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The Impact of Directors' Coaching Leadership on Teacher-Infant Interactions: Mediating Effect of Teachers' Psychological Well-being

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Abstract

In response to the increasing emphasis on childcare within public institutions, this study examines the impact of daycare center directors' coaching leadership on teacher-infant interactions, mediated by the psychological well-being of teachers. A survey was conducted with 251 childcare teachers from daycare centers located in the Seoul and Gyeonggi regions. Data collection was conducted using a written survey or an online questionnaire after the researcher gave prior consent to the daycare center visit. The collected data were analyzed using IBM SPSS 26.0. Analysis included factor analysis, reliability analysis, descriptive statistics, t-test, variance analysis, correlation analysis, and regression analysis.
The results indicate that daycare directors' coaching leadership significantly influences teachers' psychological well-being. Specifically, the goals and feedback from directors, along with their belief in teachers' growth potential, positively impact teachers' well-being. This well-being, in turn, affects teacher-infant interactions, with self-acceptance closely linked to these interactions.

Additionally, directors' coaching leadership directly influences teacher-infant interactions and indirectly affects teachers' psychological well-being. These findings indicate that effective coaching leadership can enhance teachers' well-being and improve their interactions with infants.

Therefore the study underscores the importance of directors' coaching leadership in daycare operations and provides foundational data for developing effective coaching strategies that benefit childcare settings. It suggests ways to improve teacher-infant interactions, ultimately enhancing childcare quality.

Keywords: Coaching Leadership, Teacher-infant interactions, psychological well-being of Teachers, Goal presentation and feedback, Belief in growth potential

1. Introduction

1.1 Research Necessity and Purpose

South Korean society has witnessed rapid economic development that has attracted global attention. Alongside these economic changes, significant transformations in family structures have occurred, leading to a predominance of the nuclear family model centered around parents and children, while simultaneously giving rise to a variety of other family forms (Han et al., 2009). Since the 1970s, when the government implemented policies to intervene in childbirth, the issue of low birth rates has surfaced as a profound social challenge. Despite

global trends of declining birth rates since the 1960s, South Korea recorded a historically low total fertility rate of 0.721 in 2023, markedly lower than the global average of 1.5 (OECD, 2022; Statistics Korea).

In this evolving social landscape, the responsibility for childcare has increasingly transitioned from the home to public institutions, a shift closely linked to the expanding role of women in the workforce. As of 2022, 1,011,813 out of a total of 1,734,444 children are enrolled in daycare centers, according to data from Statistics Korea. This underscores the significance of expanding the role of educational institutions, reinforcing public awareness, and augmenting the social responsibility of facilities (Lee Byung-rae, 2005).

Daycare teachers, as central figures in the childcare process, play a pivotal role in fostering achievement motivation and facilitating positive peer interactions (Joen, 2017; Kim, 2019). Their contributions are crucial in establishing the foundation for an individual's lifelong development (Park, 2013; Kim, 2021). Moreover, the psychological well-being of daycare teachers is essential, as it significantly influences their ability to perform their roles and impacts the children in their care (Yang, 1988; Lee, 2018).

Furthermore, as previously mentioned, the trend of declining birth rates is becoming a global phenomenon (Waldman, 2005). The common factors influencing low birth rates include, first, the costs associated with child-rearing and education; second, educational and employment opportunities for women; and third, expectations regarding children's potential for labor (Spodek & Saracho, 2005). In the context of our country, the perceived burden of child-rearing has become the most significant factor deterring young women from childbirth. To address this issue, various birth incentive policies can be implemented, including childbirth subsidies and parental leave systems, while long-term strategies may involve the expansion of early childhood care facilities and the enhancement of re-employment opportunities following parental leave (Oshio, 2008). Among these, institutional child care is as a more preferred policy for dual-income families compared to other economic support measures (Park Mi-ok, 2010). Therefore, in our country, where women's participation in society has increased and dual-income households have become more common, institutional child care can be considered the most appropriate solution for overcoming low birth rates.

The organizational culture, teachers' job satisfaction, and work performance within daycare centers are profoundly affected by the director's childcare philosophy, management style, and leadership capabilities (Kim & Lee, 2018). In this context, coaching leadership has emerged as a focal point due to its emphasis on respecting organizational members and fostering horizontal leadership, which enhances job satisfaction and contributes to a positive educational environment (Kim, 2016).

Related prior research has been conducted on this topic. This study aims to examine whether the director's coaching leadership influences teacher-child interactions through the mediation of teachers' psychological well-being. Furthermore, it seeks to quantitatively analyze differences between groups through verification of differences and to identify any significant disparities that may arise. It is hoped that the findings of this study will serve as a resource for interpreting the relationships among members of the childcare center in light of the director's coaching leadership in the future.

