

Infants' Social Behaviors toward Peers and Teacher Support Behaviors for Peer Interactions in South Korea

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Abstract

The purpose of this study is to investigate infant peer interactions and teachers' support for peer interactions in play and daily context in 1-year-old classrooms. The participants of the study were 74 infants and 18 teachers at daycare centers in South Korea. Peer interactions were categorized into initiating behavior (positive, negative), response behavior(positive, negative, withdrawal), and teacher support behavior (teacher-centered, infant-centered, groups). As a result of examining infants' social behavior toward peers, positive attempts were observed more than negative attempts. Regarding social response behaviors, overall more positive reactions than negative reactions were observed. In addition, more positive social attempts were observed in the daily context compared to the play context. Findings indicated that teachers predominantly used teacher-centered support strategies but 'infant-centered support' was more used in daily routine context than play context. This study provides implications for the importance of infants' active social interaction and how to utilize it in the infant curriculum.

Keywords : *Infant social behaviors, Initiating behavior, Response behavior, Teacher support, Peer interaction*

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Introduction

In recent years, infants in South Korea have enrolled in educational institutions at an increasingly earlier age. The enrollment rates of daycare centers for infants exceeded 75% in 2021. By 2023, this figure had increased significantly, with the enrollment rate for one-year-olds reaching 89.2%, indicating a continued upward trend in daycare attendance among infants (Korea Institute of Child Care and Education, 2024). Also, as infants spend more time in institutional settings, they encounter a broader range of peers than they would at home (Deynoot-Schaub & Riksen-Walraven, 2006).

Due to infants' increased experiences in institutions, the peers they encounter are as important a part of their development as adults such as primary caregivers and teachers (Vaughn et al., 2009). Infants seek meaningful connections not only with adults but also with peers (Rubin et al., 2015), so it is worth paying attention to their interactions with peers in institutions. Infancy is the initial stage at which children begin to experience peer interaction, and the nature of these early experiences plays a critical role in shaping their future peer relationship. These early peer experiences are foundational, influencing later social relationships. Thus, understanding peer interactions in infancy is essential in educational practice. In addition to peers, teachers are among the others that infants encounter in educational settings. Teachers are considered meaningful others who play an important role in infants' lives, similar to the influence of primary caregivers (Yoo & Kim, 2019; Sabol & Pianta, 2012). As such, infants develop relationships with the teachers and peers who surround them in institutional settings through a variety of interactions (Holvoet et al., 2016).

Unlike vertical interactions with adults such as parents and teachers, infants' peer interactions occur in horizontal relationships and influence the development of social behaviors and attitudes through actions such as imitation (Lee, 1999). Peer interaction is a challenging process in which infants' self-motivation is important and its development can be conflicted due to differences in social knowledge and skills (Howes et al., 1998). In these challenging interactions with peers, infants develop relationships through experience, including understanding each other's intentions and responding appropriately. Infants' social competence is revealed, elaborated, and developed through a variety of attempts and efforts to take the initiative in peer interactions. Peer reinforcement and imitation behaviors that infants experience help them to develop into social beings by forming peer relationships

(Brownell et al., 2006). As infants acquire behaviors and attitudes that serve as the basis for peer interaction and relationship through their institutional experiences with peers, it is necessary to study the infancy period in institutions as a sensitive period for the development of peer interaction skills (Fabes et al., 2009).

Peer interactions during infancy play a foundational role in later social development, despite their early-stage limitations. Due to the developmental nature of infancy, this period is often characterized by trial and error in translating peer-oriented social behaviors into actual interactions (Howes, 1988). For example, Williams et al. (2010) found that infants' peer-directed behaviors were frequently met with no response—such as stares or being ignored—highlighting the challenges of achieving reciprocal engagement at this age. Nevertheless, early social attempts hold developmental significance; Fein et al. (1993) reported that infants who more frequently initiated peer-oriented behaviors were more likely to form successful peer interactions in later childhood. These findings suggest that even when not reciprocated, infants' peer-directed behaviors lay the groundwork for future relationship-building skills. As such, the first two years of life are critical for acquiring foundational social competencies that support later peer relationships (Williams et al., 2010).

