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Children's Social Behaviors in Relation to the Quality of Teacher-Child Interactions and Teachers' Beliefs

This study examined how the quality of teacher-child interactions and the teachers' beliefs about their influence on children's social behaviors were related to children's social behaviors. The subjects were 206 children at the age of five and 52 of their teachers in 49 daycare centers. Children's social behaviors were recorded using observational categories. The quality of teacher-child interactions was measured by a rating scale that originated from the OSDCP (Rhee et al., 2003). The results were as follows: 1) Children who experienced high-quality interactions with their teachers showed fewer purposeless solitary behaviors and negative behaviors toward their peers and interacted toward their teachers more frequently than did those who experienced low-quality interactions with their teachers. 2) Children whose teachers believed that they had a great deal of influence on children's social behaviors displayed fewer purposeless solitary behaviors and more positive behaviors toward peers than did children whose teachers considered their influence less important. 3) After controlling the contributions of children's gender and teacher's training experience, the quality of teacher-child interactions and teachers' beliefs explained about 14% of the total variance of children's purposeless solitary behaviors. In addition, the

quality of teacher-child interactions and teachers' beliefs accounted for 6% of the total variance of children's positive behaviors toward peers. Also, the amount of explanation of the predictive variables accounts for 9% of the total variance of children's behaviors toward their teachers.

With the increase in maternal employment and parental concern about early childhood education in Korea, more and more children have enrolled daycare centers. According to a survey by the Korean Ministry of Health and Welfare (2009), the number of childcare centers was 1,919 in 1990, and exponentially increased to 33,499 in 2008. The survey data also showed that about 41% of Korean children between the ages of 0 and 5 used childcare facilities, and the number of children who had day care experience at an early age has rapidly increased. Furthermore, taking into account the fact that young children spent a large part of their time in educational facilities, the experiences they gained from day care centers may be as important as those acquired from their families (Choi & Rhee, 2005). In particular, a teacher is one of the crucial environmental factors that constitute children's day care experiences and thus influence children's development, including their social behaviors (Hamre & Pianta, 2001; NICHD, 2005). With this notion, many efforts to identify the characteristics of teachers related to children's social behaviors have been made (MaCarteny et al., 1997).

According to the previous research, the teacher-

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Key Words: children's social behaviors, quality of teacher-child interactions, teachers' beliefs

child interactions were closely associated with children's social behaviors. To be specific, it has been reported that children were competent in their peer relationships and showed positive behaviors when interacting with their teachers in a warm and open manner (Arnett, 1989; Dunn, 1993; Holloway & Reichhart-Erickson, 1988, 1989; Kwak, 1996; Kontos & Wilcox-Herzog, 1997; NICHD, 2005; Rudasill & Rimm-Kaufman, 2009). In particular, Berry and O'Connor (2010) found that the quality of teacher-child relationships was positively associated with children's social skill development. That is, the higher the quality of teacher-child relationships, the more positive the children's social behaviors. In contrast, when teachers ignored or denied children's emotions, children were more likely to display aggressive and negative social behaviors (Hamre & Pianta, 2001; Pianta, 1994; Pianta, Nitmetz & Bennett, 1997).

Moreover, teachers play an important role in instructing and disciplining children. When interacting with children in a positive way by praising, acknowledging, and encouraging good behaviors, and setting appropriate limits regarding negative behaviors for children, teachers can reinforce children's positive behaviors and prevent undesirable behaviors (Schneider, 1992). However, if teachers do not control children's undesirable behaviors appropriately or interact with children in such coercive ways as punishing and denouncing, children's behaviors may deteriorate (Arnold, McWilliams & Arnold, 1998; Clarke-Stewart *et al.*, 2002; Dunn, 1993).

As mentioned above, most of the previous research on the teachers' influence on children's social behaviors have mainly focused on the behavioral characteristics of teachers rather than their cognition. However, teachers' cognitive aspects, which may be a source of their behaviors, are also as important as their behavioral aspects (Clark & Peterson, 1986). Cognitive aspects of teachers refer to patterns of what they believe and think, including their expectations, thoughts, and beliefs toward children's development (Choi & Rhee, 2005; Park, 2006).

