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Examining the Influence of Maternal Parenting on Children's Peer Competence: The Mediating Role of Self-Regulation in Children[1)]

Song Yi Moon **Seung-ha Lee[2)]**
Chung Ang University, S. Korea

Abstract

This study explored the role of young children's self-regulation as a mediator between maternal parenting and children's peer competence. The study was conducted on 327 young children and their mothers enrolled in kindergartens and preschools in Seoul and Gyeonggi province. The data were processed using the SPSS 26.0 program and Process Macro. The study's findings yielded several important results. First, there was a significant correlation between maternal parenting behavior, children's self-regulation, and children's peer competence. Second, the study found that children's self-regulation played a mediating role in the relationship between maternal parenting behavior and peer competence. In other words, maternal parenting behaviors had an indirect influence on children's peer competency through their impact on the children's self-regulation abilities. Furthermore, the children's self-regulation acts as a mediating and indirect factor in elucidating the relationship between the mother's parenting behavior and the children's peer competence. The study demonstrates that children's self-regulation acts as a crucial mediating factor in explaining the relationship between maternal parenting behavior and children's peer competence. Therefore, enhancing children's self-regulation abilities can play a vital role in shaping peer competency.

Keywords: children's peer competence, maternal parenting behavior, children's self-regulation

1) This work was based on the author's master thesis.
2) Correspondence should be addressed to Seung Ha Lee, Professor, Department of Early Childhood Education, Chung Ang University, 47, Heukseok-ro, Dongjak-gu, Seoul, S. Korea.
Email: seungha94@cau.ac.kr

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Introduction

Young children grow and develop by engaging in various human relationships. In the past, young children primarily socialized within their families, but with societal changes, peer relationships have become increasingly important for their development (Kim & Jeon, 2011). Factors such as the rise of nuclear families and increased female workforce participation have resulted in young children spending more time in institutional care at younger ages and for longer durations (Kim & Kim, 2015). This trend is reflected in the high usage of early childhood education institutions, with 90.7% of children aged 0 to 5 and 98.2% of 3 to 5-year-olds attending kindergartens or daycare centers in 2021(Korea Institute of Child Care and Education, 2022). As a result, peers play a significant role in the development of young children.

Peers contribute to young children's development in unique ways that surpass the influence of adults (Shaffer, 2005). The peer relationships of young children possess distinct characteristics, such as equality among peers, which contribute to their early childhood development (Hartup, 1989; Park & Rhee, 2001). Within these relationships, young children have the opportunity to learn reciprocity, cooperation, and problem-solving skills (Kostelnik et al., 2018; Chung, 2016). Peers also serve as role models and standards for social evaluation (Lee et al., 2021). By receiving recognition from their peers, adhering to group rules, and engaging in problem-solving activities, young children can move away from egocentric thinking, develop an understanding of interpersonal relationships, and promote social and cognitive growth (Lee & Hyun, 2010).

In the field of child development, peer competence refers to the ability to effectively establish and maintain relationships with peers while accomplishing personal goals within these relationships in an appropriate manner (Park & Rhee, 2001). High levels of peer competence are directly associated with a child's capacity to form and sustain positive peer relationships (Lee & Shin, 2021). Young children who exhibit superior peer competence demonstrate desirable social development through their appropriate interactions with peers (Park & Kim, 2015). They are accepted and acknowledged by their peers (Kim, 2006) and often take the initiative in their peer relationships (Baek & Seo, 2022; Kostelnik et, al., 2018). Moreover, peer competence predicts proficient problem-solving skills and the ability to resolve conflicts effectively in young children (Park et al., 2021). Establishing positive peer relationships during early childhood is considered a crucial indicator of successful social adaptation (Hartup, 1989), and is linked to later school adjustment and interpersonal relationships (Go & Ryu, 2020).

However, many young children who exhibit low peer competence face difficulties in establishing positive interactions within their peer relationships, leading to negative developmental outcomes (Park et al., 2010). These children are more prone to showing

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maladjustment behaviors such as aggression, anxiety, and hyperactivity (Crick, 1996). They are also at a higher risk of experiencing internalizing problems including feelings of loneliness and depression (Kostelnik et al., 2018; Lee, 2013). Furthermore, poor social competence in young children as been linked to a higher likelihood of encountering social and psychological issues such as delinquency and criminal behavior (Stepp et al., 2011). Consequently, the development of peer competence is important since young children's peer relationships serve as a fundamental foundation for their social development and have lasting implications throughout their lives (Lee et al., 2021).

In this study, we focus on the factors that contribute peer competence, which can be categorized into environmental factors and individual internal factors. Previous research has highlighted the important role of parents, particularly mothers, as influential environmental factors in the early development of young children (Han & Moon, 2014). As primary caregivers, mothers have a significant impact on how young children perceive and interpret the world around them (Lee et al., 2012). Parenting behavior, encompassing the overall behavioral patterns in raising children, is strongly associated with children's peer competence. Numerous studies have demonstrated that maternal affectionate and rational parenting behaviors are linked to a child's sociability (Chung & Lee, 2006; Han & Moon, 2014), social acceptance, and high levels of peer competence (Song et al., 2018). Additionally, setting appropriate limits by mothers has been found to significantly contribute to peer competence, predicting higher levels of sociability, pro-sociality, and initiative in young children (Kim & Ryu, 2019; Lee & Lee, 2010).

Conversely, when mothers exhibit rejecting and neglectful parenting behaviors, it can have adverse effects on the social development of their young children (Cho & Kwon, 2014). Specifically, young children exposed to such parenting behaviors tend to display higher levels of aggressive and hostile behavior and lower levels of peer competence. Overprotective and permissive parenting behaviors can also hinder healthy social development in young children, leading to difficulties in forming positive relationships with peers and lower levels of peer competence (Moon, 2000; Lee & Lee, 2010). These findings underscore the importance of positive and nurturing parenting behaviors in fostering healthy peer competence in young children.