A very wide range of behaviors are displayed in interactions with other infants (Fabes et al., 2009). Infants may initiate interactions by smiling or greeting their peers, and they may use their entire body to express their feelings toward their peers, including hugging, kissing, touching, and calling names. Infants also show thoughtful concern for their peers and make efforts to help each other (Shin, 2010). However, peer interaction research has typically more interests in the attempts and outcomes of three behavioral tendencies: approaching others, opposing others, and moving away from others, rather than in the details of behaviors (Rubin et al., 2006). This approach has resulted in studies centered on social ability, helping, aggression, or withdrawal in infants' interaction experiences, with most studies focusing on individual differences (Rubin et al., 2006). Thus, there is a lack of research that can provide a broader understanding of the range of behaviors that infants use in their social attempts toward peers.

Given the growing understanding that infants vary in the types of peer interaction behaviors they use as they grow and that these behaviors may have developmental tendencies, studies have begun to examine the types of social behaviors infants engage in toward peers. Peer-oriented behaviors in 12-month-old infants identified the following social behaviors in

walking infants: touching, handing, pointing, arguing, laughing, talking, teaching, cooperating, and caring (Kawakami & Takai-Kawakami, 2015). In Yoo's (2016) study of peer interaction among 1- and 2-year-olds, the types of social behavior toward peers were divided into approach, contact, object-oriented behavior, imitation, and verbal behavior, and in the case of contact and object-oriented behavior, they were divided into positive and negative types. In the case of verbal behavior, it was divided into semi-verbal behavior, vocalization, and speech. Infants' observed social relationships with peers in a 1-year-old classroom and found that infants attempted to relate to peers through 10 categories of behaviors: showing emotional expressions, imitating, expressing physical aggression, attempting to establish a relationship with the teacher, providing playthings, attempting to establish a relationship with playthings, suggesting verbal play, attempting to reconcile, approaching nonverbally, and attempting to play with peers (Choi, 2017). As above, there are many different types of peer-facing social behaviors that infants use.

Despite a growing awareness of the abilities associated with peer interaction in infants, there is still less research on peer interaction in infants compared to peer interaction in toddlers (Kim, 2010; Jung & Bae, 2015). In addition, previous studies have been conducted in unfamiliar environmental context, such as laboratories, rather than in natural context where infants form and develop peer relationships (Eckerman & Peterman, 2001). However, infant peer interactions are highly variable across environmental context (Fabes et al., 2009), and there is a need to study infant peer interactions in natural settings. Furthermore, much of the existing research has focused only on infants' behaviors in play context, overlooking the broader range of social interactions that occur during daily routines within classroom contexts. To address this gap, observational research in authentic childcare settings is essential for capturing the complexity of infant peer relationships. Such research also provides a foundation for identifying environmental and interpersonal factors—particularly the teacher's role—that influence the development of peer relationships in early infancy.

In educational institutions, infants encounter both peers and teachers as meaningful social partners. Teachers, as adults who spend extended periods with infants and establish daily routines, play an essential role in shaping the infants' social environments (Yoo & Kim, 2019). These early institutional experiences are not only relational but also foundational for infants' socialization (Yoo, 2016). Given that infants' social development unfolds across diverse environmental contexts (Bronfenbrenner & Morris, 1998), the quality of teacher-infant

interactions is considered a key factor influencing infants' ability to engage with peers (Williams et al., 2010). Teachers support infants in navigating social situations and provide models for appropriate social behavior, thereby indirectly shaping peer interaction patterns (McGaha et al., 2011). Consequently, the teacher's role has been recognized as central in creating environments conducive to positive peer relationships (Kim, 2017), especially within the structured setting of early childhood education.