Researchers pointed out that the teacher is an agency of reflective thinking (Bandura, 2001; Parjares, 1992) and that one's beliefs and behaviors are closely interrelated (Charlesworth *et al.*, 1991;

Nespor, 1987; Stipeck & Byler, 1997). In this sense, teachers' cognitive aspects may either directly or indirectly affect children's development. In addition, educational beliefs, expectations, and teachers' efficacy are closely related to children's development and accomplishments (Cho, 1997; Shin, 2000). That is, the more positive teachers' expectations for their children's development and the more they believe in their influences on children, the higher the levels of the children's accomplishment and development. Particularly, Shin (2000) observed that when teachers regarded their role as important, they tended to interact frequently with their children. Also, the children were more likely to participate in cooperative-constructive play or cooperative-dramatic play with peers than children whose teachers thought of their roles as less important. This suggests that teachers' beliefs may be related to their children's social behaviors in meaningful ways.

Given that teachers' beliefs as well as their interactive behaviors are correlated to children's social behaviors, it is necessary to investigate how these variables associate with one another. Unfortunately, there has been few research that identified relations among teacher-child interactions, teachers' beliefs, and children's social behaviors in an integrative manner. Similarly, there are only a few studies that employed direct observations to evaluate teacher-child interactions. In this respect, it is necessary to specify teachers' beliefs which are related to their children's social behaviors, to observe teacher-child interactions, and to examine how these interactions are related to children's social behaviors.

Therefore, this study aimed to investigate how the quality of teacher-child interactions and teachers' beliefs are related to their children's social behaviors, focusing on five-year-old children in the age at which the frequency and the complexity of social behaviors increases. To be specific, the purpose of this study was to investigate whether differences in children's solitary behaviors and behaviors toward peers depend on the quality of teacher-child interactions and the teachers' beliefs regarding the importance of their roles in forming children's social behaviors. It is expected that the current research would provide specific suggestions helpful both in

improving children's positive social behaviors and in minimizing negative social behaviors by teachers in day care centers. Additionally, by looking into the cognitive aspects of teachers, this study may be able to make noteworthy implications contributing to the developing in-service teacher training program to change teachers' cognitive process and enhance the quality of teacher-child interactions. The questions of this study are as follows:

1. Are there any differences in children's social behaviors depending on the quality of teacher-child interactions?
2. Are there any differences in children's social behaviors depending on the teachers' beliefs about their influence on their children's social behaviors?
3. To what extent do the quality of teacher-child interactions and teachers' beliefs explain children's social behaviors?

SUBJECTS AND METHODS

Subjects

The subjects of this study were 206 children (102 boys and 104 girls) at the age of five and 52 of their teachers in 49 daycare centers around the Seoul and Gyeonggi area. There were 52 classrooms involved; one classroom from each of 46 centers and two classrooms from each of the remaining three centers. Four children were randomly selected from each classroom among those who met the following criteria: (a) children were under their teachers' care for at least six months, and (b) children were staying at the center for more than five hours a day. Of the 208 children, a total of 206 children remained after two boys were excluded from the final analysis due to their incomplete data. The children averaged 66 months old, ranging from 60 months to 71 months of age.

They stayed at their daycare centers for approximately eight hours a day on average. The average age of the teachers was 27.3 years old; 88.3% of them had a two-year college education or higher educational backgrounds; 70.8% had one to five years of experience as a daycare teacher; and 57.3% had a teacher training experience, ranged one to

twice per year. 65.5% of the daycare centers were public, 20.9% were employer-supported, and 13.6% were privately owned and operated. The average class size was 20 children.

Measurement

Children's social behaviors A child's social behavior was defined as the child engaging in any behaviors either by him/herself, toward their peers, or toward their teachers in the classroom. Based on the Holloway and Reichart-Erickson's (1988) observational categories, children's social behaviors in the classroom were classified into solitary behaviors, behaviors toward their peers, and behaviors toward their teachers. Solitary behaviors and behaviors toward peers included two subcategories each, which were purposeful solitary behaviors and purposeless solitary behaviors for the former, and positive behaviors and negative behaviors for the latter. Accordingly, children's social behaviors were considered one of the following five categories: (a) purposeful solitary behaviors (e.g., art activities, puzzle), (b) purposeless solitary behaviors (e.g., straying, wandering), (c) positive behaviors toward peers (e.g., sharing, smiling), (d) negative behaviors toward peers (e.g., hitting, pushing), and (e) behaviors toward teachers (e.g., playing with their teachers).