In the context of factors influencing the development of peer competence in young children, self-regulation is widely recognized as a crucial individual factor. Self-regulation refers to the ability effectively manage one's emotions, behaviors, and thoughts following social norms and situations (Brownell et al., 1997). It is an essential skill for establishing positive relationships with others within society (Bronson, 2000; Lee & Hyun, 2010). Self-regulation involves the capacity to think and act independently without relying on external intervention control (Lee,

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2003). Notably, the foundation for self-regulation is established between the age of 3 and 5 years of age, when self-regulation abilities undergo rapid development (Sohn, 2015; Lee, 2011).

Young children who possess strong self-regulation skills demonstrate exceptional social abilities, and the ability to identify and regulate their emotions autonomously, enabling them to form positive relationships with their peers (Chi, 2016; Lengua, 2002). High levels of self-regulation have been found to reduce conflicts in peer relationships (Roh et al., 2009) and help young children effectively resolve social conflicts (Hwang, 2007), thereby promoting harmonious peer relationships (Kim & Kim, 2020; Park, 2021). Moreover, high levels of self-regulation predict greater academic success (Denham et al., 2003). Conversely, young children with low levels of self-regulation are more impulsive and prone to experiencing conflicts in their interpersonal relationships, exhibiting low levels of prosocial behavior (Lee & Yang, 2003). In other words, there is a significant positive correlation between young children's self-regulation and their sociability, particularly in terms of their peer competence (Kim & Oh, 2016; Hwang, 2007). These findings emphasize the importance of fostering the development of self-regulation in young children to enhance their peer competence (Kim & Ryu, 2019). For this reason, the present study aims to investigate the influence of young children's self-regulation as a primary internal factor impacting their peer competence.

Among the variables influencing children's peer competence, both self-regulation as an internal factor and maternal parenting behavior as an environmental factor are recognized as important. These factors are highly interrelated and have a significant impact on children's peer competence. Research by Kim & Bae (2016) has shown that maternal autonomous parenting is a significant predictor of children's peer competence, while children's self-regulation also plays a crucial role in determining their peer competence (Kim & Kim, 2020; Park, 2021). Children's self-regulation exhibits a significant correlation with their social abilities, particularly concerning peer competence (Kim & Ryu, 2019).

Additionally, studies have consistently demonstrated a relationship between maternal parenting behavior and children's self-regulation. Maternal parenting behavior has been found to influence the development of a child's self-regulation (Chae & Yu, 2015; Lee, 2010; Lee et al., 2006). Reasonable and appropriate restrictions set by mothers have been shown to enhance children's problem-solving abilities and positively impact the development of self-control (Lee & Sohn, 2017). Affectionate parenting behavior has been associated with higher levels of self-control (Jong & Jo, 2021), self-determination ability (Kim & Kang, 2017), and greater self-regulation in young children (Kim & Lee, 2018; Nam, 2021). Previous studies have indicated that children's self-regulation is an important predictor of their peer competence and is influenced by maternal parenting behaviors. This suggests that maternal parenting behaviors can enhance

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children's peer competence through the mediation of children's self-regulation. In other words, changes in children's self-regulation can be influenced by and attributed to maternal parenting behaviors, subsequently affecting children's peer competence. Therefore, the present study aims to examine the relationship between maternal parenting behaviors and children's peer competence, mediated by children's self-regulation.

Previous studies have examined the effects of maternal parenting behavior on children's peer competence (Han & Moon, 2014) and the positive correlation between young children's self-regulation and peer competence (Kim & Kim, 2020; Park, 2021). However, research conducted by Song et al. (2018) and Lim (2002) has revealed that maternal parenting behavior does not directly impact peer competence but rather has an indirect effect through an internal variable, namely, emotional regulation ability. On the other hand, Yu (2013) found that young children's self-regulation has a direct and significant effect on peer competence, while the effect of maternal parenting behavior on peer competence was not significant. These inconsistent findings suggest the presence of other mediating effects of maternal parenting behavior on young children's peer competence. Considering the positive relationship between young children's self-regulation and peer competence, as well as the influence of maternal parenting behavior on children's self-regulation, it is suggested that the impact of maternal parenting behavior on young children's peer competence may vary depending on the level of self-regulation exhibited by the children (Kim & Bae, 2016).

Although previous studies have investigated the effects of mothers' parenting behaviors on peer competence and the effects of children's self-regulation on peer competence, they often fail to consider the interrelationships among various variables making it challenging to obtain a comprehensive understanding of peer competence. Furthermore, recent research has yielded conflicting findings regarding the direct impact of mothers' parenting behaviors on children's peer competence. Some studies suggest that maternal parenting behaviors directly affect peer competence (Kim & Lee, 2008), while others indicate that these behaviors have an indirect influence mediated by internal variables. For example, Yu (2013) found that children's self-regulation significantly affected peer competence, whereas maternal parenting behaviors had no significant direct effect on peer competence. This discrepancy warrants further investigation.

Song et al. (2018) examined the mediating effect of children's emotional regulation on the relationship between maternal parenting behavior and peer competence. The study revealed that maternal parenting behavior indirectly influenced children's peer competence through its impact on emotional regulation. Warm and less controlling parenting behaviors were associated with increased emotional regulation, which, in turn, enhanced children's peer competence. However, this study, focused primarily on emotional regulation as a subset of self-regulation, potentially

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overlooking other cognitive aspects. Therefore, the present study aims to explore the mediating effects of self-regulation in young children taking into account higher-order cognitive aspects.

Kim and Bae (2016) investigated the mediating effect of children's self-regulation on the relationship between parenting attitudes and children's peer competence. The findings indicated an interaction effect between fathers' autonomous parenting attitudes and children's self-regulation. Fathers' autonomous parenting attitudes positively influenced children with low self-regulation but had no significant effect on children with high self-regulation. On the other hand, the interaction effect of maternal parenting attitudes was not significant. Although Kim and Bae (2016) examined the mediating effect of self-regulation on the relationship between parenting attitudes and peer competence, exploring this effect allows for a closer examination of the intricate relationship between the independent variable (parenting attitudes) and the dependent variable (children's peer competence) that may be challenging to explain solely through mediation.

In light of these considerations, this study aims to investigate the direct and indirect effects on peer competence by examining the relationships among various variables. Specifically, the mediating effects of self-regulation in young children will be examined, with a focus on higher-order cognitive aspects. By delving into these aspects, a more comprehensive understanding of the interplay between parenting behaviors, self-regulation, and peer competence can be gained.