Teachers, who are the primary adults interacting with infants in childcare settings, also play a central role in shaping the social environment (Yoo & Kim, 2019). The institutional experiences that infants have with their teachers serve as an important variable that influences their socialization process (Yoo, 2016). The relationships that infants develop with their teachers unfold in a variety of environmental context (Bronfenbrenner & Morris, 1998) and are linked to peer interaction development and socialization skills during infancy and later school years (Williams et al., 2010). This is because, among the variables that influence infants' peer interaction development, the teacher in the classroom is the primary variable that influences the types of behaviors that infants exhibit as they develop relationships with their peers (McGaha et al., 2011). Therefore, the importance of teachers among the variables affecting peer interactions has been consistently emphasized (Kim, 2017).

Teachers' support of infants' peer interactions directly or indirectly influences their peer relationship formation (Shin, 2010; Williams et al., 2010). Teachers can provide support for infants' social experiences with peers in a variety of ways, one of which is by directly participating in and acting on infants' peer interactions. Teachers' actions in the context of infants' social behavior toward peers can be disruptive (Williams et al., 2010), or their actions can be positive, enabling infants' interactions to develop (Shin, 2010). Based on their understanding of infants' peer interactions, early childhood teachers should endeavor to positively influence the development of peer relationships through effective support.

Although teacher support in the development of infants' ability to interact with peers is important, most studies have focused on infant-teacher interactions and relationships. Infant-teacher relationships and interactions have been mostly rated by teachers and studies have focused on the correlations between infant-teacher relationships and infant-peer relationships, but not on the relationship between infant-peer interactions and teacher support. In addition, studies on infant-peer interactions and teacher support have focused on conflict situations (e.g., Yoo, 2004; Ha, 2011). Although research has shown that teacher support, especially

appropriate support, in infant peer conflict situations can lead to positive conflict resolution, there has been less research on teacher support in general peer interaction situations. Ramsey (1991) found that the most effective social support was provided by constant coaching and modeling provided by teachers in the context of natural peer interactions. Therefore, this study aims to explore how teachers support infants' peer interactions in order to provide a foundation for effective practice. The research included not only playtime but also daily routine contexts such as arrival, cleanup, snack time, lunch, and toileting, to capture a comprehensive view of peer interactions and teacher support throughout the day. The research questions are

1. What are the patterns of social behavior toward peers in 1-year-old classroom infants?
2. What are the patterns of infant interaction support behaviors of 1-year-old classroom teachers?

Research Method

Participants

The study was conducted with a total of 18 teachers and 74 infants at daycare centers located in Seoul and Gyeonggi in South Korea. There were 74 infants in the 1-year-old classrooms, 45 (60.81%) boys and 29 (39.19%) girls, with an average age of 25 months ($SD=4.42$). The general background of the teachers in the study was is shown Table 1 below.

Table 1. *Teacher background information* *N=18*

Background category		N
Types of daycare centers	Public	8
	Private	4
	workplace	6
Education	CDA	2
	AA	8
	BA	5
	MA	6
Teaching experiences	-3 years	7
	3-5 years	5
	5- years	6

Procedures

Infant social behavior toward peers

Infants' social behaviors toward peers refer to actions that express interest in peers and serve to initiate interactions (Santos et al., 2014). Such behaviors are generally classified into two types: initiating behaviors directed toward peers and response behaviors following peer initiation. In order to examine infants' social behaviors toward peers, this study used the categories of children's contacts with peers that Deynoot-Schaub and Riksen-Walraven (2006) used in their study of 15-month-olds' peer relationships. Based on a preliminary study, the original observation categories were reviewed and partially revised to reflect the developmental characteristics of older infants, ensuring appropriateness and validity for this age group. Infants' initiating behaviors toward peers are presented in Table 2 below. Regarding types of infants' response behaviors to peers, the category of withdrawal was added to the response behavior category. Also, 'accept peer's request' behavior was added in the positive behavior.