Using a time sampling method, children's social behaviors were observed during free play time for 40 minutes a day across two different days (i.e., a total of 80 minutes). During the first 20 minutes of the first visit, four children in a classroom was successively observed in a random order for a 5-min observation session each, which included twenty 10-s observation periods and twenty 5-s coding periods. The observer repeatedly observed the children following the same order during the remaining 20 minutes. A total of 80 behavior samples were obtained for each child (i.e., four observation periods per minute, five minutes four sessions).

Five observers participated in the observational sessions for children's social behaviors, and the interobserver reliability was assessed by having two independent observers code the four children's behaviors in a classroom and calculating their agreement. The Cohen's Kappa coefficients obtained

from each pair of five observers ranged from .78 to .83.

Quality of teacher-child interactions The quality of teacher-child interactions was measured using 14 items, all of which were selected from the subscale regarding the teacher-child interactions of the Observation Scale for Day Care Programs (Rhee *et al.*, 2003) and modified by the investigators. This scale was a 3-point descriptive rating scale, ranged from 1 to 3. Each of the items described teacher’s susceptible and responsive attitudes, verbal interactions, positive behavior guidance, or participating in and extending children’s play. The possible range of total score was 14 to 42. A higher score indicates a higher quality of teacher-child interactions. The Cronbach α for all 14 items was .91.

The observers visited each class during the free play time in the morning and observed the teacher-child interactions for approximately 60 minutes a day. The correlation coefficient between the four pairs of eight raters ranged from .86 to .94, and the average was .89.

Teachers’ beliefs To assess the teacher’s beliefs about their influences on the social behaviors of their children, the researchers developed a scale based on the Scale for Belief (Bately, 2002). The scale used in this study consisted of 14 items: each item was assessed how much the teacher believed that he or she could influence their own children’s social behaviors. Sample items from this scale were “How much do you believe that you as a teacher could influence increasing children’s prosocial behaviors?”

and “How much do you believe that you as a teacher could influence decreasing children’s aggressive behaviors?” The scale was a 5-point Likert scale, ranged from 1 (not at all) to 5 (very much so). A higher score indicated that the teacher regarded his or her influence on children’s social behaviors as more important. The internal consistency coefficient, Cronbach α , was .91.

Data Analysis

The data were analyzed using the following procedures. First, prior to the analyses of the research questions, descriptive statistics were computed for the variables included in the study. Second, t-tests were conducted to examine the differences in children’s social behaviors depending on the quality of teacher-child interactions and the teachers’ beliefs. Third, hierarchical regressions were used to determine the influences of the quality of teacher-child interactions and the teachers’ beliefs on children’s social behaviors.

RESULTS

Descriptive statistics for the main variables are presented in Table 1, followed by the results of analyses examining the research questions.

Differences in Children’s Social Behaviors Depending on the Quality of Teacher-Child Interaction and Teachers’ Beliefs

To examine the differences in children’s social behaviors and their dependence on the quality of

Table 1. *Descriptive Statistics of Variables*

(N=206)

			Frequency (%)	Mean (SD)
Child	Solitary Behaviors	Purposeless	971 (5.9)	4.71 (6.68)
		Purposeful	4,694 (28.5)	22.79 (13.78)
	Behaviors Toward Peers	Positive	7,951 (48.2)	38.60 (14.38)
		Negative	1,972 (12.0)	9.57 (8.48)
	Behaviors Toward Teachers		892 (5.4)	4.33 (4.78)
	Total		16,480 (100.0)	-
Teacher	Quality of Teacher-Child Interactions		-	29.21 (7.08)
	Teachers’ Beliefs		-	56.87 (7.13)

teacher-child interactions, t-tests were conducted. Based on the scores on the teacher-child interactions ($M=29.21$, range 14-41), the children were divided into two groups; upper group for 30 or more and lower group for less than 30. The results are presented in Table 2.

As shown in Table 2, there were significant differences in children's purposeless solitary behaviors ($t=-2.99$, $p<.01$), negative behaviors toward peers ($t=-1.80$, $p<.1.0$), and behaviors toward teachers ($t=3.28$, $p<.001$) between the upper and lower groups with respect to the quality of teacher-child interactions. That is, children who experienced high-quality interactions with their teachers showed fewer purposeless solitary behaviors and negative behaviors toward peers and interacted toward their teachers more frequently than did those who experienced low-quality interactions with their teachers.

