role performance

Teacher commitment includes values, dedication, and attachment to one's job as a teacher, and efforts to treat young children fairly and develop educational activities (Tyree, 1986). This term is measured by the extent to which teachers lead, guide, train, instruct, assess and evaluate learning as a means of carrying out their tasks (El Kalai et al., 2022). Given this definition and measurement of teacher commitment, it is reasonable to assume that commitment affects role performance. Early childhood teachers' commitment is linked to the quality of education. As mentioned earlier, unlike elementary and secondary schools, teachers in early childhood education have relatively more autonomy and discretion in teaching and learning activities. Therefore, early childhood teachers' commitment leads to a strong psychological attachment to their institution, children, and their teaching and learning activities (Moon, 2010), which in turn leads to efforts to improve their professional development (Firestone and Fennell, 1993). Van Waeyenberg et al. (2022) found that the strength of the performance management process was negatively related to teacher burnout and positively related to performance. Furthermore, the relationship between performance management process strength and teacher performance are related through indirect effect of affective organizational commitment. It is reported that early childhood teachers with high teacher commitment perform their role with pride, pride, and passion (Byeon and Cho, 2022). According to Rayo et al. (2022), Teacher's commitment has a significant positive effect on job performance. Teacher commitment is also reported to have a positive effect on sustainable teaching performance (Alzoraiki et al., 2023). This study presented the following hypothesis.

H3: Teacher commitment will positively correlate with role performance.

2.4 Burnout, role performance, and teacher commitment of early childhood teachers

Teacher commitment is being studied as a variable that mediates the relationship between teacher-related variables (Eginli, 2021; Magsipoc, 2022). Teacher burnout has a negative effect on teacher commitment (Rayo et al., 2022; Wullur and Werang, 2020), and teacher commitment acts as a variable that lowers teacher role performance (Norawati et al., 2022). Based on the findings of previous studies, this study presented the following hypothesis.

H4: The relationship between burnout and role performance will be mediated by teacher commitment of early childhood teachers.

3 Methods

3.1 Data and sample

The subjects of this study were limited to teachers working in kindergartens and childcare centers located in Seoul and

Gyeonggi-do. The number of subjects suitable for this research method was calculated using the G*Power 3.1 program, and the result was more than 100. Two hundred seven copies were used for the final analysis, excluding 24 copies that did not respond faithfully among the 231 collected copies and this number is suitable for the study. In addition, teaching experience was controlled. The general background of the study subjects is as follows (Table 1). The age of 26–30 years old (39.6%), teaching experience of 3–5 years (30.4%), type of institution as childcare center (59.1%), marital status as single (60.9%), and age of children in charge as 3 years (29.5%) are types that represent the highest frequency of each category.

3.2 Research instrument

3.2.1 Burnout

To measure burnout, Maslach and Jackson's (1981) Maslach Burnout Inventory (MBI) used in the study of Mun (2020) was used. This measurement scale consists of a total of 22 items, including 9 items on emotional exhaustion, 5 items on dehumanization, and 8 items on the decrease in personal achievement. This scale is measured using a 5-point Likert scale, strongly disagree (1) to strongly agree (5) with higher scores indicating higher levels of burnout. When analyzing the measurement model of this study, the factor load of the decrease in personal achievement was 0.34, which did not exceed the standard value of 0.50. Therefore, the decrease in personal achievement was excluded from the analysis. The sub-factors and reliability coefficients of the burnout scale are shown in Table 2.

3.2.2 Teacher commitment

To measure teacher commitment, the teacher commitment tool developed by Hong (2005) and modified and supplemented by Kim (2015) to suit early childhood teachers was used. This measurement scale consists of a total of 18 items, including 6 items on class commitment, 6 items on child commitment, and 6 items on organization commitment. This scale is measured using a 5-point Likert scale, strongly disagree (1) to strongly agree (5) with higher scores indicating higher levels of commitment. The sub-factors and reliability coefficients of the teacher commitment scale are shown in Table 3.