Table 2. *Types of infants' initiating and response behaviors to peers*

type	Initiating behavior	Response behavior
Positive	look	look
	points to object or other person	points to object or other person
	smiles	smiles
	reaches for or touches an object held by another person (friendly)	reaches for or touches an object held by another person (friendly)
	gives affection (e.g., hugs or kisses)	gives affection (e.g., hugs or kisses)
	shows, offers, or gives an object	shows, offers, or gives an object
	imitates positive/neutral behaviors of another person	imitates positive/neutral behaviors of another person
	vocalizes words or non-distress sounds	vocalizes words or non-distress sounds
	X	accept peer's request
Negative	hits, pushes, pulls, bats at, or kicks other person	hits, pushes, pulls, bats at, or kicks other person
	forcefully tugs or grabs away an object held by another person.	forcefully tugs or grabs away an object held by another person.
	vocalizes words or distress sounds(unfriendly)	vocalizes words or distress sounds(unfriendly)
Withdrawal	X	withdrawal

Teacher support behaviors for infant peer interactions

Teacher support for infant peer interactions refers to the intentional and responsive educational practices that focus on infants' social cues and needs to foster, facilitate, and sustain peer relationships in the childcare context. In this study, Williams et al.'s (2010) categorization of teacher-centered, child-centered, and group-targeted strategies was used to examine teachers' infant peer interaction support behaviors, with some consolidation, deletion, and addition of examples from preliminary research. The definitions of teachers' support behaviors for infants' social behavior toward peers used in this study are presented in Table 3 below.

Table 3. *Types of social scaffolding of peer interactions*

type		definition(example)
teacher-centered	give directives	giving instructions on how to interact or explaining social rules
	move child	physically moving infants away from peers
	distract	eliminate objects that two or more peers interact with together
	move object	using other means to alienate infants from peers
	other	actively recruiting and inviting infants to join groups that include the teacher and one or more peers
infant-centered	recruit into peer group	physically move infant closer to peers (within 1 meter)
	initiate proximity	bringing infants together with existing groups of peers and teachers
	incorporate into peer group	to attract the infant's attention to the peer, point out the existence of the peer, or talk about what the peer is doing, the peer's objects or clothes, the peer's feelings or intentions, or the infant's feelings and intentions toward the peer. Talking to Infants
Groups	Informal group interaction	interacting informally with infants and peers

Procedure

Prior to decision to participate in the current study, researchers explained the purpose and methodology of the study in detail to teachers. Researchers install cameras in each classroom for the best observation of infants' facial expressions and behaviors in order to understand the variety of behaviors that infants use to attempt to interact with their peers, including

verbal attempts as well as non-verbal attempts such as gazing and smiling (Hay et al., 2009). The observations were conducted during the morning time (from 8:30 a.m. to 12:00 p.m.) in order to capture a balanced view of infants' spontaneous play and various daily routines, including arrival, cleanup, snack time, and meals.

Ethical consideration

For ethical consideration of the research, a research guide for parents was provided including the purpose, participation period, and research procedures and methods. Consent from parents was obtained through the daycare centers. The consent from teachers was obtained with provision of information of the research purpose, participation period, research procedures, expected risks and procedures associated with the study, protection of personal information, and freedom to withdraw consent. In order to protect the personal information of infants and teachers when analyzing research data, the name of all participants and centers were made anonymous.

Data analysis

Infant and teacher behaviors were coded using INTERACT8 (Mangold, 2018) and frequencies were calculated. SPSS 22.0 was used to examine the patterns of infants' peer interaction events during the daily routine and to determine the frequency and proportion of infants' social behaviors toward peers and teachers' supportive behaviors. To ensure the reliability and validity of the coding process during data analysis, the primary researcher repeatedly reviewed the recorded video data to identify and sample peer interaction events and categorize both infants' social behaviors toward peers and teachers' supportive behaviors. All video data were analyzed by the primary researcher. To enhance coding reliability, inter-rater agreement was calculated in collaboration with a secondary researcher who holds a doctoral degree in early childhood education. The primary researcher provided the secondary coder with detailed explanations of the coding categories, including definitions and examples of the beginning and end of interaction episodes, types of peer interaction events, and the specific social behaviors and teacher support behaviors coded in the study. Both researchers independently coded sample episodes from a pilot video and compared the number and types

