Teacher–child relationships and social competence: A two-year longitudinal study of Chinese preschoolers

Xiao Zhang a,b,c,⁎, Jari-Erik Nurmi c

a Department of Early Childhood Education, The Hong Kong Institute of Education, Hong Kong, China
b School of Psychology, Beijing Normal University, China
c Department of Psychology, University of Jyväskylä, Finland

A R T I C L E  I N F O

Article history:
Received 17 November 2010
Received in revised form 23 February 2012
Accepted 6 March 2012
Available online 25 April 2012

Keywords:
Teacher–child relationships
Social competence
Cross-system generalization
Home
School
Chinese children

A B S T R A C T

Based on a two-year and three-wave longitudinal sample of 118 Chinese preschoolers, the present study examined the cross-lagged associations between teacher–child relationships and social competence, and the cross-system generalization of social competence between home and school. At each of the three waves, teachers rated the children’s teacher–child relationships and social competence in school, and mothers rated the children’s social competence at home. The results showed that high closeness and low conflict in teacher–child relationships at three months after preschool entry (T1) predicted children’s social competence in school at the end of the first preschool year (T2). T1 teacher–child closeness also predicted social competence at home at the end of the second preschool year (T3). Although early home competence did not predict later school competence, T2 school competence was associated with T3 home competence. Finally, T2 school competence fully mediated the path from T1 teacher–child closeness to T3 home competence.

© 2012 Elsevier Inc. All rights reserved.

Teachers, especially in children’s preschool years, often perform caregiving functions resembling those of parents. Like parents, teachers care for children’s safety, soothe them when they are upset, and guide them when they misbehave. Over the past three decades, a sizeable body of research has accumulated on the relationships between teachers and children; much of this research has focused on explicating the correlates and consequences of individual differences in teacher–child relationships (Birch & Ladd, 1998; Hamre & Pianta, 2001; Howes, Hamilton, & Matheson, 1994; O’Connor, Dearing, & Collins, 2010; Pianta, Nimetz, & Bennett, 1997; Wentzel, 1998). The quality of such relationships has been linked with a host of child functioning variables. It has been found, for example, that negative relationships with teachers are associated with a variety of school adjustment difficulties, including school disengagement (e.g., Birch & Ladd, 1997), poor language and academic skills (e.g., Hamre & Pianta, 2001), and internalizing (e.g., Howes et al., 1994) and externalizing (e.g., O’Connor et al., 2010) problems. In this study, we assess longitudinal, bidirectional relations between teacher–child relationships (i.e., closeness and conflict) and children’s social competence in both the school and home settings. Specifically, we assess whether relationships with teachers predict change over time in children’s social competence in school and at home. We also assess whether social competence predicts change over time in teacher–child relationships. Additionally, we assess whether children’s social competence carries over from home to school or from school to home (i.e., cross-system generalization of competence between home and school settings).

Teacher–child relationships and children’s social competence

From an attachment perspective, young children’s relationships with teachers reflect the quality of the emotional connection between the two parties (Bergin & Bergin, 2009). Children with secure teacher–child relationships will approach others with positive attitudes and expectations. Consequently, they will be more likely to become socially competent (Hamre & Pianta, 2001). In contrast, children with insecure relationships will form negative working models of the social world and will be less likely to become socially competent (Howes et al., 1994). From a social-cognitive perspective, teachers who have high-quality teacher–child interactions may provide children with adaptive models of how to solve social problems and teach appropriate social and cognitive skills that encourage children’s development of competence (O’Connor et al., 2010). By contrast, low-quality interactions may limit teachers’ readiness and abilities to...
provide positive behavioral supports for children’s social development (O’Connor et al., 2010).

Research documenting the connections between teacher–child relationships and child outcomes has focused mainly on children’s problematic behavioral styles (e.g., antisocial, asocial, and withdrawal behaviors; Birch & Ladd, 1998; Hamre & Pianta, 2001; O’Connor et al., 2010). It has been established that the extent to which children exhibit internalizing and externalizing problems is associated strongly with the quality of their relationships with teachers. For example, Silver, Measelle, Armstrong, and Essex (2005) found that teacher–child conflict during the school transition predicted faster rates of increase in externalizing problems from kindergarten through third grade, and that teacher–child closeness contributed to decreases in externalizing problems for children with higher levels of externalizing upon school entry.