3.2.3 Role performance

To measure role performance, the ECTRRS Early Childhood Teacher's Role Rating Scale (ECTRRS) developed by Cho (1997) was used. The measurement scale consists of a total of 70 items, including 15 items on the role of curriculum designer, 14 questions on the role as daily planner and performer, 9 questions on the role as counselor and advisor, 15 questions on the role as researcher, and 17 questions on the role as administrator and manager. This scale is measured using a 5-point Likert scale, strongly disagree (1) to strongly agree (5) with higher scores indicating higher levels of role performance. The sub-factors and reliability coefficients of the role performance scale are shown in Table 4.

TABLE 1 Demographic characteristics of study subjects.

Category	N	%
Age		
Under 25	34	16.7
26–30	82	39.6
31–35	32	15.2
Over 41	59	28.5
Teaching experience		
Under 1 year	14	6.8
1–3 years	53	25.6
3–5 years	63	30.4
5–8 years	43	20.8
Over 8 years	34	16.4
Types of institution		
Kindergarten	83	40.9
Childcare center	124	59.1
Marital status		
Single	126	60.9
Married	81	39.1
Age of children in charge		
0–2 years	43	20.8
3 years	61	29.5
4 years	45	21.7
5 years	45	21.7
Mixed age	13	6.2
Total	207	100.0

TABLE 2 Summary of independent variables.

Sub-factors	Number of items	Mun (2020)	This study
Emotional Exhaustion (EE)	9	0.90	0.86
Depersonalization (DP)	5	0.79	0.82
Total Burnout (TB)	14		0.86

TABLE 3 Summary of mediating variables.

Sub-factors	Number of items	Kim (2015)	This study
Class Commitment (CC)	6	0.73	0.90
Young Children Commitment (YC)	6	0.77	0.87
Organization Commitment (OC)	6	0.81	0.92
Total Teacher's Commitment (TC)	18	0.89	0.94

3.3 Research procedure

A preliminary survey was conducted on 10 early childhood teachers to find out the level of understanding of the questionnaire content on

burnout, role performance, and teacher commitment and the appropriateness of responses. As a result of the preliminary survey, it was found that there were no items difficult for teachers to understand in the questionnaire. The survey was conducted among teachers working in

TABLE 4 Summary of dependent variables.

Sub-factors	Number of items	Cho (1997)	This study
Role as a Curriculum Designer (RC)	15	0.85	0.92
Role as Daily Planner and Performer (RP)	14	0.88	0.91
Role as Counselor and Advisor (RA)	9	0.80	0.85
Role as a Researcher (RR)	15	0.90	0.92
Role as Administrator and Manager (RM)	17	0.91	0.92
Total Role Performance (TRP)	70		0.94

TABLE 5 Descriptive analysis.

		Mean	SD	Skewness	Kurtosis
Burnout	EE	2.41	0.57	-0.21	-0.17
	DP	1.95	0.74	0.91	1.44
	Total	2.25	0.51	0.06	-0.50
Teacher commitment	CC	3.95	0.61	-0.14	-0.64
	YC	4.06	0.57	-0.24	-0.62
	OC	3.85	0.69	-0.41	-0.33
	Total	3.95	0.58	-0.22	-0.66
Role performance	RC	4.15	0.49	-0.46	0.12
	RP	4.32	0.45	-0.79	1.12
	RA	4.32	0.51	-1.15	2.90
	RR	4.08	0.53	-0.38	0.22
	RM	4.05	0.60	-0.69	0.61
	Total	4.18	0.46	-0.79	1.45

early childhood education institutions in Seoul and Gyeong-gi province through the online survey, and 207 were used for analysis.

3.4 Ethical considerations

The study participants were only those who agreed to participate in the study. There were no risk factors in the study. In addition, the research participants were offered a small gift as compensation.