of interaction events and behavior frequencies. Discrepancies were discussed in depth, and coding criteria were refined to improve clarity and consistency. After sufficient training on the coding software, both researchers independently coded a portion of the first official dataset. The initial inter-rater agreement was 81%, and subsequent discussions and joint reviews of discrepancies led to consensus coding and refinement of the operational definitions, resulting in an inter-rater agreement exceeding 95%. Only after this high level of agreement was reached did the main coding process using the computer program begin. Throughout the analysis, all video segments were repeatedly reviewed to enhance the accuracy and rigor of the coding process.

Results

Aspects of infants' social behavior toward peers

Infant's social initiating behavior toward peers

Table 4 shows the frequency and proportion of each type of socially initiating behavior toward peers used by infants. A total of 863 attempts were made by infants toward their peers, of which 606 (70.22%) were positive attempts and 19 (29.78%) were negative attempts. The most common positive attempt was 'shows, offers, or gives an object', while the most common negative attempt was 'forcefully tugs or grabs away an object held by another person'.

In the play context, there were 356 positive attempts (61.70%) and 221 negative attempts (38.30%). The most common positive attempts were 'shows, offers, or gives an object' while the most common negative attempts were 'forcefully tugs or grabs away an object held by another person'. In the daily routine context, there were 250 positive attempts (87.42%) and 36 negative attempts (12.58%). In daily routine context, the most common positive attempts were 'vocalizes words or non-distress sounds' and 'hits, pushes, pulls, bats at, or kicks another person' were the most common negative trial behaviors. It can be seen that 1-year-olds attempted to interact with peers in more positive than negative ways in institutions, with a relatively higher proportion of positive attempts in daily routine context compared to play context.

Table 4. *Social initiating behavior toward peers*

Context infants' social initiating behavior toward peers		Total frequency (%)		Play frequency (%)		daily routine frequency (%)	
positive	look	109	(12.63)	59	(10.22)	50	(17.48)
	points to object or other person	40	(4.64)	19	(3.29)	21	(7.34)
	smiles	51	(5.91)	33	(5.72)	18	(6.29)
	reaches for or touches an object held by another person (friendly)	71	(8.23)	36	(6.24)	35	(12.24)
	gives affection (e.g., hugs or kisses)	17	(1.97)	9	(1.56)	8	(2.80)
	shows, offers, or gives an object	153	(17.73)	108	(18.72)	45	(15.73)
	imitates positive/neutral behaviors of another person	30	(3.48)	17	(2.95)	13	(4.54)
	vocalizes words or non-distress sounds	135	(15.64)	75	(13.00)	60	(21.00)
	sub-total	606	(70.22)	356	(61.70)	250	(87.42)
negative	hits, pushes, pulls, bats at, or kicks other person	85	(9.85)	68	(11.78)	17	(5.94)
	forcefully tugs or grabs away an object held by another person	153	(17.73)	136	(23.57)	17	(5.94)
	vocalizes words or distress sounds (unfriendly)	19	(2.20)	17	(2.95)	2	(0.70)
	sub-total	257	(29.78)	221	(38.30)	36	(12.58)
	total	863	(100.00)	577	(100.00)	286	(100.00)

Infants' social responsive behavior toward peers

Table 5 shows the frequency and proportion of each type of social responsive behavior toward peers used by infants. A total of 630 socially responsive behaviors toward infants' peers were observed in the 1-year-old classroom, of which 341 (54.13%) were positive responses, 218 (34.60%) were negative responses, and 71 (11.27%) were rejections. The most common positive response behavior was 'accept peer's request', while the most common negative response behaviors was "vocalizes words or distress sounds(unfriendly)".