1.2. Research Questions

The specific research questions according to the above purpose are as follows:

1. What is the impact of daycare directors' coaching leadership on the psychological well-being of childcare teachers?
2. What is the impact of daycare directors' coaching leadership on teacher-infant interactions?
3. What is the mediating effect of teachers' psychological well-being on the relationship between directors' coaching leadership and teacher-infant interactions?

2. Literature Review

2.1. Teacher-infant Interaction

Teacher-infant interaction refers to the dynamic process through which individuals mutually influence each other. In this process, relationships are established by exchanging experiences and sharing time, thereby fostering emotions and thoughts that confer special meaning to one another based on mutual expectations (Kontos & Wilcox-Herzog, 1997). It is argued that such social interactions between teachers and infants enhance the developmental potential of infants and toddlers, promoting active mutual participation rather than one-sided assistance from teachers (Vygotsky, 1978).

2.2. Coaching Leadership

Coaching leadership is conceptualized through the integration of coaching and leadership principles (Stober & Grant, 2010). According to the International Coach Federation (ICF), coaching is defined as partnering with

clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential (ICF, 2024). This leadership style is characterized by a profound respect for organizational members and the promotion of horizontal leadership, which collectively enhance job satisfaction and contribute to the creation of a positive educational environment (Kim, 2016). Additionally, by fostering the development and enhancement of the potential of organizational members, coaching leadership significantly bolsters their capacity to independently address and resolve their responsibilities (Gilley, 2000).

2.3. The Psychological Well-Being of Teachers

Psychological well-being refers to the positive self-recognition, the awareness of living an autonomous life, and the effective accomplishment of work and achievements within the framework of positive interpersonal relationships and societal participation (Kim, 2022). The psychological well-being of childcare teachers is of paramount importance, as these educators fulfill essential roles in the developmental progress of infants and toddlers in daycare settings (Kim, 2022). Enhancing the well-being of childcare teachers is critical for providing a high-quality childcare environment, as the educators' quality of life is a pivotal factor in achieving this objective (Katz, 1955).

3. Research Methods and Hypotheses

3.1. Research Hypothesis

Based on the existing theoretical background and prior research, this study examines the influence of the coaching leadership of daycare center directors on teacher-infant interactions, as discussed by Park (2020) and Oh (2021). The model also explores how the coaching leadership of daycare center directors impacts teacher-infant interactions through the mediation of teachers' psychological well-being, drawing on the works of Heo (2022), Park (2020), and Ko (2014). Furthermore, the effects on teacher-infant interactions are analyzed with reference to the studies by Kim (2020), Jeon (2018), and Jung (2020). To investigate these relationships, the following model has been established based on previous research findings.

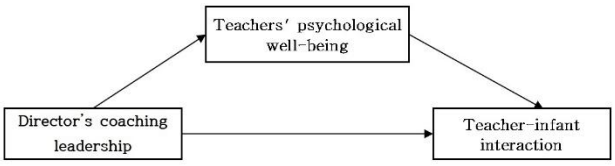

Figure 1: Research Model

3.2. Hypotheses

3.2.1. Coaching Leadership and Teacher-Infant Interaction

The coaching leadership of daycare center directors has been shown to significantly influence teacher-infant interactions. Russo et al. (2017) highlight that coaching leadership enhances teachers' motivation and psychological well-being, which are crucial for fostering growth and improving the quality of interactions between teachers and infants. This leadership approach also contributes to the long-term stability and quality of the organization (Jeon & Choi, 2013). Moreover, Lee & Cho (2014) emphasizes that teachers with heightened psychological well-being demonstrate proactive engagement, positively impacting the quality of interactions with infants. Based on these findings, the following hypothesis has been established:

H1: The coaching leadership of the daycare center director will have a positive (+) effect on the teacher-infant interaction.

3.2.2. Coaching Leadership and Teacher's Psychological Well-Being

Several studies have documented the significant impact of directors' coaching leadership on the psychological well-being of childcare teachers. Heo (2022) found that such leadership positively affects teachers' well-being, while Jung (2016), Yoo (2017), and Park & Lee (2020) all report that directors' coaching leadership directly enhances teachers' psychological well-being. This leadership style is instrumental in fostering a supportive environment that promotes teachers' mental health and job satisfaction. In light of these studies, the following hypothesis has been formulated:

H2: The coaching leadership of the daycare center director will have a positive (+) effect on the teacher's psychological well-being.