3.5 Data analysis

The data collected in this study was analyzed using the statistical program SPSS ver. 22.0 and AMOS ver. 22.0. First, descriptive statistical analysis and correlation analysis were performed to examine the normal distribution and correlation of variables. Next, to analyze the structure of the research model and to confirm the path among variables, a confirmatory factor analysis was performed using the structural equation model (SEM), and the model validation was performed using the Maximum Likelihood (ML) method. For the fit of the model, $\chi^2(df)$, TLI, CFI, and RMSEA values were comprehensively reviewed. The mediating effect was verified using the bootstrapping method, and the significance of the mediating effect was assessed through the bias-corrected 95% CI, the result of correcting the bias caused by the finite sample.

4 Result

4.1 Descriptive statistics

As a preliminary step before the analysis of the structural equation model, the mean, standard deviation, skewness, and kurtosis were to assess the normality of a distribution of the variable and the results are presented in Table 5. As a result of verifying the normality of each variable, it was found that the skewness was between -0.18 and 0.36, and the kurtosis was between -0.27 and 0.88, satisfying the normal distribution condition of skewness between -2 to +2 and kurtosis between -7 to +7 (Hair et al., 2010). The mean of burnout this subject was 2.25 ($SD = 0.51$) which was lower than the median, and the mean of commitment and role performance was 3.95 ($SD = 0.58$) and 4.18 ($SD = 0.46$), respectively, which were high.

4.2 Correlation analysis

A correlation analysis among early childhood teachers' burnout, teacher commitment, and role performance performed and the results are presented in Table 6. Early childhood teachers' burnout had a significant negative correlation with teacher commitment ($r = -0.22$, $p < 0.01$) and role performance ($r = -0.22$, $p < 0.01$). Teacher commitment of early childhood teachers was found to have a significant positive correlation with role performance ($r = 0.47$, $p < 0.001$).

TABLE 6 Correlation of variables.

	EE	DP	TB	CC	YC	OC	TC	RC	RP	RA	RR	RM	TRP
EE	1												
DP	0.28***	1											
TB	0.87***	0.72***	1										
CC	-0.20**	-0.18**	-0.24**	1									
YC	-0.21**	-0.21**	-0.26***	0.86***	1								
OC	-0.13	-0.10	-0.15*	0.76***	0.81***	1							
TC	-0.19**	-0.17*	-0.22**	0.93***	0.95***	0.93***	1						
RC	-0.13	-0.22**	-0.21**	0.35***	0.40***	0.36***	0.40***	1					
RP	-0.13	-0.26***	-0.23**	0.39***	0.46***	0.41***	0.44***	0.79***	1				
RA	-0.14*	-0.24***	-0.23**	0.38***	0.46***	0.38***	0.43***	0.77***	0.83***	1			
RR	-0.12	-0.21**	-0.20**	0.38***	0.40***	0.34***	0.40***	0.77***	0.71***	0.75***	1		
RM	-0.05	-0.19**	-0.13	0.30***	0.38***	0.37***	0.38***	0.56***	0.59***	0.63***	0.63***	1	
TRP	-0.31	-0.26***	-0.22**	0.41***	0.48***	0.42***	0.47***	0.89***	0.89***	0.91***	0.89***	0.80***	1

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

TABLE 7 Measurement model fit.

	χ^2	df	p	TLI	CFI	RMSEA
Results	52.203	32	0.014	0.980	0.985	0.055
Cut-off	$\chi^2/df < 3$			> 0.90		< 0.08

TABLE 8 Standardized parameter estimates for measurement model.