Table 5. *Social responsive behavior toward peers*

infants' social reaction behavior toward peers \ context		total frequency (%)		play frequency (%)		daily routine frequency (%)	
positive	look	66	(10.48)	40	(8.75)	26	(15.03)
	points to object or other person	10	(1.59)	7	(1.53)	3	(1.73)
	smiles	35	(5.55)	17	(3.72)	18	(10.40)
	reaches for or touches an object held by another person (friendly)	7	(1.11)	5	(1.09)	2	(1.16)
	gives affection (e.g., hugs or kisses)	2	(0.32)	1	(0.22)	1	(0.58)
	shows, offers, or gives an object	16	(2.54)	11	(2.41)	5	(2.89)
	imitates positive/neutral behaviors of another person	40	(6.35)	28	(6.13)	12	(6.94)
	vocalizes words or non-distress sounds	29	(4.60)	19	(4.16)	10	(5.78)
	accept peer's request	136	(21.59)	93	(20.35)	43	(24.85)
	sub-total	341	(54.13)	221	(48.36)	120	(69.36)
negative	hits, pushes, pulls, bats at, or kicks other person	37	(5.87)	29	(6.35)	8	(4.63)
	forcefully tugs or grabs away an object held by another person	49	(7.78)	48	(10.50)	1	(0.58)
	vocalizes words or distress sounds(unfriendly)	132	(20.95)	107	(23.41)	25	(14.45)
	sub-total	218	(34.60)	184	(40.26)	34	(19.66)
withdrawal		71	(11.27)	52	(11.38)	19	(10.98)
total		630	(100.00)	457	(100.00)	173	(100.00)

In the play context, positive responsive behaviors occurred 221 times (48.36%), negative responsive behaviors occurred 184 times (40.26%), and withdrawal behaviors occurred 52 times (11.38%). In the play context, the most common positive response behavior was 'accept peer's request', while the most common negative responsive behavior was 'vocalizes words or distress sounds (unfriendly)'.

In the daily routine context, positive response behaviors were observed 120 times (69.36%), negative response behaviors 34 times (19.66%), and rejection behaviors 19 times (10.98%). In daily routine context, the most common positive response behavior was 'accept peer's request',

compared to that the most common negative response behavior was "vocalizes words or distress sounds(unfriendly)". The results show that the proportion of positive reactive behaviors is relatively high in the daily context and the proportion of negative reactive behaviors is relatively low in the play context. In particular, in the play context, 'smile' appears more often as a positive response, and 'hits, pushes, pulls, bats at, or kicks another person' appears less often as a negative response.

Teacher's behavior to support infant peer interactions

The frequency and proportion of each type of teacher peer support behavior observed in the 1-year-old classrooms is shown in Table 6. Teachers' infant peer interaction support behaviors were observed a total of 781 times, of which adult-focused support behaviors were observed 439 times (56.21%), infant-focused support behaviors were observed 278 times (35.59%), and group-focused support behaviors were observed 64 times (8.20%). The most common teacher-centered support behavior was 'give directives', while the most common infant-centered support behavior was 'communicate about peers'.

Table 6. *Behaviors that support infant peer interactions by teachers*

context		total (N=781)		play (N=581)		daily routine (N=200)	
teachers' support behavior							
teacher- centered	give directives	244	(31.24)	184	(31.67)	60	(30.00)
	move child	63	(8.07)	42	(7.23)	21	(10.50)
	distract move object	26	(3.33)	24	(4.13)	2	(1.00)
	other	68	(8.71)	61	(10.50)	7	(3.50)
	recruit into peer group	24	(3.07)	22	(3.79)	2	(1.00)
	initiate proximity	14	(1.79)	11	(1.89)	3	(1.50)
sub-total		439	(56.21)	344	(59.21)	95	(47.50)
infant- centered	incorporate child in peer group	15	(1.92)	13	(2.24)	2	(1.00)
	communicate about peers	263	(33.67)	170	(29.26)	93	(46.50)
	sub-total	278	(35.59)	183	(31.50)	95	(47.50)
Groups	informal group interactions	64	(8.20)	54	(9.29)	10	(5.00)
total		781	(100.00)	581	(100.00)	200	(100.00)