3.2.3. Psychological Well-Being of Teachers and Teacher-Infant Interaction

Research indicates that the psychological well-being of teachers significantly influences teacher-infant interactions. Jeong (2019) reports a positive effect on the

behavioral interactions between teachers and infants, while Ra (2017) and Jeon (2018) demonstrate that teachers' psychological well-being directly affects the quality of these interactions. Teachers who experience psychological well-being are more engaged and effective in their roles, thereby enhancing interaction quality. These research findings lead to the formulation of the following hypothesis:

H3: The teacher's psychological well-being will have a positive (+) effect on the teacher-infant interaction.

3.2.4. Mediation Effect of Psychological Well-Being

The mediation effect of teachers' psychological well-being in the relationship between coaching leadership and teacher-infant interaction is pivotal. Research suggests that the psychological well-being of teachers serves as a bridge that enhances the efficacy of coaching leadership in improving interaction quality (Yoo, 2017; Kang & Lee, 2015). Directors, by serving as role models, not only influence teachers directly but also enhance the potential of teachers to maximize their capabilities in interactions with infants. Drawing from these insights, the following hypothesis has been set:

H4: The coaching leadership of the daycare center director will have a positive (+) effect on the teacher-infant interaction by improving the teacher's psychological well-being.

3.3. Measurement Tools

3.3.1. Coaching Leadership of the Daycare Center Director

In this study, the concept of coaching leadership in daycare centers is defined as the director's role in supporting and fostering the growth and development of teachers. This leadership enables teachers to recognize and cultivate their strengths while interacting with infants and toddlers, ultimately achieving optimal performance for both themselves and the organization. The measurement tool is a questionnaire composed of 24 questions developed by Jo and Tak (2011). The scale is a sub-variable and consists of 10 questions for respect, 6 questions for goal presentation and feedback, and 8 questions for belief in perspective change and growth potential. Each item is rated on a 5-point Likert scale, where higher scores indicate a higher level of coaching leadership by the director.

3.3.2. Teacher-Infant Interaction

Teacher-infant interaction is defined as the emotional, linguistic, and behavioral exchanges that occur between teachers and infants, characterized by the teacher's active interest and social bonding. To measure these interactions, a questionnaire developed by Lee (2003) was utilized. This instrument derives its items from various early childhood education program scales, including the APECP Evaluation Scale (1987), NAEYC (1998), NCAC (1993), Early Childhood Education Program Evaluation Scale (1996), and the Evaluation Standards of the Korean Educational Development Institute (2000). The questionnaire comprises 30 items categorized into three sub-variables: emotional interaction, linguistic interaction, and behavioral interaction. Responses are rated on a 5-point Likert scale, with higher scores indicating a greater level of interaction.

3.3.3. Psychological Well-Being of Teachers

In this study, the psychological well-being of daycare teachers is defined as a state wherein teachers fully utilize their potential and function effectively within both the daycare setting and their personal lives. The measurement is based on Ryff's (1989) psychological well-being scale, which was adapted to the Korean context by Kim, Kim, and Cha (2001) and later modified by Yang (2003). The scale consists of 31 items divided into four sub-factors: 'self-acceptance' (10 items), 'positive interpersonal relationships' (7 items), 'purpose in life' (7 items), and 'autonomy' (7 items). Each item is assessed using a 5-point Likert scale, with higher values indicating greater psychological well-being and higher tendencies in the sub-factors.

3.4. Data Collection and Analysis Methods

This study targeted daycare teachers in Seoul and Gyeonggi Province. After explaining the study's purpose and confirming participation, the researcher either visited personally or distributed questionnaires via an online survey (Kim, 2007; Ellinger et al., 2003). As a result of distributing the questionnaire, 260 out of 270 copies were recovered, and a total of 251 copies were used in this study, excluding 9 copies of the questionnaire containing unfaithful respondents and missing answers.

The collected data were analyzed using IBM SPSS 26.0, which included frequency analysis, factor analysis, reliability analysis, descriptive statistics, t-tests, analysis of variance, correlation analysis, and regression analysis (Kim & Kim, 2017; Yang, 1988). The analysis confirmed the effects of the director's coaching leadership on teacher-child interaction and the mediating effect of teacher psychological well-being.