Latent variable	Measurement variable	Estimate		S.E.	C.R.	AVE	Construct reliability
		B	β				
Burnout	Emotional exhaustion	0.56	0.45	0.21	2.62**	0.74	0.84
	Depersonalization	1.000	0.62				
Commitment	Class devotion	0.94	0.906	0.06	17.04***	0.96	0.99
	Child devotion	0.94	0.96	0.05	18.52***		
	Organization devotion	1.000	0.84				
Role performance	Curriculum designer	1.05	0.87	0.09	11.49***	0.90	0.98
	Performer	1.08	0.89	0.09	11.73***		
	Advisor	1.11	0.90	0.09	11.84***		
	Researcher	1.09	0.84	0.10	11.11***		
	Administrator	1.000	0.69				

** $p < 0.01$; *** $p < 0.001$.

4.3 Assessment of measurement model

The measurement model was verified through confirmatory factor analysis to confirm whether the indicators were properly related to the latent variable. In the first verification of the measurement model, the factor loading of personal accomplishment decrease to burnout was 0.34, which was lower than the cutoff value of 0.50. In addition, the AVE of burnout was 0.34 and the conceptual reliability of it was 0.60, which was lower than the cut off value. For this reason, personal accomplishment decrease was excluded from the analysis. The model fits are χ^2 ($df = 32, p < 0.05$) = 52.203, CNIM/df = 1.631, TLI = 0.980,

CFI = 0.985, RMSEA = 0.055, greater than the cutoff criteria (Yu, 2022) presented in Table 7.

The path of the latent variables with the indicators of burnout, commitment, and role performance was all significant at the p -value of 0.01 or 0.001. In regard to convergent validity, the Average Variation Extracted (AVE) and construct reliability scores need to be higher than 0.50 and 0.70, respectively. And in regard to discriminant validity, the value of Square Root of AVE should be higher than the correlation between constructs (Yu, 2022). In this study, both convergent and discriminant validity is established in the measured constructs. The detailed results of the measurement model verification are presented in Table 8 and Figure 1.

4.4 Assessment of structural model

The results of examining the model fit to identify the mediating effect of commitment in the relationship between childcare teachers burnout with role performance were $\chi^2(df = 32, p < 0.05) = 52.20$, TLI = 0.98, CFI = 0.99, RMSEA = 0.06. These results, same with the measurement model verification, were found to be appropriate. They also demonstrated the path of burnout to commitment has a significant negative effect ($\beta = -0.36, p < 0.05$), and the path of commitment to role performance has a significant positive effect

($\beta = 0.42, p < 0.001$). Furthermore, the path of burnout to role performance has a significant negative effect ($\beta = -0.25, p < 0.05$) as shown in the Table 9 and Figure 2.

4.5 Assessment of mediating effect

Direct and indirect effects and total effects were assessed to evaluate the mediating effect of commitment in the relationship between burnout and role performance of early childhood teachers, and the results are presented in Table 10. The result demonstrate that burnout is negatively and directly related to devotion ($\beta = -0.36, p < 0.01$) and role performance ($\beta = -0.25, p < 0.05$), and commitment is positively related to role performance ($\beta = 0.42, p < .001$). Furthermore, commitment is indirectly related to role performance through burnout ($\beta = -0.15, p < .01$). And the total effect of combining direct and indirect effects ($\beta = -0.40, p < 0.01$) was also found to be significant.

As a result of verifying the significance of the indirect effect of commitment, the 95% Bootstrap Confidence Interval does not straddle a 0 in between [LLCI = -0.275, ULCI = -0.057]. It can be concluded by synthesizing all the results that childcare teachers' commitment shows partial mediation effect between burnout and role performance.

5 Discussion

In this chapter, the researchers discuss based on the research hypotheses and results. First, a significant negative correlation