Differences in Children's Social Behaviors Depending on the Teachers' Beliefs

To examine the differences in children's social

behaviors and their dependence on the quality of teacher-child interactions t-test were conducted. Based on their teachers' scores on the teachers' beliefs about the influence of a teacher on children's social behaviors ($M=56.87$, range 41-70), the children were divided into two groups; upper group for 57 or more and lower group for less than 57.

As Table 3 indicates, there were also significant differences in purposeless solitary behaviors ($t=-2.44$, $p<.05$) and positive behaviors toward peers ($t=2.80$, $p<.01$) between the upper and lower groups with respect to the teachers' beliefs. That is, children whose teachers believed that they had a great deal of influence on children's social behaviors display fewer purposeless solitary behaviors and more positive behaviors toward peers than did children whose teachers considered their influence to be less important.

The Effects of the Quality of Teacher-Child Interactions and Teachers' Beliefs on Children's Social Behaviors

Prior to conduct hierarchical regression analyses, the correlation coefficients among the variables included

Table 2. Means, SD, and t-values of Children's Social Behavior Depending on Quality of Teacher-Child Interactions (N=206)

			Quality of Teacher-Child Interactions		t
			Upper Group (n=103) M(SD)	Lower Group (n=103) M(SD)	
Social Behaviors of Children	Solitary Behaviors	Purposeless	3.35 (4.45)	6.08 (8.13)	-2.99**
		Purposeful	23.59 (14.55)	21.98 (12.98)	.84
	Behaviors toward Peers	Positive	39.15 (14.29)	38.05 (14.53)	.54
		Negative	8.51 (7.28)	10.63 (9.45)	-1.80 ⁺
	Behaviors toward Teachers		5.40 (4.81)	3.26 (4.53)	3.28***

⁺ $p < .10$, ** $p < .01$, *** $p < .001$

Table 3. Means, SD, and t-values of Children's Social Behavior Depending on Teacher's Beliefs

(N=206)

			Teacher's Beliefs		t
			Upper Group (n=106) M(SD)	Lower Group (n=100) M(SD)	
Social Behaviors of Children	Solitary Behaviors	Purposeless	3.61(5.14)	5.88 (7.85)	-2.44*
		Purposeful	21.76 (14.03)	23.87 (13.49)	-1.10
	Behaviors toward Peers	Positive	41.26 (15.20)	35.77 (12.95)	2.80**
		Negative	8.92 (7.38)	10.27 (9.51)	-1.14
	Behaviors toward Teachers		4.44 (4.85)	4.21 (4.73)	.35

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

in the study, which are showed in Table 4.

To determine to what extent the quality of the teacher-child interactions and teachers' beliefs can explain children's social behaviors, hierarchical regressions were conducted. In the regression equations, children's solitary behaviors, behaviors toward peers, and behaviors toward teachers were entered as a dependent variable, respectively while the quality of teacher-child interactions and teachers' beliefs served as independent variables.

Preliminary analyses were conducted to control the contributions of demographic variables that were significantly related to the dependent variables. These demographic variables were children's gender and teacher's educational background, work experience and teacher training experience. Among those variables, children's gender was significantly related to both their purposeful solitary behaviors ($r=-.16$, $p<.05$) and negative behaviors toward peers ($r=.28$, $p<.001$). That is, girls were more likely to engage in purposeful solitary behaviors than boys whereas boys were more likely to exhibit negative behaviors toward their peers than girls. The teacher training experience was correlated with children's purposeless solitary behaviors ($r=-.14$, $p<.05$). As a result, these two variables were entered into the first step of each

regression equation to be controlled.

The results of the hierarchical regressions in which children's solitary behaviors served as the dependent variable are shown in Table 5.

As shown in Table 5, after controlling the contributions of children's gender and teacher's training experience, the quality of teacher-child interactions ($\beta=-.29$, $p<.001$) and teachers' beliefs ($\beta=-.21$, $p<.01$) explained about 14% of the total variance of children's purposeless solitary behaviors. This means that the higher the quality of teacher-child interactions and the more influence the teachers believed that they had on their children's social behaviors, the fewer purposeless solitary behaviors the children exhibited in their classroom.