4. Research Results

4.1. General Characteristics of the Sample

A frequency analysis was conducted to examine the

characteristics of the study participants. The age distribution revealed that individuals aged 50 and above constituted the largest group, accounting for 39.0% (n=98) of the sample, followed by those aged between 40 and 50 years at 41.8% (n=105). In terms of professional experience, the largest group had 10 to 15 years of experience, representing 32.3% (n=81), while those with 7 to 10 years constituted 21.5% (n=54). Regarding the pathway to obtaining teaching certification, 35.1% (n=88) acquired it through universities, and 30.3% (n=76) through colleges. The most common field of study was Early Childhood Education, at 25.5% (n=64), followed by Childcare at 22.3% (n=56), and Child Studies at 17.5% (n=44). In terms of the type of institution, Family Childcare Centers were the most common, representing 46.6% (n=117), followed by Private Childcare Centers at 39.0% (n=98). The total number of respondents was 251.

4.2. Validity and Reliability Verification

4.2.1. Exploratory Factor Analysis and Reliability Analysis of Coaching Leadership

The exploratory factor analysis confirmed the suitability of the data with a Measure of Sampling Adequacy (MSA) of 0.960 and a Bartlett's test of sphericity ($\chi^2 = 7181.661$, $p < 0.01$). Following reliability testing and the removal of items CL10a and CL16b, the overall Cronbach's α for the director's coaching leadership was found to be 0.979, indicating excellent reliability. All sub-factors also exceeded the acceptable threshold of 0.6, demonstrating satisfactory internal consistency. The results of the analysis are presented in <Table 1.> below.

Table 1: Confirmatory factor analysis and reliability verification of the director's coaching leadership

Distinction	Items	Factors				Cronbach's α	
		1	2	3	4		
respect	CL1a	0.772	0.296	0.203	0.296	0.967	0.979
	CL2a	0.781	0.39	0.241	0.121		
	CL3a	0.798	0.331	0.261	0.198		
	CL4a	0.747	0.316	0.304	0.271		
	CL5a	0.694	0.223	0.418	0.26		
	CL6a	0.717	0.212	0.423	0.289		
	CL7a	0.686	0.182	0.503	0.28		
	CL8a	0.618	0.314	0.389	0.323		
	CL9a	0.707	0.422	0.302	0.213		
Goal presentation and feedback	CL11b	0.358	0.376	0.71	0.227	0.958	
	CL12b	0.356	0.322	0.747	0.285		
	CL13b	0.402	0.284	0.755	0.309		
	CL14b	0.468	0.321	0.624	0.349		
	CL15b	0.406	0.27	0.653	0.436		
Perspective Shift	CL17c	0.442	0.281	0.336	0.643	0.906	
	CL18c	0.251	0.263	0.315	0.798		
	CL19c	0.294	0.349	0.416	0.68		
Belief in growth potential	CL20d	0.437	0.585	0.234	0.484	0.954	
	CL21d	0.36	0.757	0.181	0.373		
	CL22d	0.267	0.796	0.282	0.294		
	CL23d	0.335	0.833	0.263	0.168		
	CL24d	0.297	0.82	0.315	0.133		
Eigenvalue		15.443	1.301	1.076	0.639		
Dispersion		29.491	20.629	19.444	14.34		
Accumulated		29.491	50.12	69.564	83.904		
KMO=.960, Bartlett's test χ^2=7181.661(p<.001)							

4.2.2. Exploratory Factor Analysis and Reliability Verification of Teacher-Infant Interaction

The factor analysis results indicated a Measure of Sampling Adequacy (MSA) of 0.964, and Bartlett's test of sphericity ($\chi^2 = 7424.854$, $p < .001$) confirmed the suitability of the analysis. Following the reliability analysis, items TI1b and TI3b were removed. The overall Cronbach's α for teacher-infant interaction was calculated as .980, indicating high reliability. Additionally, all sub-factors demonstrated good reliability with a standard value of 0.6 or higher. The analysis results are presented in <Table 2 >below.