While numerous studies have explored the factors influencing peer competence, there is a dearth of research examining the mediating effect of children's self-regulation on the relationship between maternal parenting behaviors on peer competence. Therefore, the primary objective of this study is to investigate the intricate relationship between maternal parenting behavior and young children's peer competence, considering the influence of children's self-regulation ability. To achieve a comprehensive understanding of the factors impacting young children's peer competence, this research adopts a multifaceted approach that examines these factors from various perspectives. The ultimate aim is to provide a comprehensive perspective on the peer competence of young children and establish a foundation for designing effective parent education programs to enhance peer competence. In the light of these objectives, the research questions guiding this study are as follows.

RQ1. What is the relationship between maternal parenting behavior, young children's self-regulation, and children's peer competence?

RQ2. Does maternal parenting behavior have a direct effect on young children's peer competence, or does it exert an indirect effect through the mediating role of children's self-regulation?

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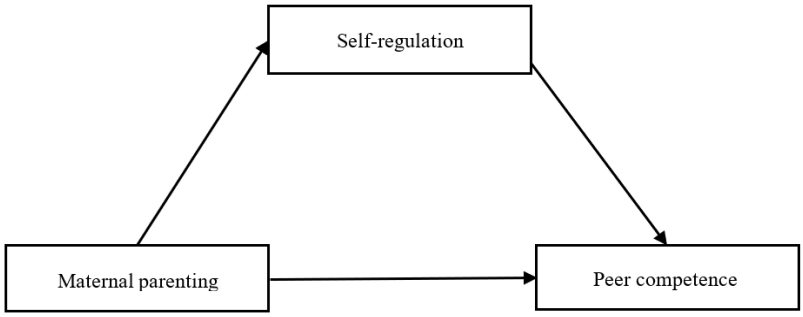
To investigate the relationships between these variables, the research model of this study is shown in Figure 1.

Figure 1.
Research model



Methods

Participants

A survey was conducted among mothers of children between the ages of three and five who were attending kindergartens and daycare centers in Seoul and Gyeonggi-do from July 16, 2022, to August 16, 2022, to investigate maternal parenting behavior and young children's self-regulation. A teacher survey was conducted to evaluate the peer competence of young children. The study's purpose and procedures were explained, and both Google Forms and paper surveys were distributed to mothers who agreed to participate. Of the 550 mothers surveyed, 331 provided complete responses, and 327 responses were finally analyzed after excluding four incomplete questionnaires.

Research tools

Mother's parenting behavior. The Mother's Parenting Behavior Checklist by Park (2001) was used in this study to assess the parenting behavior of mothers. The scale consists of 34 sub-factors, divided into four main factors: warmth/encouragement (11 items), limit-setting (6 items), overprotection/permissiveness(11 items), and rejection/neglect (8 items). Warmth/encouragement is related to positive behaviors such as expressing affection and encouraging autonomy. Limit-

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setting is related to setting boundaries and enforcing rules. Overprotection/permissiveness is related to a lack of proper control over the child's behavior. Finally, rejection/neglect is related to negative behaviors such as ignoring the child's opinion or inflicting physical punishment. The scale uses a self-report rating method, where mothers rate their typical child-rearing behavior on a 5-point Likert scale ranging from "not at all (1 point)" to "very much so (5 points)" for each item. A higher score indicates a stronger presence of the parenting behavior in question.

Children's self-regulation. To measure children's self-regulation, we used a parental rating scale originally developed by Lee (2003) which had been modified and supplemented by Kang (2014). This scale consists of 31 items and two factors: Self-monitoring, and Self-control. The self-monitoring factor consists of two sub-factors: self-appraisal and self-determination. The former refers to a child's ability to assess their knowledge and skills and express it verbally, while the latter relates to a child's ability to plan and prepare for future actions, make independent decisions, and solve problems by predicting the results of their actions. The self-control factor consists of two sub-factors: behavioral inhibition and emotionality. Behavioral inhibition refers to a child's ability to comply with rules and regulations, suppress impulsiveness and negative emotions, and delay gratification for future rewards. Emotionality pertains to the personality aspects that manifest in a child's temperamental and emotional traits. Parents evaluate their child's behavior and rate it based on the degree to which it corresponds to the content of each item. The scale used is a 5-point Likert scale, where a higher score indicates higher levels of self-regulation in the child.

Children's peer competence. Children's peer competence was measured using the scale developed by Park and Rhee (2001). The scale consists of three sub-factors and a total of 15 items: sociability (5 items), pro-sociality (5 items), and initiative (5 items). Sociability refers to the ability of a child to be well-accepted by their peers and to be friends with others easily. Pro-sociality is the ability to effectively help other children get along well and resolve conflicts. The initiative is the ability to actively suggest and lead an activity or play in a peer group and to assert one's opinion effectively. This tool is a rating method that involves teachers in early childhood education institutions observing and evaluating young children. Each item is rated on a 5-point Likert scale ranging from "not at all" (1 point) to "very much so" (5 points). A higher score indicates higher peer competence in the child being evaluated.

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Data Analysis

For this study, data analysis was conducted using IBM SPSS Statistics 26.0 and the Process Macro program. The analysis procedures were as follows. First, a frequency analysis was performed to examine the demographic characteristics of the study participants, and the results were reported in terms of frequencies and percentages.

Second, Cronbach's alpha was calculated to assess the reliability of the measurement tools used in the study.

Third, descriptive statistics, including means and standard deviations, were utilized to examine the distribution of the measurement instruments used to assess the mother's parenting behavior, children's self-regulation, and children's peer competence.

Fourth, Pearson's correlation analysis was employed to investigate the relationships among the sub-factors of the mother's parenting behavior, children's self-regulation, and peer competence.

Fifth, we used regression analysis and the Process Macro program to explore the potential mediating role of children's self-regulation in the relationship between the mother's parenting behavior and children's peer competence. By employing these analysis techniques, the study aimed to provide a comprehensive understanding of the interplay between maternal parenting behavior, children's self-regulation, and young children's peer competence.