Evidence has also emerged in support of the role that teacher–child relationships play in children’s positive behavioral styles. Close-ness in teacher–child relationships has been found to contribute to both observed and teachers’ perceptions of social competence skills in preschool, kindergarten, and elementary school, even after controlling for the effects of prior skills and/or other potential confounding variables (Birch & Ladd, 1998; Howes et al., 1994; Mashburn et al., 2008; Pianta & Stuhlman, 2004). Moreover, high teacher–child close-ness and low teacher–child conflict have been found to contribute independently to the prediction of social competence in both preschool (Ewing & Taylor, 2009) and elementary school (Howes, 2000).

Relationships between teachers and children develop as the two parties interact with each other. It is not surprising that both teacher and child attributes contribute to these relationships. Again, research connecting child attributes to teacher–child relationships has focused heavily on children’s problematic behavioral styles: Both internalizing and externalizing problems have been found to be predictive of high conflict and low closeness in these relationships (Birch & Ladd, 1998; Hamre, Pianta, Downer, & Mashburn, 2007; Jerome, Hamre, & Pianta, 2008). Relatively little attention has been paid to positive behavioral styles. As far as we know, only three studies have examined the role of social competence in teacher–child relationships. One cross-sectional study found that primary children’s social competence predicted their perceptions of their relationships with teachers (Blankemeyer, Flannery, & Vazsonyi, 2002). By contrast, two longitudinal studies of pre-primary children found that early social competence (i.e., sociability, prosocial behavior) did not predict any aspects of later teacher–child relationships after controlling for the effects of early relationships (Birch & Ladd, 1998; Howes, Phillipsen, & Peisner-Feinberg, 2000).

The evidence supporting both the effects of teacher–child relationships on social competence and the effects of competence on teacher–child relationships suggests that the two constructs might be reciprocally related. Several adult–child interaction models also posit such bidirectional effects. Patterson’s coercion model suggests that, in the interactions between children and their significant adults (e.g., teachers), both parties are active participants (Patterson, Reid, & Dishion, 1992). In his four-step process of escape conditioning, Patterson illustrated the mutual influences between adult and child. Sameroff’s (1975) transactional model also supports the reciprocal influences between social competence and teacher–child relationships. Central to this model are the bidirectional effects between individuals and their social context. These two models have been applied to examine mutual influences between teacher–child relationships and children’s behavior problems (e.g., Zhang & Sun, 2011). In a study of kindergarten children, for example, aggressive behavior at the beginning of kindergarten significantly predicted teacher–child conflict, which, in turn, predicted aggressive behavior at the end of the kindergarten year (Doumen et al., 2008). The theoretical perspectives and corresponding research suggest that social competence and relationships with teachers might be mutually influenced. Yet previous research has predominantly investigated either the effects of teacher–child relationships on competence or the effects of competence on teacher–child relationships, and little attention has been paid to bidirectional effects. Only two studies (Birch & Ladd, 1998; Howes et al., 2000) have investigated simultaneously the effects of teacher–child relationships on children’s competence behavior and the effects of competent behavior on teacher–child relationships. However, both studies focused on elementary-school-age children. No studies have systematically examined such bidirectional effects in preschool children. Moreover, both studies used unidirectional analyses to test the effects in each direction separately and did not consider bidirectional statistical analyses.

One goal of this study is to examine the bidirectional links between teacher–child relationships and social competence during the preschool years by employing bidirectional analyses. Three competing hypotheses were generated for the study: (1) early positive teacher–child relationships predict later social competence (i.e., teacher-driven effect); (2) early competence predicts later positive teacher–child relationships (i.e., child-driven effect); and (3) competence and teacher–child relationships are reciprocally related (i.e., bidirectional effects). To test these hypotheses, we applied a model comparison approach within a structural equation modeling (SEM) framework in a cross-lagged design with both teachers’ and parents’ reports on core variables.

**Teachers’ and parents’ reports of children’s social competence**

It is acknowledged widely that multiple informants contribute valuable information to the examination of childhood functioning in both research and practice (Achenbach, McConaughy, & Howell, 1987; Renk & Phares, 2004). Children often exhibit different strengths and competencies in different settings, where they are observed by different people. Parents observe their children at home but rarely see them in the classroom. Teachers rarely interact with students in the students’ homes but observe a variety of student behaviors in the classroom. Although children’s setting-specific competencies may result in a certain degree of disagreement between informants (Renk & Phares, 2004), it is a common practice for both researchers and practitioners to administer competence assessments to multiple informants.