Table 2: Validity and Reliability of Teacher-Infant Interaction

Distinction	Items	Factors			Cronbach's α	
		1	2	3		
emotional interaction	TII1a	0.763	0.197	0.309	0.97	
	TII2a	0.747	0.26	0.441		
	TII3a	0.734	0.376	0.319		
	TII4a	0.698	0.319	0.449		
	TII5a	0.766	0.433	0.231		
	TII6a	0.819	0.381	0.199		
	TII7a	0.716	0.263	0.458		
	TII8a	0.746	0.362	0.354		
	TII9a	0.725	0.393	0.37		
	TII10a	0.724	0.386	0.329		
Verbal interaction	TII12b	0.524	0.365	0.535	0.942	0.98
	TII14b	0.346	0.319	0.582		
	TII15b	0.527	0.416	0.549		
	TII16b	0.51	0.402	0.602		
	TII17b	0.386	0.305	0.727		
	TII18b	0.367	0.37	0.687		
	TII19b	0.297	0.284	0.806		
	TII20b	0.359	0.515	0.543		
Behavioral interaction	TII23c	0.35	0.588	0.482	0.945	
	TII24c	0.277	0.569	0.556		
	TII25c	0.327	0.629	0.424		
	TII26c	0.401	0.68	0.362		
	TII27c	0.288	0.773	0.344		
	TII28c	0.247	0.743	0.349		
	TII29c	0.454	0.751	0.164		
	TII30c	0.403	0.717	0.262		
eigenvalue		17.435	1.353	0.944		
Dispersion		30.596	23.419	21.879		
Accumulated		30.596	54.015	75.893		
KMO=.964, Bartlett's test χ^2=7424.854(p<.001)						

4.2.3. Exploratory Factor Analysis and Reliability Verification of Psychological Well-Being

The factor analysis resulted in an MSA of 0.895 and Bartlett's test (χ^2 = 4711.878, p < .001) confirmed the analysis's suitability. Following the reliability test, items PW7a, PW16c, and PW18c were removed. The overall Cronbach's α for psychological well-being was .887, with all sub-factors showing reliability with a standard value of 0.6 or higher. The analysis results are presented in <Table 3> below.

Table 3: Validity and Reliability of Psychological Well-Being

Distinction	Items	Factors				Cronbach's α	
		1	2	3	4		
Self-Acceptance	PW1a	0.739	0.037	0.174	0.033	0.928	0.887
	PW2a	0.786	0.027	0.306	-0.048		
	PW3a	0.717	0.093	0.279	0.084		
	PW4a	0.757	0.134	0.213	-0.023		
	PW5a	0.774	0.056	0.272	-0.018		
	PW6a	0.781	0.062	0.169	0.105		
	PW8a	0.783	0.112	0.238	0.05		

	PW9a	0.744	0.133	0.212	0.175	
	PW10a	0.714	0.167	0.174	0.159	
Positive Interpersonal Relationships	PW11b	0.306	0.189	-0.023	0.668	0.697
	PW12b	-0.003	-0.323	0.064	0.529	
	PW13b	0.166	0.176	-0.007	0.766	
	PW14b	-0.001	0.081	0.109	0.745	
	PW15b	-0.074	-0.163	-0.109	0.559	
	PW17b	0.041	-0.374	0.063	0.44	
Autonomy	PW19c	0.227	0.063	0.788	0.132	0.919
	PW20c	0.26	0.142	0.798	0.071	
	PW21c	0.346	0.144	0.774	-0.021	
	PW22c	0.293	0.099	0.812	-0.058	
	PW23c	0.432	0.189	0.75	-0.062	
	PW24c	0.419	0.185	0.657	-0.006	
The Purpose of Life	PW25d	0.341	0.468	0.186	-0.047	0.884
	PW26d	0.261	0.631	0.08	0.064	
	PW27d	0.317	0.555	0.215	-0.045	
	PW28d	-0.006	0.896	0.041	-0.029	
	PW29d	0.005	0.898	0.104	-0.001	
	PW30d	-0.007	0.901	0.102	-0.004	
	PW31d	0.116	0.773	0.165	-0.05	
Eigenvalue		6.251	4.506	4.162	2.496	
Dispersion		22.327	16.093	14.863	8.913	
Accumulated		22.327	38.419	53.283	62.196	
KMO=.895, Bartlett's test χ^2=4711.878(p<.001)						

Note: Items 12, 15, and 17 have been reverse-coded

4.3.2. Correlation Analysis

The analysis of correlations between the main variables yielded the following results. Coaching leadership demonstrated a significant positive correlation with teacher-infant interaction (r = .540, p < .001) and teachers' psychological well-being (r = .409, p < .001). Additionally, there was a significant positive correlation between teacher-infant interaction and teachers' psychological well-being (r = .438, p < .001). According to Cohen's criteria (1988), this correlation demonstrated medium strength. These findings suggest that higher levels of coaching leadership are associated with increased teacher-infant interaction and improved psychological well-being among teachers. Furthermore, a positive correlation was observed between teacher-infant interaction and teachers' psychological well-being. The correlations between the main variables are presented in <Table 4> below.