Results

Descriptive Statistics and Correlation Analysis

Table 1 shows descriptive statistics and correlation. The results indicate that limit-setting among mothers' parenting behaviors was positively correlated with sociability (r=.113, p<.05) and initiative (r=.208, p<.001) among the subcategories of children's peer competence. Conversely, overprotective/permissive parenting behaviors exhibited a negative correlation with emotionality (r=-.202, p<.001) and children's initiative (r=-.133, p<.05). Additionally, there was a correlation observed between the mother's parenting behavior and children's self-regulation ability, with warmth/encouraging parenting behavior (r=-.195~.342, p<.001). The table revealed that limit-setting among the mother's parenting behaviors exhibited positive correlations with all sub-factors of young children's self-regulation (r=.207~.359, p<.001), except for emotionality. Furthermore, young children's self-regulation exhibited a positive correlation with their peer

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competence. The results demonstrated that self-appraisal and self-determination exhibited positive correlations with all subfactors of young children's peer competence. Furthermore, behavioral inhibition showed a positive correlation with sociability (r=.142, p<.01) and pro-sociality (r=.278, p<.001), while emotionality demonstrated a positive correlation with pro-sociality (r=.198, p<.001), and initiative. (r=.119, p<.05).

Table 1
Descriptive statistics and Correlation

	1	2	3	4	5	6	7	8	9	10	11
1	1										
2	.234***	1									
3	-.100	-.268***	1								
4	-.468***	-.012	.109*	1							
5	.209***	.207***	-.104	-.027	1						
6	.271***	.359***	-.041	-.077	.347***	1					
7	.342***	.319***	-.055	-.235***	.263***	.596***	1				
8	.195***	.069	-.202***	-.313***	.197***	.350***	.471***	1			
9	-.055	.113*	-.100	.132*	.118*	.152**	.142**	.100	1		
10	.001	.078	-.024	.007	.121*	.225***	.278***	.198***	.657***	1	
11	.015	.208***	-.133*	.103	.226***	.213***	.101	.119*	.781***	505***	1
M	4.08	3.66	2.17	2.41	4.23	3.38	3.63	3.67	3.63	3.57	3.56
SD	.40	.54	.51	.56	.58	.62	.56	.65	.86	.88	.94
Skew	-.218	-.357	.790	.621	-.643	-.111	-.310	-.348	-.235	-.322	-.534
Kurt	.534	-.085	2.601	1.064	.362	-.432	.308	.449	-.261	-.273	-.186

***p < .001, **p < .01, * p <.05
1. Warmth/Encouragement, 2. Limit-setting, 3. Overprotection/Permissiveness, 4. Rejection/Neglect,
5. Self-appraisal, 6. Self-determination, 7. Behavior inhibition, 8. Emotionality, 9. Sociability,
10. Pro-sociality, 11. Initiative

The mediating effect of children's self-regulation on the relationship between mother's parenting behavior and children's peer competence. This research used Hayes's (2012) Process Macro to analyze and determine the role of children's self-regulation as a mediator between mothers' parenting behavior and children's peer competence. The study aimed to examine the relationship between each sub-factor of mothers' parenting behavior and peer competence. The findings indicated the presence of indirect effects for each sub-factor of mothers' parenting behavior, rather than mediating effects. It is important to note that while a mediating

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effect assumes a significant total effect between the independent and dependent variables, an indirect effect can still exist even in the absence of a total effect, as suggested by Hayes (2013) (Bae, 2018). Thus, we concluded that if there is a significant indirect effect through the mediation of self-regulation ability, despite the lack of a total effect between the sub-factors of mothers' parenting behavior and the sub-factors of peer competence, it can be interpreted as evidence of an indirect effect exists.

The mediating effect of children's self-regulation between Warmth/Encouragement and children's peer competence. The effect of a mother's parenting behavior (warmth and encouragement) on sociability, a sub-factor of peer competence, was examined concerning children's self-regulation. Table 2 displays the results of the analysis, where warmth and encouragement were identified as significant predictors (β=.352, p<.001) of self-regulation, with an explanatory power of 12.1%. Moreover, warmth and encouragement had a negative effect on sociability (β=-.133, p<.05), while self-regulation had a positive effect on sociability (β=.222, p<.001). The combined explanatory power of warmth/encouragement and self-regulation on sociability was 4.6%. The findings confirm that warmth/encouragement significantly influences self-regulation, which, in turn, affects sociability indirectly. The indirect effect of warmth and encouragement on sociability through self-regulation was verified using Bootstrapping. The confidence interval of the indirect effect was [0.030, 0.142], and the lower and upper boundary intervals do not include zero, indicating that the indirect effect is significant, with a probability of significance of 0.005. Thus, we conclude that warmth/encouragement has an indirect effect on sociability through self-regulation, indicating the importance of self-regulation as a mediator in the relationship between a mother's parenting behavior and children's sociability.

Table 2
The mediating role of self-regulation in the effects of warmth/Encouragement on sociability

Step	Variables	*B*	*SE*	*β*	*t*	*F*	R^2
1	Warmth/Encouragement → Self-regulation	.401	.059	.352	6.770***	45.836	.121
2	Warmth/Encouragement → Sociability	-.289	.126	-.133	2.300*	7.837	.046
	Self-regulation → Sociability	.422	.111	.222	3.852***		
3	Warmth/Encouragement → Sociability	-.12	.12	-.055	1.000	1.000	1.000

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

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Table 3 presents the impact of mothers' parenting behavior, and warmth/encouragement on pro-sociality, a sub-factor of peer competence, with the mediating effect of children's self-regulation. The findings suggest that warmth and encouragement, functioning as an independent variable, predict self-regulation as a static factor (β=.352, p<.001) and exerted an explanatory influence of 12.1% on self-regulation. Moreover, warmth and encouragement had a negative effect on pro-sociality (β= -.115, p<.05) while self-regulation had a positive effect on pro-sociality (β= .331, p<.001). The combined explanatory power of warmth/encouragement and self-regulation on pro-sociality was 9.0%. This confirms that the mother's warmth and encouragement had a noteworthy impact on the child's self-regulation capacity, which, in turn, had an indirect effect on the child's pro-sociality. A bootstrapping analysis confirmed a significant indirect effect of warmth and encouragement on pro-sociality through self-regulation, with a confidence interval of [0.073, 0.189] and a probability of significance of 0.007.