The full model of children's purposeful solitary behaviors was significant ($R^2=.05$, $p<.001$). The quality of teacher-child interactions and teachers' beliefs accounted for 14% of the variance of children's purposeful solitary behaviors. Boys displayed fewer purposeful solitary behaviors than did girls ($\beta=-.16$, $p<.05$). In addition, the more the teachers believed that teachers influence their children's social behaviors, the fewer purposeful solitary behaviors the children showed ($\beta=-.15$, $p<.05$). However, after controlling the contributions of the variables entered

Table 4. Correlations Analysis among Variables

	Gen	Exp	Sch	Tra	Cla	Bel	Qua	Pul	Puf	Pos	Neg	Tci
Gen	-	-.01	.00	.03	-.02	.02	.00	-.00	-.16*	.01	.28***	-.04
Exp	.01	-	.04	.20**	-.07	.01	-.26***	-.01	-.07	.01	.13	-.05
Sch	.00	.04	-	.11	.08	-.03	.07	.08	.08	-.04	-.09	-.06
Tra	.03	.20**	.11	-	-.05	-.22***	.14	-.14*	-.00	.09	-.06	.05
Cla	-.02	-.07	.08	-.05	-	.00	-.02	.11	.07	-.10	-.01	-.05
Bel	.02	.01	-.03	-.22***	.03	-	.07	-.20**	-.13	.22**	.03	-.03
Qua	.00	-.26***	.07	.14*	-.02	.07	-	-.32***	.05	.10	-.16*	.30***
Pul	-.00	-.01	.08	-.14*	.11	-.20**	-.32***	-	.05	-.42***	-.11	-.09
Puf	-.16*	-.07	.08	-.00	.07	-.13	.05	.05	-	-.72***	-.42***	-.03
Pos	.01	.01	-.04	.09	-.10	.22**	.10	-.42***	-.72***	-	-.09	-.18**
Neg	.28**	.13	-.09	.06	-.01	.03	-.16*	-.11	-.42***	-.09	-	-.14*
Tci	-.04*	-.05	-.06	-.05	-.05	-.03	.30***	-.09	-.03	-.18**	-.14	-

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

Note. Gender = 0 girl, 1 boy; Exp = Teacher Experience; Sch = Teachers' School Level; Tra = Teacher Training; Cla = Class Size; Bel = Teachers' Beliefs; Qua = Quality of Teacher-Children Interactions; Pul = Purposeless Solitary Behaviors; Puf = Purposeful Solitary Behaviors; Pos = Positive Behaviors toward Peers; Neg = Negative Behaviors toward Peers; Tci = Behaviors toward Teachers

Table 5. Summary of Hierarchical Analysis for the Children's Solitary Behaviors

(N=206)

	Solitary Behaviors			
	Purposeless		Purposeful	
	Step 1 β	Step 2 β	Step 1 β	Step 2 β
Children's Gender	.00	.01	-.16*	-.16*
Teacher Training	-.14	-.15*	.00	-.04
Quality of Teacher-Child Interactions		-.29***		.07
Teachers' Beliefs		-.21**		-.15*
ΔR^2	.02	.14***	.03	.02
R^2		.16		.05
F		9.30***		2.56*

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

Note. For children's gender, girl was coded as 0, boy was coded as 1

Table 6. Summary of Hierarchical Analysis for the Children's Behaviors toward Peers

(N=206)

	Behaviors toward Peers			
	Positive		Negative	
	Step 1 β	Step 2 β	Step 1 β	Step 2 β
Children's Gender	.00	-.00	.28***	.28**
Teacher Training	.09	.13	-.07	-.04
Quality of Teacher-Child Interactions		.06		-.16*
Teachers' Beliefs		.24***		.02
ΔR^2	.01	.06**	.08***	.02
R^2		.07		.10
F		3.76**		5.83***

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

Note. For children's gender, girl was coded as 0, boy was coded as 1.

in the first step, the quality of teacher-child interactions and teachers' beliefs did not make an additional contribution to explaining the variance of children's purposeful solitary behaviors.

Table 6 presents the results of the hierarchical regressions in which children's behaviors toward peers were the dependent variables.

As shown in Table 6, the quality of teacher-child interactions and teachers' beliefs accounted for 6% of the total variance of children's positive behaviors toward peers. The greater influence the teachers believed that they had on children's social behaviors, the more frequently the children showed positive behaviors toward their peers in the classroom

($\beta = .24$, $p < .001$). For children's negative behaviors toward peers, boys displayed negative behaviors toward their peers more frequently than did girls ($\beta = .28$, $p < .001$). However, the quality of teacher-child interactions and teachers' beliefs did not explain the additional variance of children's negative behaviors toward peers.