Table 4: Correlation between Major Variables

Variable	Director's Coaching Leadership	Teacher-infant interaction	Teachers' psychological well-being
Director's Coaching Leadership	1		
Teacher-infant interaction	**.540*****	1	
Teachers' psychological well-being	**409*****	**.438*****	1

*p<.05, **p<.01, ***p<.001

4.4. Analysis of Differences in Key Variables According to the Characteristics of the Research Subjects

To examine the differences in major variables based on the characteristics of the research subjects, independent sample t-tests and one-way ANOVAs were conducted. In cases where significant differences were identified in the ANOVAs, Scheffé post hoc tests were performed. Additionally, groups with insufficient sample sizes were merged with similar groups for analysis. The results indicated that the director's coaching leadership exhibited significant differences based on the characteristics of the

research subjects, specifically age ($p < .05$) and major ($p < .05$). The recognition of the director's coaching leadership varied by age, with scores of 4.28 for individuals under 40, 4.12 for those in their 40s, and 4.01 for those over 50. The Scheffé post hoc test results revealed that recognition among those under 40 was significantly higher than among individuals over 50, suggesting that younger age groups tend to have a greater recognition of the director's coaching leadership. Furthermore, the recognition of the Daycare Center director's coaching leadership by major was reported as 4.04 for childcare/child studies, 4.29 for early childhood education, and 4.06 for other majors. The Scheffé post hoc test results indicated that students majoring in early childhood education scored significantly higher than those majoring in childcare/child studies did.

The results of the regression analysis presented in Table 1-5 indicate significant findings across multiple steps. In Step 1, both the principal's coaching leadership dimension's goal presentation and feedback ($\beta = .251$, $p < .05$) and belief in growth potential ($\beta = .246$, $p < .05$)—demonstrated a positive effect on teachers' self-acceptance. Additionally, belief in growth potential ($\beta = .398$, $p < .001$) was found to positively influence
teachers' autonomy. In Step 2, belief in growth potential was shown to have a positive effect on all sub-factors of teacher-infant interaction. Finally, in Step 3, both belief in growth potential and self-acceptance positively impacted emotional and behavioral interactions, while self-acceptance alone positively influenced verbal interaction. The detailed results of the analysis are summarized in <Table 5> blow.

4.5. Regression Analysis for Hypothesis Testing

Table 5: Regression Analysis of the Impact of the Director's Coaching Leadership on Teacher-Infant Interaction and the Mediating Effect of Psychological Well-being

	Step 1: Director's coaching leadership → Teacher's psychological well-being			Step 2: Director's Coaching Leadership → Teacher-Infant Interaction			Step 3: Director's coaching leadership, teacher's psychological well-being → Teacher-Infant Interaction			VIF
	B	β	t	B	β	t	B	β	t	
constant term	2.507		15.553***	2.456		13.635***	1.665		6.848***	
Director's coaching leadership	0.274	0.409	7.073***	0.439	0.54	10.125***	0.352	0.433	7.716***	1.201
Teacher's psychological well-being							0.316	0.26	4.636***	1.201
F		**50.024*** **			**102.513*** **			**66.224*** **		
R^2(adj R^2)		**.167(.164)**			**.292(.289)**			**.348(.343)**		

*p<.05, **p<.01, ***p<.001

4.6. Bootstrap Validation

The significance of the indirect paths was subsequently confirmed through bootstrap validation. As illustrated in <Table 6> below, the bootstrap 95% confidence intervals for 6 out of 48 indirect paths did not encompass zero, indicating their statistical significance. The significant indirect paths originated from goal presentation, feedback, and belief in growth potential, passing through self-acceptance, thereby confirming the importance of these factors.

Table 6: Significance of Mediating Effect

Path	B	Boot SE	Boot 95% CI	
			LLCI	ULCI
Director's coaching leadership→ Teacher's psychological well-being → Teacher-Infant Interaction	0.087	0.024	0.043	0.137

4.7. Detailed Path Analysis of Indirect Effects

To further explore the indirect effects, a detailed path analysis was conducted, highlighting the influence of coaching leadership components on teacher-infant interactions through the mediating variable of psychological well-being <Table 7> provides a comprehensive overview of the significant indirect pathways identified through bootstrap analysis.