Table 3
The mediating role of Self-regulation in the effects of Warmth/Encouragement on Pro-sociality

Step	Variables	*B*	*SE*	*β*	*t*	*F*	*R²*
1	Warmth/Encouragement → Self-regulation	.401	.059	.352	6.770***	45.836	.121
2	Warmth/Encouragement → Pro-sociality	-.255	.125	-.115	2.042*	17.191	.090
	Self-regulation → Pro-sociality	.642	.110	.331	5.684***		
3	Warmth/Encouragement → Pro-sociality	.002	.123	.001	.020	.000	-.003

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

Table 4 presents the analysis of the relationship between children's self-regulation and their mothers' parenting behavior, warmth/encouragement, on initiative, a sub-factor of peer competence. As indicated in the table, warmth/encouragement, as an independent variable, was a static predictor (β=.352, p<.001) of self-regulation, a parameter, and it had a significant explanatory power of 12.1% on self-regulation. While the effect of warmth and encouragement on initiative was not significant (β=-.069, p>.05), self-regulation had a positive effect on initiative (β=.237, p<.001). The explanatory power of warmth/encouragement and self-regulation on the initiative was 4.4%. These results confirm that warmth and encouragement have a significant effect on self-regulation and that self-regulation influences initiative, indicating an indirect effect of control power.

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As a result of verifying the indirect effect through bootstrapping, the indirect effect of warmth and encouragement mediated by self-regulation on the initiative was [0.037, 0.144], which was found to have a statistically significant indirect effect, and the significance probability of the indirect effect was found to be 0.006.

Table 4
The mediating role of Self-regulation in the effects of Warmth/Encouragement on Initiative

Step	Variables	*B*	*SE*	*β*	*t*	*F*	R^2
1	Warmth/Encouragement → Self-regulation	.401	.059	.352	6.770***	45.836	.121
2	Warmth/Encouragement → Initiative	-.163	.137	-.069	1.188	8.442	.044
	Self-regulation → Initiative	.493	.120	.237	4.100***		
3	Warmth/Encouragement → Initiative	.035	.132	.015	.265	.070	-.003

*** $p<.001$

The mediating effect of children's self-regulation between Limit-setting and children's peer competence. In Table 5, the results of investigating the impact of a mother's limit setting on a child's sociability, with a focus on the child's self-regulation, are presented. The findings revealed that the threshold setting was a significant predictor of self-regulation, with a static parameter (β=.337, p<.001). Furthermore, in the model that included self-regulation, it was observed that self-regulation had a positive impact on sociability (β=.145, p<.05). The total effect of limit setting on sociability (β=.113, p<.05) was also significantly positive. Given that the effect of limit setting and self-regulation on sociability was significant in the model that included both variables, it can be inferred that a mediating effect exists. A Sobel test was conducted to determine the significance of the mediating effect, and the results indicated that the mediating effect was statistically significant with a probability of 0.041. This implies that self-regulation acts as a mediator in the relationship between limit setting and sociability. As a result of evaluating the indirect effect using bootstrapping, the confidence interval of the indirect effect of limiting through self-regulation on sociability was [0.015, 0.114], indicating that the mediating effect was significant.

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Table 5
The mediating role of Self-regulation in the effects of Limit-setting on Sociability

Step	Variables	*B*	*SE*	*β*	*t*	*F*	R^2
1	Limit-setting → Self-regulation	.283	.044	.337	6.451***	41.622	.111
2	Limit-setting → Sociability	.097	.092	.061	1.052	4.202	.028
	Self-regulation → Sociability	.293	.110	.145	2.660*		
3	Limit-setting → Sociability	.180	.088	.113	2.050*	4.202	.010

* $p<.05$, *** $p<.001$

Regarding the impact of mothers' parenting behavior on children's pro-sociality, a sub-factor of peer competence, Table 6 presents the effect of children's self-regulation. Self-regulation was found to be a significant predictor (β=.337, $p<.001$) of the self-regulation parameter. In the model that included self-regulation, the effect of threshold setting on pro-sociality was not significant (β=-.022, $p>.05$), but self-regulation had a positive and significant effect on pro-sociality (β= .298, $p<.001$). Thus, the results suggest that children's self-regulation ability has an indirect effect on the relationship between the mother's parenting behavior and children's pro-sociality, which is a sub-factor of peer competence. Bootstrapping revealed that the confidence interval for the indirect effect of limit setting on pro-sociality through self-regulation was [0.063, 0.184], indicating that the indirect effect was significant, with a probability of significance of 0.003.

Table 6
The mediating role of Self-regulation in the effects of Limit-setting on Pro-sociality

Step	Variables	*B*	*SE*	*β*	*t*	*F*	R^2
1	Limit-setting → Self-regulation	.283	.044	.337	6.451***	41.622	.111
2	Limit-setting → Pro-sociality	-.036	.092	-.022	.387	14.997	.079
	Self-regulation → Pro-sociality	.578	.110	.298	5.274***		
3	Limit-setting → Pro-sociality	.128	.090	.078	1.419	2.013	.003

*** $p<.001$

Table 7 shows that self-regulation is a significant static predictor with the limit setting as a parameter (β= .337, p <.001). In the model that includes self-regulation, limit setting has a positive effect on initiative (β= .154, $p<.01$), and self-regulation also significantly affects

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initiative (β= .161, p<.05). The total effect of limit setting on initiative (β= .208, p<.001) is statically significant, and in the model that includes self-regulation, the significant effects of both limit setting and self-regulation on initiative suggest the presence of a mediating effect. The Sobel test yielded a significance probability of 0.041, indicating that self-regulation had a significant mediating effect on the relationship between limit setting and initiative. As a result of bootstrapping, the confidence interval of the indirect effect of the limit setting through self-regulation on the initiative was [0.022, 0.123], confirming that the mediating effect was significantly present.