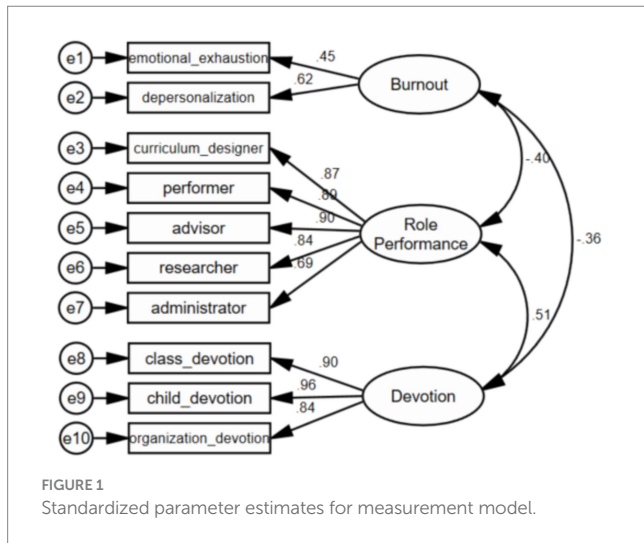


FIGURE 1 Standardized parameter estimates for measurement model.

TABLE 9 Path coefficients of the model.

Path	B	β	S.E.	C.R.
Burnout -> Commitment	-0.45	-0.36	0.19	-2.40**
Commitment -> Role performance	0.30	0.42	0.06	4.83***
Burnout -> Role performance	-0.22	-0.25	0.12	-1.86*

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

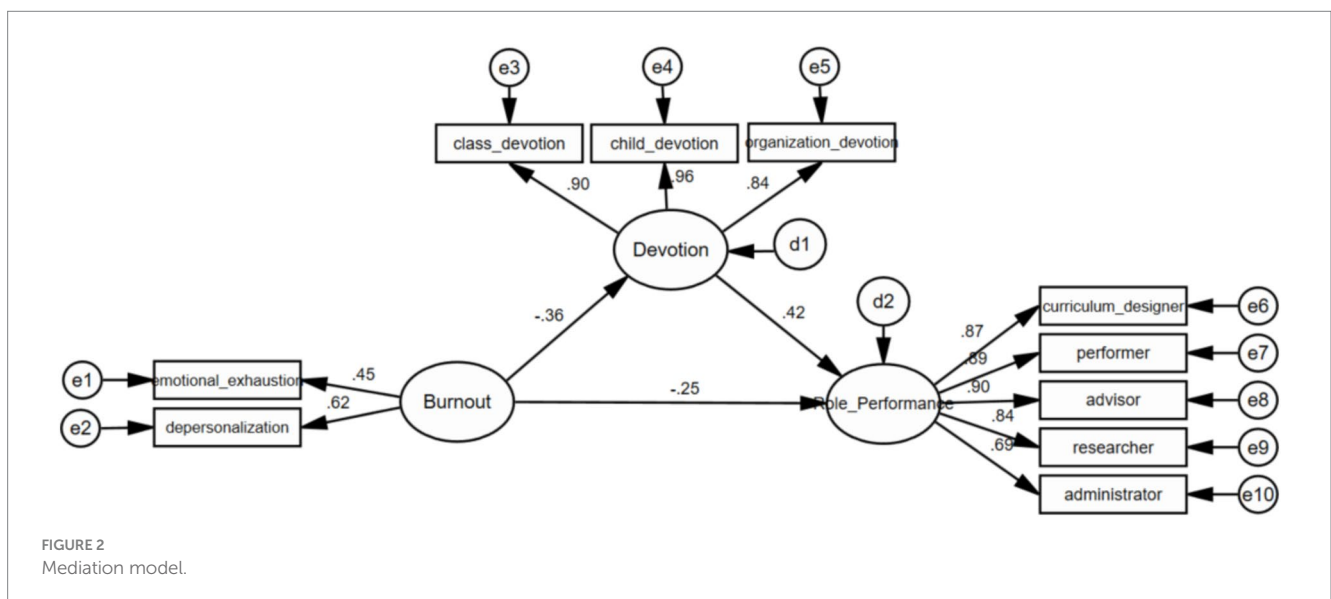


FIGURE 2 Mediation model.

TABLE 10 Direct, indirect, total effect.