Table 6: Detailed Indirect Pathways

Path	B	Boot SE	Boot 95% CI	
			LLCI	ULCI
Respect→Self-acceptance→Emotional interaction	0.022	0.02	-0.008	0.069
Respect→Positive interpersonal relationships→Emotional interaction	0	0.005	-0.009	0.012
Respect→Autonomy→Emotional interaction	0.012	0.015	-0.012	0.049
Respect→The purpose of life→Emotional interaction	-0.002	0.01	-0.023	0.019
Goal presentation and feedback→Self-acceptance→Emotional interaction	**0.036**	**0.021**	**0.001**	**0.083**
Goal presentation and feedback→Positive interpersonal relationships→Emotional interaction	-0.001	0.006	-0.017	0.011
Goal presentation and feedback→Autonomy→Emotional interaction	-0.01	0.017	-0.045	0.025
Goal presentation and feedback→The Purpose of life→Emotional interaction	-0.002	0.009	-0.025	0.015
Perspective change→Self-acceptance→Emotional interaction	-0.025	0.017	-0.064	0.001
Perspective change→Positive interpersonal relationships→Emotional interaction	0.001	0.005	-0.008	0.012
Perspective change→Autonomy→Emotional interaction	0.001	0.014	-0.034	0.028
Perspective change→The purpose of life→Emotional interaction	-0.009	0.009	-0.029	0.007
Belief in growth potential→Self-acceptance→Emotional interaction	**0.042**	**0.021**	**0.005**	**0.088**
Belief in growth potential→Positive interpersonal relationships→Emotional interaction	-0.002	0.007	-0.019	0.009
Belief in growth potential→Autonomy→Emotional interaction	0.046	0.026	-0.001	0.099
Belief in growth potential→The purpose of life→Emotional interaction	0.001	0.009	-0.018	0.02
Respect→Self-acceptance→Verbal interaction	0.027	0.023	-0.009	0.08
Respect→Positive interpersonal relationships→Verbal interaction	0	0.005	-0.01	0.011
Respect→Autonomy→Verbal interaction	0.012	0.015	-0.012	0.05
Respect→The purpose of life→Verbal interaction	-0.001	0.007	-0.017	0.013
Goal presentation and feedback→Self-acceptance→Verbal interaction	**0.043**	**0.025**	**0.004**	**0.1**
Goal presentation and feedback→Positive interpersonal Relationships→Verbal interaction	0	0.006	-0.015	0.012
Goal presentation and feedback→Autonomy→Verbal interaction	-0.01	0.017	-0.046	0.023
Goal presentation and feedback→The purpose of life→Verbal interaction	-0.001	0.006	-0.017	0.009
Perspective change→Self-acceptance→Verbal interaction	-0.03	0.02	-0.076	0
Perspective change→Positive interpersonal relationships→Verbal interaction	0	0.005	-0.008	0.012
Perspective changet→Autonomy→Verbal interaction	0.001	0.014	-0.033	0.027
Perspective change→The purpose of life→Verbal interaction	-0.005	0.008	-0.022	0.01
Belief in growth potential→Self-acceptance→Verbal interaction	**0.05**	**0.024**	**0.01**	**0.103**
Belief in growth potential→Positive interpersonal relationships→Verbal interaction	-0.001	0.007	-0.017	0.012
Belief in growth potential→Autonomy→Verbal interaction	0.046	0.027	-0.006	0.101
Belief in growth potential→The purpose of life→Verbal interaction	0.001	0.006	-0.011	0.015
Respect→Self-acceptance→Behavioral interaction	0.028	0.023	-0.01	0.079
Respect→Positive Interpersonal relationships→Behavioral interaction	0	0.005	-0.01	0.009
Respect→Autonomy→Behavioral interaction	0.012	0.014	-0.012	0.046
Respect→The purpose of life→Behavioral interaction	-0.002	0.008	-0.018	0.014
Goal presentation and feedback→Self-acceptance→Behavioral interaction	**0.044**	**0.026**	**0.003**	**0.104**
Goal presentation and feedback→Positive interpersonal relationships→Behavioral interaction	0.001	0.006	-0.012	0.014
Goal presentation and feedback→Autonomy→Behavioral interaction	-0.01	0.017	-0.048	0.02
Goal presentation and feedback→The purpose of life→Behavioral interaction	-0.001	0.007	-0.018	0.011
Perspective changet→Self-acceptance→Behavioral interaction	-0.031	0.021	-0.08	0
Perspective change→Positive interpersonal relationships→Behavioral interaction	-0.001	0.004	-0.011	0.009
Perspective change→Autonomy→Behavioral interaction	0.001	0.014	-0.027	0.032
Perspective change→The purpose of life→Behavioral interaction	-0.006	0.008	-0.027	0.007
Belief in growth potential→Self-acceptance→Behavioral interaction	**0.052**	**0.025**	**0.009**	**0.109**

Belief in growth potential→Positive interpersonal relationships→Behavioral interaction	0.001	0.006	-0.011	0.016
Belief in growth potential→Autonomy→Behavioral interaction	0.046	0.027	-0.001	0.104
Belief in growth potential→The purpose of life→Behavioral interaction	0.001	0.007	-0.011	0.018

Note) Bold text indicates significant paths in bootstrap validation

5. Conclusion

5.1. Research Result

The research sought to explore how coaching leadership impacts teacher-infant interactions and the psychological well-being of teachers in daycare settings. Guided by a theoretical framework that formulated four primary hypotheses, each was rigorously tested through statistical analysis.