Table 7
The mediating role of Self-regulation in the effects of Limit-setting on Initiative

Step	Variables	*B*	*SE*	*β*	*t*	*F*	R^2
1	Limit-setting → Self-regulation	.283	.044	.337	6.451***	41.622	.111
2	Limit-setting → Initiative	.268	.099	.154	2.693**	11.502	.061
	Self-regulation → Initiative	.335	.119	.161	2.829*		
3	Limit-setting → Initiative	.363	.095	.208	3.832***	14.683	.040

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

The mediating effect of children's self-regulation between overprotection/permissiveness and children's peer competence. Table 8 revealed that overprotection/ permissiveness had a negative impact on the self-regulation parameter (β=-.126, p<.05). In the model that included

Table 8
The mediating role of Self-regulation in the effects of Overprotection/Permissiveness on Sociability

Step	Variables	*B*	*SE*	*β*	*t*	*F*	R^2
1	Overprotection/Permissiveness → Self-regulation	-.110	.048	-.126	2.283*	5.213	.013
2	Overprotection/Permissiveness → Sociability	-.133	.092	-.080	1.447	6.187	.031
	Self-regulation → Sociality	.313	.105	.165	2.999**		
3	Overprotection/Permissiveness → Sociability	-.167	.092	-.100	1.816	3.298	.007

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

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self-regulation, the effect of overprotection and permissiveness on sociability was not significant (β=-.080, p>.05), while self-regulation significantly and positively affected sociability (β=.165, p<.01). Thus, children's self-regulation ability indirectly influenced the impact of maternal parenting behavior on sociability. As a result of bootstrapping, the confidence interval of the indirect effect of overprotection and permissiveness on sociability through self-regulation was [-0.050, 0.000], indicating that the indirect effect was significant.

As presented in Table 9, overprotection/permissiveness had a negative effect on self-regulation (β=-.126, p<.05). In the model that included self-regulation, the effect of overprotection/permissiveness on pro-sociality was not significant (β=.012, p>.05), while self-regulation significantly and positively affected pro-sociality (β=.292, p<.001). This suggests that the child's self-regulation ability indirectly influences the impact of maternal overprotection/ permissiveness on pro-sociality. After conducting bootstrapping analysis, the confidence interval of the indirect effect of overprotection/permissiveness on pro-sociality through self-regulation was [-0.087, -0.007], indicating that the indirect effect was significant.

Table 9
The mediating role of Self-regulation in the effects of Overprotection/Permissiveness on Pro-sociality

Step	Variables	*B*	*SE*	*β*	*t*	*F*	*R²*
1	Overprotection/Permissiveness → Self-regulation	-.110	.048	-.126	2.283*	5.213	.013
2	Overprotection/Permissiveness → Pro-sociality	.021	.091	.012	.227	14.943	.079
	Self-regulation → Pro-sociality	.567	.104	.292	5.447***		
3	Overprotection/Permissiveness → Pro-sociality	-.042	.095	-.024	.442	.195	-.002

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

In Table 10, overprotection/permissiveness was found to be a negative predictor of self-regulation (β = -.126, p<.05). In the model that included self-regulation, overprotection/ permissiveness had a negative effect on initiative (β= -.108, p<.05), whereas self-regulation had a significant positive effect on initiative (β= .199, p<.001). The total effect of overprotection/permissiveness on initiative (β= -.133, p<.05) was statistically significant, and in the model including self-regulation, the effects of overprotection/permissiveness and self-regulation on initiative were both significant, indicating that there is a mediating effect. The Sobel

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Table 10
The Mediating Role of Self-regulation in the effects of Overprotection/Permissiveness on Initiative

Step	Variables	*B*	*SE*	*β*	*t*	*F*	R^2
1	Overprotection/Permissiveness → Self-regulation	-.110	.048	-.126	2.283*	5.213	.013
2	Overprotection/Permissiveness → Initiative	-.197	.099	-.108	1.983*	9.762	.051
	Self-regulation → Initiative	.415	.113	.199	3.668***		
3	Overprotection/Permissiveness → Initiative	-.243	.100	-.133	2.418*	5.844	.015

* $p<.05$, *** $p<.001$

test revealed a significance probability of 0.041, indicating that the mediating effect was statistically significant. In other words, self-regulation was found to mediate the influence of overprotection and permissiveness on initiative. The indirect effect of overprotectiveness and permissiveness on self-regulated initiative was found to be significant, with a confidence interval of [-0.062, -0.005].

The mediating effect of children's self-regulation between rejection/neglect and children's peer competence. Table 11 revealed that rejection/neglect was a negative predictor (β= -.232, $p<.001$) for self-regulation, a parameter. In the model that included self-regulation, rejection and neglect had a positive effect on sociability (β= .182, $p<.01$), while self-regulation had a significant positive effect on sociability (β= .217, $p<.001$). The total effect of rejection/neglect on sociability (β=.132, $p<.05$) was statistically significant, and in the model including self-regulation, the mediating effect was significant as both the effects of rejection/neglect and self-regulation on sociability were significant. The Sobel test yielded a significance probability of 0.004, indicating that the mediating effect was statistically significant. Thus, self-regulation was found to mediate the effects of rejection and neglect on sociability. After conducting bootstrapping analysis, it was found that the confidence interval for the indirect effect of rejection and neglect on sociality, mediated by self-regulation, was [-0.098, -0.024]. This suggests a statistically significant mediating effect.

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Table 11
The mediating role of Self-regulation in the effects of Rejection/Neglect on Sociability

Step	Variables	*B*	*SE*	*β*	*t*	*F*	R^2
1	Rejection/Neglect → Self-regulation	-.187	.044	-.232	4.292***	18.425	.051
2	Rejection/Neglect → Sociability	.280	.085	.182	3.292**	10.697	.056
	Self-regulation → Sociability	.412	.105	.217	3.923***		
3	Rejection/Neglect → Sociability	.203	.085	.132	2.397*	5.748	.014

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

As indicated in Table 12, rejection/neglect was found to be a negative predictor (β=-.232, $p<.001$) for self-regulation, a mediator. In the model including self-regulation, the impact of rejection/neglect on sociability was not significant (β=.078, $p>.05$), while self-regulation had a significant positive effect on sociability (β=.308, $p<.001$). This suggests that children's self-regulation indirectly influences the effects of maternal rejection/neglect on the subfactor of peer competence, namely, sociability. As a result of bootstrapping, the confidence interval of the indirect effect of rejection/neglect on sociability through self-regulation was [-0.113, -0.038], indicating that the indirect effect was significant.