In the play context, a total of 581 teacher support behaviors were observed, of which 344 behaviors (59.21%) were adult-focused, 183 behaviors (31.50%) were infant-focused, and 54 behaviors (9.29%) were group-focused. The most common teacher-centered support behavior was ‘give directives’, while the most common infant-centered support behavior was ‘communicate about peers’. In the daily routine context, adult-focused support behaviors were used 95 times (47.50%), infant-focused support behaviors were used 95 times (47.50%), and group-focused support behaviors were used 10 times (5.00%). The most frequently occurred teacher-centered support behavior was ‘give directives’, while the most common infant-centered support behaviors were ‘communicate about peers’. In other words, teachers use teacher-centered support more than other support types, but in daily routine context, compared to play context, teachers use less teacher-centered support and more communicate about peers among infant-centered support.

Discussion and Conclusion

The purpose of this study was to examine infants' social behaviors toward their peers and teachers' supportive behaviors in 1-year-old classrooms at the daycare centers. The results are discussed as follows. First, we examined infants' social attempts toward their peers and found that positive initiating behaviors outnumbered negative initiating behaviors in the classrooms. In particular, the proportion of positive attempts was higher in the daily routine context compared to the play context. This is consistent with the findings of Deynoot-Schaub and Riksen-Walraven (2006), who found that infants used more positive approaches to attempt peer interactions. In the 1-year-old class, ‘showing or handing objects’ was the most common positive behavior observed in the play context, and ‘making (positive) verbalizations’ was the most common in the daily routine context. During play, objects such as education materials play a major role in interactions (Mueller & Vandell, 1979), whereas in daily routine context, children often express their social interests in each other verbally without the medium of objects. Experiencing positive interactions with peers has a positive impact on the development of social skills in infants (National Institute of Child Health and Human Development Early Child Care Research Network [NICHD ECCRN], 2001), and a

higher rate of social interaction attempts in a positive manner is considered meaningful because it is more likely to develop positive interactions.

For infants, more positive initiating behaviors were observed in daily routine contexts than in play contexts, a pattern consistent with Kawakami and Takai-Kawakami's (2015) findings that infants are more likely to engage in altruistic behaviors toward peers during daily routines. In this study, more prosocial behaviors were observed such as holding a crying peer's hand and giving a bib to a peer in daily routine context than in play context. This suggests that the daily routine context is appropriate to provide infants with opportunities for positive interactions with peers, and that infants have the ability to spontaneously engage in prosocial behaviors toward peers.

Next, as a result of examining the infant's social response behavior toward peers, positive responses were observed more than negative responses overall. Also, positive responses were more common in daily routine context than in play context. This can be inferred from the fact that the social initiation behavior towards peers discussed earlier also showed more positive initiation in daily routine context, and therefore, the response behavior was also positive. In particular, the most common positive response was 'accepting' (an object offered by a peer). Considering infants' initiating behaviors, we can speculate that positive attempts are often accompanied by positive responses such as accepting an object offered by a peer. This shows that interactions with objects are often rewarded in infancy (Williams, Ontai et al., 2010). We can also see that the rate of positive responsive behaviors such as laughter is higher in daily routine context than in play, which suggests that daily routine context can be a good context for positive interactions with peers. These findings align with previous studies documenting early peer-directed social attempts among infants (Santos et al., 2014; Deynoot-Schaub & Riksen-Walraven, 2006). However, this study contributes uniquely by extending the observation beyond play context to include daily routines context, highlighting the diverse contexts in which infant peer interactions occur.