Finally, as Table 7 shows, the quality of teacher-child interactions predicted children's behaviors toward their teachers. That is, the higher the quality of teacher-child interactions, the more frequently the children engaged in behaviors toward their teachers in the classroom ($\beta = .30$, $p < .001$). The results revealed that the amount of explanation of the

Table 7. Summary of Hierarchical Analysis for the Children's Behaviors toward Teachers

(N=206)

	Behaviors toward Teachers	
	Step 1 β	Step 2 β
Children's Gender	-.04	-.04
Teacher Training	.05	.01
Quality of Teacher-Child Interactions		.30***
Teachers' Beliefs		-.05
ΔR^2	.00	.09***
R^2		.09
F		5.04***

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

Note. For children's gender, girl was coded as 0, boy was coded as 1.

predictive variables accounts for 9% of the total variance of children's behaviors toward their teachers.

DISCUSSION AND CONCLUSIONS

The purpose of this study was to investigate how the quality of teacher-child interactions and the teachers' beliefs were related to children's social behaviors. This section summarizes the major findings of this study, discusses the limitations of the study, and makes several suggestions for future research. Finally, conclusions are presented based on the findings.

First, the results showed that there were differences in children's social behaviors between the upper group and the lower group regarding the quality of teacher-child interactions. That is, children in the upper group in terms of the quality of teacher-child interactions exhibited fewer purposeless solitary behaviors and negative behaviors toward their peers while they engaged in behaviors toward their teachers more frequently than did children in the lower group. This result is consistent with the outcomes of Kwak (1996) which suggested that children whose teachers showed the lower quality of the teacher-child interactions displayed purposeless behaviors more than did other children. In addition, these findings are in accord with those of Shin (1992), which showed that children who attended high quality daycare centers tended to interact with their teachers in a more positive way than children

who were enrolled in low-quality daycare centers. In this study, the high quality of the teacher-child interactions meant that teachers guided children in sensitive and positive manners and helped children extend their play. Therefore, it may be that the high-quality interactions with their teachers prevented the children from engaging in purposeless solitary behaviors including wandering around their classrooms.

For children's behaviors toward peers, there were significant differences in the negative behaviors toward peers depending on the quality of teacher-child interactions (Berry & O'Connor, 2010; Chang, 2004; Hamre & Pianta, 2001). This finding suggests that children who had low quality interactions with their teachers were more likely to exhibit negative behaviors when interacting with their peers than those who effectively interacted with their teachers. As Kwak (1996) pointed out, it is plausible that teachers who ineffectively interact with their children are more apt to ignore children's negative behaviors and to spend more time, restricting children's behavior rather than actively interacting with the children during the free play time. In other words, these teachers may not successfully interact with their children to help them resolve the conflict with their peers properly, which might result in increasing children's negative behaviors toward their peers.

Second, when teachers believed that they had a greater effect on children's social behaviors, the children exhibited fewer purposeless solitary behaviors and behaved positively toward their peers more

frequently. According to several studies (Daniels & Shumow, 2003; Quinn-Leering, 1999), teachers' beliefs reflect on the interactions with their children, thereby indirectly influencing each child's behaviors. Based on this argument, the current study calculated the correlation coefficient between teachers' beliefs and the quality of teacher-child interactions in order to investigate the possibility that the quality of teacher-child interactions may mediate the relation between teachers' beliefs and children's social behaviors (Choi & Rhee, 2005). However, there was no significant correlation between the teachers' beliefs and the quality of teacher-child interactions, which is inconsistent with the aforementioned opinion. There may be a possible explanation for this finding. It is possible that the teachers' beliefs may have influenced children social behaviors by constructing classroom environments rather than via their interactive behaviors. In fact, according to the results of Abbott-Shim, Lambert, and McCarty (2000), teachers' beliefs do not influence the quality of interaction, but rather, indirectly affect children through educational environments such as educational activities. Although it is difficult to provide any direct evidence to support such an interpretation because the current study did not include the data regarding teachers' efforts to constructing classroom environments, further research needs to examine the possibility that the teachers' beliefs may indirectly be related to the educational environments of their classroom, which in turn may influence children's social behaviors.