	Direct effect	Indirect effect	Total effect	95% CI	
				LLCI	ULCI
Burnout - > commitment	-0.36**		-0.36**		
Commitment - > role performance	0.42*		0.42*		
Burnout - > role performance	-0.25*	-0.15**	-0.40**	-0.28	-0.06

* $p < 0.05$; ** $p < 0.01$.

was found between early childhood teachers' burnout and teacher commitment. This is a similar result to the research results of Choi (2021) who found that the higher the burnout of early childhood teachers, the lower the organizational commitment. In addition, it can be said to be in the same context as the results of the study by Russell et al. (2020), which showed that the higher the burnout of teachers, the lower their commitment. In the case of early childhood teachers, teacher commitment may decrease due to reduced participation and dedication to work due to burnout. Accordingly, it is necessary to consider the burnout of early childhood teachers to increase their commitment.

It was found that there was a significant negative correlation between early childhood teachers' burnout and role performance. This is similar to the finding of Oh (2015) which showed a negative correlation between the psychological burnout and role performance of childcare teachers, and that of Lee and Moon (2015), which showed a significant negative correlation between burnout and role performance of married infant care teachers. This finding is supported by the energization model (Bakker and Demerouti, 2007), which states that higher levels of burnout can lead to lower levels of role performance due to the energy and resources required to perform the role. In other words, burnout experienced by early childhood teachers can lead to poor role performance, so it is necessary to provide support systems to help teachers manage their burnout.

It was found that there was a significant positive correlation between teacher commitment and role performance. This result is consistent with Kim's (2023) finding of a positive correlation between nursery teachers' teaching commitment and creative role performance and Moon's (2023) finding of a positive correlation between early childhood teachers' passion and role performance. Therefore, it is necessary to provide help by considering the work environment, organizational culture, work support, and self-development opportunities to increase the commitment of early childhood teachers so that childcare teachers can actively perform their role.

Second, to examine the mediating effect of commitment in the relationship between burnout and role performance, the direct and indirect effects among the three variables are discussed. This study showed that early childhood teachers' burnout significantly affected their role performance. This result is similar to the result that childcare teachers' psychological exhaustion has a negative effect on role performance (Kim and Moon, 2020). This result is in the same context as the finding of Kim and Moon (2020), who found that psychological burnout among childcare teachers had a negative effect on role performance, and Her (2017), who found that emotional burnout among kindergarten teachers had a negative effect on role

performance. This finding is supported by Kim et al.'s (2017) study of Korean workers and Piczon and De Asis's (2018) study of university faculty, which found burnout has a negative effect on role performance. On the other hand, this result is inconsistent with Kim and Moon's (2020) findings that psychological burnout among childcare teachers does not have a significant effect on role performance.

The result showed that early childhood teachers' burnout significantly affected teacher commitment. This is in a similar context to the research results of Akdemir (2019), which found that teacher burnout had a significant effect on organizational commitment. In addition, it can be said to be in the same context as the study by Song and Lee (2023), which found that childcare teachers' burnout had a significant effect on job engagement. These findings mean that when early childhood teachers feel burned out and exhausted from their work, they may have difficulty forming positive, stable relationships with young children, which may adversely affect their commitment. Therefore, there is a need to provide continuous support so that early childhood teachers can maintain a healthy psychological state and well-being and concentrate on their work.

This study also showed that early childhood teachers' commitment significantly affected role performance. This result is similar to Shu's (2022) finding that teacher commitment has a significant effect on work engagement and Hwang and Moon's (2019) finding that childcare teachers' organizational commitment has a significant static effect on role performance. In particular, it is supported by the results of Moon's (2023) study, in which love of education, a sub-factor of commitment to teaching, was found to have a significant effect on role performance. This result suggests that if early childhood teachers have an interest and dedication to the work of early childhood education institutions, sympathize with the organization's goals and values, and make efforts, these can have a positive impact on role performance. Therefore, it is necessary to consider ways to induce or improve the dedication of early childhood teachers, such as improving the compensation system, providing self-development opportunities, or improving the work environment.