The higher number of negative responses in play context compared to daily routine context could also be explained by the infants' use of negative initiating behaviors in play context, and thus the higher number of negative response behaviors in response to negative initiating behaviors by peers. The peer interactions that led to these negative initiating and response behaviors can also be meaningful experiences for infants as they become socialized (Vaughn

et al., 2003). Experiencing the process of constructively resolving peer conflicts that may arise from negative behaviors allows them to develop social skills in reasoning about others' feelings, regulating their own behavior, and relating to peers. While overall positive behaviors exceeded negative ones, the relatively small difference between positive and negative responses in the play context suggests that this context may include more complex or challenging peer interactions, which may prompt both prosocial engagement and conflict. This nuanced pattern highlights the need to understand play not only as a site for positive interaction but also as a context where infants practice managing social tension. Importantly social behaviors toward peers that result in negative reactive behaviors should be supported by teachers who provide experiences that allow infants to learn social skills as an educational opportunity rather than a negative experience that must be stopped.

Second, it was found that teachers generally used 'teacher-centered support' often in the classrooms, but 'infant-centered support' was used in daily routine context compared to play context. In particular, teachers used more infant-centered support, such as 'talking about peers', and less teacher-centered support, such as 'giving directions', in the daily routine context compared to the play context. This may be related to the fact that the infant's attempt and response behaviors were more positive in the daily routine context than in the play context, and teachers may be providing support in the daily routine context by talking about peers, such as explaining the infant's positive behavior to peers. On the other hand, similar to previous studies (Kemple et al., 1996; Williams et al., 2010) that showed that in peer conflict situations that occur during play time, teachers decide on a support method and provide teacher-centered support for the convenience of class management, in the play context, teachers often rely on directive strategies based on classroom management needs rather than infants' intentions. It can be assumed that instructions are often given in a way that is deemed appropriate. However, infants in play context are highly influenced by the support they receive from their teachers, so teacher support in play context needs to be very thoughtful (Jung & Recchia, 2013). Therefore, rather than using a directive approach in play context, teachers need to shift to identifying infants' intentions in interacting with their peers and providing support that is appropriate for the play context.

In early childhood education settings in Korea, there is a strong emphasis on the importance of active teacher support during playtime. In contrast, daily routines are often

viewed as opportunities for natural interactions. Therefore, it can be inferred that teachers are more likely to engage in spontaneous, infant-centered interactions during daily routines rather than adopting a teacher-centered approach. This may explain why child-centered interactions appear more frequently in daily routine contexts than during play context. In particular, infant-centered supports, such as 'talking about peers' clothing and behavior', can be helpful for infants who are just beginning to learn how to take an interest in and relate to peers. Teachers need to use infant-centered support to help infants develop the ability to relate to peers in a positive way, in both daily routines and play context, so that infants' social behaviors toward peers can develop into positive social interactions. At the same time, teacher-centered support plays an important role in modeling appropriate social behaviors and guiding interactions when necessary. Therefore, a balanced use of both teacher-centered and infant-centered support is essential. While teacher-centered strategies can scaffold social development in early stages, infant-centered approaches help foster autonomy, initiative, and more authentic peer engagement. Maintaining this balance allows for flexible, responsive interactions that are developmentally appropriate and context-sensitive.

There are several implications based on the findings of this study. First, curricula for infant classrooms may need to explicitly incorporate guidance on supporting infant peer interactions, including that infants have the ability to use social behaviors to form relationships with peers in a variety of ways. In particular, rather than viewing infants as self-centered and having limitations in their ability to form relationships with peers, teacher education should emphasize that infancy is a time when they practice and develop various skills to form relationships with peers, so teacher support is important. Second, teachers in infant classrooms need to be trained to recognize the educational opportunities that infants have to learn to relate to their peers and to support them in ways that are conducive to their development in the long term, not just in the short term for the convenience of classroom management. Finally, with the current emphasis on play, teachers need to be trained to understand that not only play, but also daily routine context are good context for learning social skills, and that daily routines can be an important educational time, not merely transitional moments but essential opportunities for social learning.

Limitations of this study include the following Although this study examined infants' social attempt and responses to peers and teachers' supportive behaviors by type, it did not

analyze the order in which these behaviors occurred, limiting the ability to examine the development of the interaction. Therefore, it would be helpful to analyze the relationship between infants' social behaviors and teachers' supportive behaviors in the context of infants' peer interactions in a sequential order.

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