In this study, we use parents’ and teachers’ reports to assess children’s social competence at home and in school, respectively. Although it has been found that relationships with teachers provide a basis for children’s later school competence (Birch & Ladd, 1998; Ewing & Taylor, 2009; Howes et al., 1994; Mashburn et al., 2008; Pianta & Stuhlman, 2004), it remains unclear whether these relationships contribute to the competence that children display at home and is observed by parents. Similarly, although evidence suggests that school competence plays a role in teacher–child relationships (Blankemeyer et al., 2002), it is unclear whether these relationships can be predicted by competence at home. In this study, we measure social competence at home and in school to fully understand the prospective associations between teacher–child relationships and social competence at both settings.

Our second goal is to examine the cross-system generalization of social competence between home and school settings. Developmental and clinical researchers have long been interested in the generalization of social skills learned in one environment to other environments (i.e., the setting generalization; Sheridan, Warnes, & Dowd, 2004). It is acknowledged in the literature that skill use in natural social settings is more likely to promote generalization across settings than that in decontextualized settings (Sheridan et al., 2004). In both longitudinal and intervention studies, it has been found that children’s competence, when established early in the family, can carry over to their classrooms (e.g., Webster-Stratton, Reid, & Hammond, 2001) and that competence that is fostered through school training can also be generalized to the home environment (e.g., Domitrovich, Cortes, & Greenberg, 2007). Hence, we anticipate both directions of
cross-system generalization in this study. Specifically, we hypothesize that parent-reported social competence predicts and is predicted by teacher-reported competence.

Our third goal is to test whether teacher-reported competence mediates the associations between teacher–child relationships and parent-reported competence. We argue here that the interplay of teacher–child relationships and school competence and the cross-system generalization of competence between the school and home settings jointly account for the mechanism underlying the associations between teacher–child relationships and home competence. The effect of home competence on school relationships is not likely to take place if the competence does not carry over from home to school and affects the school relationships; similarly, the effect of school relationships on home competence would also be impossible if the relationships do not influence school competence or if school competence is not linked to home competence.

Presumably, children learn about and practice new social skills within teacher–child interactions at school (Myers & Pianta, 2008) and then apply these skills in subsequent interactions at home which are observed by their parents (Domingrovich et al., 2007). Similarly, children may also apply social skills that they acquire at home in subsequent interactions with teachers and peers in school (Myers & Pianta, 2008); these skills, in turn, are observed by teachers and contribute to the quality of their teacher–child relationships (Myers & Pianta, 2008). Thus, we hypothesize that teacher-reported competence mediates the paths from early teacher–child relationships to later parent-reported competence and the paths from early parent-reported competence to later teacher–child relationships, if any. More specifically, we hypothesize that the quality of early teacher–child relationships predicts later teacher-reported competence, which, in turn, predicts parent-reported competence. We also hypothesize that early parent-reported competence predicts later teacher-reported competence, which, subsequently, predicts the quality of teacher–child relationships.

Our final goal is to test the robustness of the findings for our model in two key respects. First, we examine whether five potential candidates for "common causes" implicated in previous research (Hamre & Pianta, 2001; Rudasill, 2011; Silver et al., 2005) could account for any of the observed effects. To this end, we add the child’s sex, maternal education, temperament, and internalizing and externalizing problems to the final model, with the expectation that any cross-lagged effect would prove robust to inclusion of these control variables.

Second, we test sex differences in the observed effects to evaluate whether the child’s sex moderates the associations between social competence and teacher–child relationships. The existing evidence is mixed for such sex differences. Hamre and Pianta (2001) found that negativity in teacher–child relationships (i.e., dependency and conflict) in kindergarten was more predictive of social adjustment outcomes throughout the eighth grade for boys than for girls, whereas Ewing and Taylor (2009), in a study of preschool children, found that the quality of teacher–child relationships (closeness and conflict) was more predictive of school competence and externalizing behavior for girls than for boys. In addition, several other studies found no significant sex differences in the associations between teacher–child relationships and social adjustment outcomes (Howes, 2000; Silver et al., 2005). Moreover, the extent to which findings derived from studies of Euro-American children apply to children in other cultures, such as a culture of son preference in Asian societies (Chen, Huq, & D’Souza, 1981), remains unclear. In the present study of Chinese children, we expect significant sex differences in the interplay of teacher–child relationships and social competence, but specific predictions are not made due to the lack of conclusive evidence from previous studies regarding this topic.