Table 12
The mediating role of Self-regulation in the effects of Rejection/Neglect on Pro-sociality

Step	Variables	*B*	*SE*	*β*	*t*	*F*	R^2
1	Rejection/Neglect → Self-regulation	-.187	.044	-.232	4.292***	18.425	.051
2	Rejection/Neglect → Pro-sociality	.123	.085	.078	1.433	16.037	.084
	Self-regulation → Pro-sociality	.599	.106	.308	5.662***		
3	Rejection/Neglect → Pro-sociality	.010	.087	.007	.120	.014	-.003

*** $p<.001$

As presented in Table 13, rejection/neglect was found to be a negative predictor (β= -.232, $p<.001$) for self-regulation, a mediator variable. Rejection/neglect had a positive effect on assertiveness (β= .161, $p<.01$), and self-regulation had a positive effect on assertiveness (β= .250, $p<.001$), in the model including both variables. Therefore, it can be said that self-regulation indirectly influences the effect of rejection/neglect on assertiveness, which is a sub-factor of peer competence. Through bootstrapping analysis to assess the indirect effect, we found that the

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confidence interval for the indirect effect of rejection/neglect on self-assertion, mediated by self-regulation, was [-0.106, -0.023]. These results indicate a statistically significant indirect effect.

Table 13
The mediating role of Self-regulation in the effects of Rejection/Neglect on Initiative

Step	Variables	*B*	*SE*	*β*	*t*	*F*	R^2
1	Rejection/Neglect → Self-regulation	-.187	.044	-.232	4.292***	18.425	.051
2	Rejection/Neglect → Initiative	.271	.093	.161	2.921**	12.173	.064
	Self-regulation → Initiative	.521	.115	.250	4.545***		
3	Rejection/Neglect → Initiative	.173	.093	.103	.865	3.479	.008

** $p<.01$, *** $p<.001$

Discussion

This study examined the effects of maternal parenting behaviors and children's self-regulation on peer competence in young children. According to research question 1, the results of investigating the relationship between mother's parenting behavior, children's self-regulation ability, and peer competence are as follows.

Regarding the relationship between mothers' parenting behavior and children's peer competence, the study found that limit-setting, as a maternal parenting behavior, exhibited a significant positive correlation with children's sociability and initiative. This finding aligns with previous research that has demonstrated a connection between appropriate maternal limit-setting and children's acceptance in peer groups, positive peer relationships (Lee & Lee, 2010), and higher levels of initiative (Son & Lee, 2002).

On the other hand, the study also identified a significant negative correlation between mothers' overprotection/permissiveness and initiative, which is consistent with Park's(2021) study. This suggests that when mothers display excessive permissiveness and protection without appropriate boundaries, this can result in decreased levels of initiative among children within peer relationships (Moon, 2000). This lack of initiative may lead to children being identified as isolated within the peer group, which can ultimately hinder the development of peer competence.

In contrast to several studies (Kim & Kim, 2020; Lim, 2002; Park & Rhee, 2001) that have shown a positive relationship between maternal warmth and acceptance and children's high peer competence, the present study found no significant correlation between these variables. This

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finding can be explained through previous research conducted by Lee and Moon (2010) and Yu (2013), which suggests that maternal parenting behavior may not have a direct effect on peer competence but can indirectly influence it through other variables.

Lee and Moon (2010) and Yu (2013) propose that maternal warmth/encouragement may impact the internal characteristics of young children, such as self-regulation and emotional regulation, rather than directly influencing their peer competence. It is hypothesized that these internal factors play a mediating role between maternal warmth/encouragement and peer competence. Therefore, it is recommended that future research delve into the internal factors of young children that can have a direct or indirect impact on their peer competency. This could involve investigating the influence of self-regulation, emotional regulation, and other related variables on peer competence. Additionally, it would be beneficial to continue examining environmental factors, such as maternal parenting behavior to gain a better understanding of the dynamics that influence children's peer competence. They will contribute to a more comprehensive understanding of the complex interactions and mechanisms involved in the development of children's peer competence.

According to the study, however, mothers' rejection/neglect parenting had a positive impact on young children's sociability. This finding is inconsistent with previous research that has shown maternal neglectfulness predicts difficulties in forming and maintaining peer relationships (Yu et al., 2018) and low peer competence (Lim, 2006; Kim & Kim, 2020; Park & Rhee, 2001). To explain this unexpected finding, it is suggested that other socio-environmental or intrapersonal factors may act as protective factors in the effect of the mother's rejecting and neglectful parenting behavior on children's peer competence. Specifically, in modern families and society, young children spend significant amount of time in early childhood educational institutions, where teachers have become major environmental influences (Park, 2021). Previous research by Lim (2020) and Han & Moon (2014) has highlighted the importance of a strong teacher-child relationship, which is positively correlated with higher levels of children's peer competence. Lim (2020) specifically found that positive emotional expression by teachers increased young children's sociability and prosocial behavior, while parental emotional expression had no direct relationship with children's peer competence. These findings underscore the significant role that teachers play in the development of children's peer competence. They also highlight the importance of considering various social factors surrounding young children, in addition to parents' parenting behavior. The characteristics of the early childhood educational environment and the quality of teacher-child relationships can have a significant impact on children's social and peer-related outcomes. Therefore, future research should continue to explore the specific mechanisms through which teachers and other social factors contribute to children's peer

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competence. By understanding the interactions between parental and teacher influences, researchers and educators can gain valuable insights into promoting positive peer relationships and competence in young children.

The study's second finding of the study revealed significant relationship between maternal parenting behaviors and children's self-regulation. Specifically, warmth/encouragement exhibited a positive correlation with all sub-factors of self-regulation, while limit-setting showed a positive correlation with all sub-factors of self-regulation except emotionality. On the other hand, overprotection/permissiveness was negatively correlated with emotionality, and rejection/neglect was negatively correlated with both emotionality and behavioral inhibition.

These findings are consistent with previous research conducted by Lee (2010) and Cho (2008), which demonstrated a positive association between maternal rational guidance and children's self-regulation. The results of this study support the notion that maternal parenting behavior plays a significant role in shaping children's self-regulation abilities.