The results showed that there was no significant relation between the teachers' belief and quality of teacher-child interactions, which is inconsistent with Charlesworth *et al.* (1991) and Lee (2003). This might be because the teachers' belief on children's social behaviors was domain-specific whereas the quality of teacher-child interactions indicated how the teacher generally interacted with children in the classroom. If the quality of teacher-child interactions had been observed in specific contexts related to children's social behaviors, the relation between the teachers' belief on children's social behavior and quality of teacher-child interactions would have been significant.

Third, this study examined the extent to which the quality of teacher-child interactions and the teachers' beliefs accounted for children's social behaviors. The results demonstrated that even after controlling the influences of children's gender and teachers' training, both the quality of teacher-child interactions and the teachers' beliefs were significant predictors of children's social behaviors. Specifically, for children's purposeless solitary behaviors, both the teachers' beliefs and the quality of teacher-child interactions were significant predictors. This is consistent with Song (2004) in which children were likely to engage in non-play behaviors such as wandering when the quality of teacher-child interactions was low. It is possible that children's purposeless solitary behaviors may have resulted from the lack of teachers' engagement in the classroom.

In addition, children's negative behaviors toward their peers were negatively associated with the quality of teacher-child interactions, which is partly consistent with Arnold *et al.* (1998), Berry and O'Connor (2010). According to Arnold *et al.*, teachers responding to children's negative behaviors in a coercive way (e.g., punishment) may cause children's negative social behaviors. It might be that children who experience low quality interactions with their teachers tend to interact with their peers in the similar way as they do with their teachers. Consequently, the low quality of the teacher-child interactions may deteriorate children's negative social behaviors (Berry & O'Connor, 2010; Gazelle, 2006).

On the contrary, children's positive behaviors toward their peers were related to the teachers' beliefs, which is consistent with Queen-Leering (1999) reporting that teacher's beliefs about prosocial behaviors related to promoting children's prosocial behaviors. It may be reasonable to interpret that teachers who consider it important to encourage children's prosocial behaviors are likely to provide activities and environments supporting positive peer relationships, thereby promoting children's prosocial behaviors.

It should be noted that there are a few limitations of this study. One limitation is that the quality of

teacher-child interactions measured in this study did not reflect the quality of interactions between a teacher and a given child. Instead, it merely indicated the general characteristics of teacher-child interactions within a certain class. Consequently, it is unclear how the interactions between the teacher and an individual child contributed to the child's social behaviors in a specific way. Future research needs to observe the interactions between teachers and individual children in order to better identify the influence of the quality of teacher-child interactions on children's social behaviors. Moreover, considering that the relations between teachers' behaviors and children's behaviors are bidirectional, it would be meaningful to explore children's characteristics which may elicit teachers' interactive behaviors. Another limitation is that children's social behaviors toward their teachers were measured only by the frequency whereas children's solitary behaviors and behaviors toward their peers were assessed by the frequency as well as qualitative aspects; for example, their solitary behaviors were classified either as being purposeful or purposeless, and then the frequency of behaviors in each of these two subcategories were measured. Similarly, children's behaviors toward their peers were generically classified either as being positive or negative. However, the frequency measure of children's behavior toward their teachers cannot provide sufficient information about how children behaved toward their teachers. Future research needs to measure children's behaviors toward their teachers with greater details such as positive behaviors (e.g., smile, help) and negative behaviors (e.g., whine, shows temper). Such an effort could make it possible to provide more useful information to better understand the relations among children's social behaviors, teacher-child interactions, and teachers' beliefs.

Despite these limitations, the results of this study provide meaningful implications for effective teacher training programs. To date, most of teacher training programs have mainly focused on teaching practices and activities. However, as the results showed, teachers' beliefs as well as their behavioral aspects may contribute to promoting children's desirable social behaviors. Thus, when designing a teacher

education program, it would be necessary to put more emphasis on helping teachers understand the importance of their role in facilitating children's social behaviors and become more vigilant in interacting with their children.

In conclusion, in order to increase children's positive behaviors and to reduce their negative social behaviors such as purposeless behaviors, not only do teachers need to realize that they have a crucial influence on their children's social behaviors, but they also have to interact with their children in a responsive way.

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Received April 7, 2010

Revised May 27, 2010

Accepted May 27, 2010