The results robustly supported the first hypothesis that the coaching leadership of daycare center directors positively influences teacher-infant interactions. Consistent with the findings of Russo et al. (2017) and Jeon and Choi (2013), coaching leadership was shown to enhance teachers' motivation and psychological well-being, which are crucial for fostering productive interactions with infants. The exploratory factor analysis confirmed the data's suitability, with a Measure of Sampling Adequacy (MSA) of 0.960 and Bartlett's test of sphericity yielding significant results ($\chi^2 = 7181.661$, $p < .001$). The correlation analysis revealed a significant positive relationship between coaching leadership and teacher-infant interaction ($r = .540$, $p < .001$), underscoring the role of leadership in promoting a high-quality educational environment.

The second hypothesis was affirmed by the findings, which showed that directors' coaching leadership positively affects teachers' psychological well-being. This is consistent with the literature by Heo (2022) and Park and Lee (2020). The reliability analysis demonstrated excellent internal consistency, with a Cronbach's α of 0.979 for coaching leadership. The correlation analysis indicated a significant positive correlation between coaching leadership and psychological well-being ($r = .409$, $p < .001$), confirming that effective leadership contributes to a supportive environment that enhances teachers' mental health and job satisfaction.

The data supported the third hypothesis, which proposed that teachers' psychological well-being positively influences teacher-infant interactions. This aligns with the findings of Jeong (2019) and Jeon (2018), who documented the positive impact of psychological well-being on interaction quality. The regression analysis demonstrated that psychological well-being significantly enhances teacher-infant interaction, with significant beta coefficients indicating a strong relationship. The correlation analysis further substantiated this finding, revealing a significant positive correlation between psychological well-being and teacher-infant interaction ($r = .438$, $p < .001$).

The mediation effect of teachers' psychological well-being, as proposed in the fourth hypothesis, was critically examined in the relationship between coaching leadership and teacher-infant interactions. Detailed path analysis and bootstrap validation confirmed the mediating role of psychological well-being, enhancing the effectiveness of coaching leadership on interaction quality. The analysis showed that the indirect paths through psychological well-being were statistically significant, as indicated by the bootstrap confidence intervals not encompassing zero. This finding is consistent with Yoo (2017) and Kang & Lee (2015), who emphasized the mediating role of psychological well-being in educational settings.

In conclusion, the study provides compelling evidence that coaching leadership significantly influences both teachers' psychological well-being and their interactions with infants. By fostering a supportive and empowering environment, directors can enhance educational quality and teacher satisfaction. These findings highlight the necessity for implementing coaching leadership practices to promote both teacher well-being and effective teacher-infant interactions, thus contributing positively to the childcare sector's development.

5.2. Academic Implications

This study contributes to the academic discourse by emphasizing the pivotal role of coaching leadership in educational settings. It illustrates how specific elements of coaching leadership, such as goal setting and feedback, coupled with belief in growth potential, can enhance teacher-infant interactions through self-acceptance. This aligns with and extends existing theories on leadership in education, providing empirical evidence of the mechanisms through which leadership impacts educational practices. Future studies should consider these dynamics when exploring the role of leadership in early childhood education.

5.3. Practical Implications

The practical implications of this study are significant for daycare management and policy development. Directors should recognize the importance of horizontal communication and actively employ coaching leadership to promote personal and professional growth among teachers. By supporting teachers in setting personal goals and providing constructive feedback, directors can foster self-acceptance and autonomy, enhancing overall educational outcomes. Additionally, urgent attention should be given to policy support and the development of programs aimed at improving psychological well-being among childcare teachers.

5.4. Limitations and Recommendations for Future Research

This study's cross-sectional design limits the ability to infer causality, and its geographic scope may affect the generalizability of the findings. Future research should employ longitudinal designs to explore the long-term effects of coaching leadership on educational outcomes and expand the study to diverse cultural and geographic contexts. Furthermore, qualitative research should accompany future quantitative studies to explore the causal relationships in greater depth and develop programs that enhance coaching leadership. It is also crucial to measure teacher-infant interactions in the broader context of daily routines and operations within childcare settings to improve the generalizability of the results. Lastly, the study aims to promote understanding and program development for coaching leadership, encouraging diverse applications and practices in actual childcare settings.

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