The study's third finding revealed a significant correlation between children's self-regulation and their peer competence. Specifically, self-assessment and self-determination were positively correlated with all sub-factors of peer competence. Behavioral inhibition was positively related to sociability, pro-sociality, and initiative, while emotionality had a significant positive correlation with pro-sociality and initiative.

These findings align with previous studies conducted by Kim and Bae (2016) and Kim and Ryu (2019), which found significant positive correlations between all sub-factors of self-regulation and peer competence. Additionally, studies by Kim and Lee (2009) and Park (2021) supported these results by demonstrating a high correlation between self-regulation and pro-sociality and highlighting the direct effect of self-regulation on peer competence. Overall, these findings suggest that children's self-regulation, which refers to their ability to control behavior and emotions, is closely related to their capacity to establish and maintain positive relationships with peers. Therefore, it is important to consider children's self-regulation as a significant internal factor influencing their peer competence.

For research question 2, the study examined the direct and indirect effects of children's peer competence and mothers' parenting behaviors on children's self-regulation. The mediating role of children's self-regulation in the relationship between maternal parenting behaviors and children's peer competence was explored, and the following results were obtained.

The study found that children's self-regulation has indirect effects on the relationship between maternal parenting behaviors and children's peer competence. Specifically, the study identified the indirect effect of children's self-regulation on the impact of maternal warmth/encouragement, and limit-setting on peer competence. For instance, when examining the

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indirect effect of self-regulation in the relationship between maternal warmth/encouragement and children's initiative, the study found that warmer and more encouraging maternal parenting behavior was associated with higher levels of children's self-regulation. In turn, increased self-regulation had a positive effect on children's initiative. These results suggest that children's self-regulation partially mediates the influence of maternal parenting behavior on children's initiative.

The study's findings also indicated that limit setting had a beneficial influence on both children's peer competence and self-regulation. The inclusion of the mediator (self-regulation) in the model revealed both indirect and mediating effects of limit setting on peer competence. These results are consistent with previous research conducted by Lee and Lee (2010) and Park (2001) , highlighting the positive association between limit-setting and children's peer competence and self-regulation. It suggests that a mother's ability to set appropriate boundaries is crucial in fostering children's peer competency.

Furthermore, overprotection/permissiveness exhibited a negative effect on children's initiative, and children's self-regulation partially mediated this effect. However, it was also noted that there may be other mediating factors besides self-regulation that affect the influence of overprotection/permissiveness on children's initiative. Lee and Lee (2010) conducted a study investigating the role of children's playfulness as a moderator in the influence of maternal parenting behavior on children's peer competence. They found that while negative maternal parenting behavior negatively affects children's peer competence, children's playfulness can partially enhance peer competence. Specifically, when mothers displayed overprotective or permissive parenting behaviors, a negative correlation was found between children's peer competence and their level of initiative. However, it was observed that when cognitive spontaneity, one of the sub-elements of playfulness, was high, there was a positive association between the mother's overprotective or permissive tendencies and the children's initiative. These findings suggest that the effect of a mother's parenting behavior on children's peer competence can be more comprehensively explained by further investigating the mediating effect of diverse variables.

The study also found that children's self-regulation partially mediated the relationship between rejecting/neglectful parenting and sociability. While rejecting and neglectful parenting reduced children's self-regulation, high self-regulation had a positive effect on sociability, contributing to its improvement. Additionally, self-regulation demonstrated a significant indirect effect on the relationship between rejecting/neglectful parenting and the child's pro-sociality and initiative. These results suggest an inconsistent mediation model, indicating that children' self-regulation suppresses the negative impact of rejecting and neglectful parenting on pro-sociality and initiative. Although rejecting and neglectful parenting negatively affects children's self-

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regulation, self-regulation may play a role as an inconsistent mediator, having a positive effect on the child's pro-sociality and initiative.

It is important to note that this study may not fully account for other variables that could potentially impact peer competence. Previous research has highlighted the influence of factors such as a child's temperament or gender on peer competence. For example, Lee et al. (2016) found that children with heightened levels of stimulus-seeking and risk-avoidance tendencies demonstrated lower levels of peer social competence, while those displaying heightened social sensitivity were more likely to maintain enhanced relationships with peers. This suggests that a child's temperament can influence their level of peer competence. Additionally, studies have shown that girls tend to exhibit higher levels of peer competence compared to boys (Kim & Lee, 2008). Considering these factors could provide a more comprehensive understanding of the dynamics influencing children's peer competence.

However, this study is significant in that it reveals the indirect and mediating effects of children's self-regulation on the relationship between maternal parenting behaviors and children's peer competence. By examining maternal parenting behaviors across sub-factors, valuable insights into the specific effects of positive and negative parenting behaviors on children's self-regulation and peer competence are gained. Among the maternal parenting behaviors, limit setting emerges as having a particularly strong influence on both children's peer competence and self-regulation, underscoring the importance of setting appropriate boundaries in parenting. As self-regulation emerges as an important factor in fostering children's peer competence, it becomes crucial to adopt boundary-setting practices that promote self-regulation.

What is more, by revealing that maternal parenting behaviors indirectly influence children's peer competence through the mediation of self-regulation rather than having a direct effect, this study provides a comprehensive and multifaceted view of the complex processes through which maternal parenting behaviors influence children's peer competence and the factors that contribute to peer competence. Additionally, the study empirically demonstrates that the inclusion of children's self-regulation as a mediator amplifies the explanatory power of the relationship between maternal parenting behaviors and children's peer competence, surpassing the explanatory power of the direct effect of maternal parenting behaviors alone. This highlights the importance of children's self-regulation as a significant variable in the relationship between children's peer competence and maternal parenting behaviors. Therefore, to enhance children's peer competence, it is necessary to support the development of children's ability to adapt their behavior and thoughts to different situations.

This study finds that maternal parenting behavior significantly influences children's self-regulation, suggesting that parenting practices can enhance a child's self-regulatory skills. The

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research acknowledges the need for further studies to address the influence of children's self-regulation on the relationship between maternal parenting behavior and children's peer competence, as this area has not been extensively investigated.

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