Early childhood teachers' teacher commitment was found to partially mediate the relationship between burnout and role performance. The result regarding the mediating effect is supported by the finding that there is a mediating effect of organizational commitment in the effect of emotional exhaustion on the role performance of nurses (Tourigny et al., 2012). It is also supported by research showing that teacher burnout has a significant negative effect on organizational commitment (Akdemir, 2019) and that job commitment has a significant positive effect on teaching performance (Vallejo, 2019). The

results of this study confirmed that the burnout experienced by early childhood teachers acts as a factor in lowering role performance, but that teacher commitment can alleviate this. In other words, the burnout experienced by early childhood teachers in work and interpersonal relationships causes difficulties for them in carrying out their roles, but early childhood teachers with high teacher commitment make efforts to fulfill their roles due to their convictions. Therefore, there is a need to provide opportunities to motivate teacher commitment through workshops and seminars for retraining.

Based on the results of this study, suggestions that can be put into practice in the field are as follows. To reduce the burnout of early childhood teachers, there is a need to improve the work environment of early childhood teachers, and there is a need to regularly implement counseling interventions targeting early childhood teachers who experience burnout. Additionally, administrative improvements such as duplicative paperwork that causes burnout in early childhood teachers are also needed. Accordingly, it is believed that unifying the government agencies in charge of early childhood education institutions will help reduce the workload and burnout of early childhood teachers. In addition, there is a need to provide opportunities for motivation to form teacher commitments and to find ways to improve the social and economic status of teachers.

6 Conclusion

In this study, it was found that there was a negative correlation between early childhood teachers' burnout and commitment, and between burnout and role performance, and a positive correlation between commitment and role performance. Additionally, early childhood teachers' teacher commitment appeared to be an important variable mediating the relationship between burnout and role performance. Therefore, to improve the role performance of early childhood teachers, it is necessary to focus on lowering burnout and increasing teacher commitment. Burnout experienced by early childhood teachers at work causes low role performance, but this can be alleviated when teacher commitment is high. Therefore, it will be necessary to design curricula in teacher education programs to produce committed early childhood teachers and to be able to select such teachers. It is also important to encourage teachers to maintain the commitment they made when they started teaching to reward for the work they do. With the appointment and dedication of such dedicated teachers, it will be possible to improve the quality of early childhood education by increasing the role performance of early childhood teachers. To increase teachers' commitment, it is necessary to educate teachers to increase their commitment from the curriculum of university teachers' training. In addition, establishing a supportive organizational culture for teachers in early childhood education institutions will reduce teachers' burnout, which will lead to an improvement in the overall quality of early childhood education. In South Korea, where this study was conducted, the first phase of early childhood education and childcare integration began in 2024. It is expected that the ratio of infants to teachers will be lower and teachers will be better treated. This national attention and support for early childhood education will help to significantly reduce teacher burnout. In addition, parental courtesy

and restraint in complaints, and the director's support and consideration will also help lower teacher burnout.

6.1 Limitation and direction for future research

The limitations of this study and suggestions for follow-up research are as follows. First, this study was a cross-sectional study based on data collected at a single point in time. Early childhood teachers' burnout, teacher commitment, and role performance may appear differently over time. Therefore, it is necessary to design and study a longitudinal study to study these changes. Second, this study conducted a survey using a method in which research subjects responded to questionnaires. Since this method has the limitation of not reflecting the deep inner thoughts of the research subjects, it is necessary to conduct research considering a qualitative research approach using interview methods or a mixed research method in follow-up research. Third, when developing a program to improve teachers' role performance in follow-up studies, it is recommended to consider reducing teacher burnout and increasing teacher commitment.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent from the participants or participants legal guardian/next of kin was not required to participate in this study in accordance with the national legislation and the institutional requirements.

Author contributions

SK: Data curation, Supervision, Writing – review & editing. JL: Conceptualization, Formal analysis, Methodology, Validation, Writing – original draft, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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