Young children in China

To achieve the above-mentioned goals, we use a longitudinal sample of Chinese preschool children. Traditional childhood education currently faces both internal and external challenges in China. Since the implementation of the one-child policy in 1979, Chinese family structures and relationships have undergone great changes (Chen, Cen, Li, & He, 2005). Only children receive extraordinarily high levels of responsiveness and attention from their parents (Jiao, Ji, & Jing, 1986). These childrearing practices may have potential harmful effects. A study conducted in Beijing documented that only children were less persistent, more ego-centric, and less cooperative than children with siblings (Jiao et al., 1986). The question of how schools adapt to accommodate only children has become an important concern in China’s education system.

Obedience and interdependence are highly emphasized in traditional Chinese culture. Yet with the full-scale move toward a market economy starting from the early 1980s, China has become more open to individualistic values and ideologies such as liberty, individual freedom, and independence (Chen et al., 2005). Many Chinese people, including parents and teachers, have gradually accepted these values and ideologies. Chinese families and schools have also begun to expand their educational goals to include helping children develop social skills such as independence, self-assertiveness, and individual autonomy.

For young children in China, three main types of early childhood programs are available: nurseries (for 2-year-olds), kindergartens (for 3- to 5-year-olds), and pre-primary programs (for 6-year-olds). In 2007, 44.6% of the 3- to 6-year-olds (55.6% in urban areas) attended early childhood programs (National Bureau of Statistics of China, 2008). In urban areas (e.g., Beijing), nurseries and kindergartens are usually combined into preschools that provide full-day care/education for children aged 2–5 years. The children are generally grouped by age. Four groupings have high prevalence: nursery class (2-year-olds), junior class (3-year-olds), middle class (4-year-olds), and senior class (5-year-olds). Class size increases with age, ranging from 10 to 40 children. Each class typically has one or two homeroom teachers and one to four nursery teachers. Both homeroom teachers and nursery teachers take the responsibility for feeding children, handling their daily routines, and keeping them physically safe. Homeroom teachers are also responsible for teaching children.

The children included in this study were a group of preschoolers who were navigating the transition from home to preschool. For Chinese children, this transition marks a qualitative change in context with accompanying physical, cognitive, and social challenges. Because the organization of early care and education in China rarely involves home- or center-based care for infants and toddlers, this transition also represents children’s first occasion to establish relationships with teachers.

Method

Participants

Participants were recruited from six nursery classes at three urban preschools (two public and one private) in Beijing, China and were identified with parental consent upon preschool entry. Each class had 17–23 children, one homeroom teacher, and from two to four nursery teachers. Neither families nor teachers were compensated for their participation. At Time 1 (T1; i.e., three months after the children’s preschool entry), of the 127 children solicited, 118 children (56 boys, 62 girls; M = 33.3 months old, SD = 3.1 months) participated with their parents and homeroom teachers. All the children were of Chinese origin and attended preschool year-round. Most of the children (92.4%) were ethnic Han Chinese, and the remaining ethnic Man, Hui, or Mongolian Chinese. Most (95%) were only children, and those who were not had one sibling. Data from three mothers were not obtained due to various reasons (e.g., divorce), and for one child, teacher-reported data were not obtained. The mean age of mothers was 31.4 years (SD = 3.1 years), the mean age of fathers was 33.7 years (SD = 3.4 years), and the mean per-capita monthly
income was $304 (SD = $219). Most parents (97.4%) were living together, and 2.6% were separated and living alone or divorced; 76.3% of mothers and 79.7% of fathers held a college degree or above. The sample represented a relatively privileged urban community in China.

Eleven children had transferred to other preschools by Time 2 (T2; i.e., nine months after T1) and no longer participated. Mother-reported data were obtained on 107 children and teacher-reported data on 106 children. Nineteen children had transferred to other preschools by Time 3 (T3; i.e., one year after T2) and no longer participated. Mother-reported data were obtained on 85 children and teacher-reported data on 84 children. To assess the problem of longitudinal attrition, we conducted a logistic regression and examined the extent to which absence at T2 and T3 was related to the core and control variables measured at T1. The results suggested that none of the variables predicted the odds of being absent from the study at T2 or T3.

Six homeroom teachers (all females) participated at T1 and remained the same at T2. Most teachers (83.3%) had a college degree or higher education. At T1, the teachers’ mean length of teaching experience was 7.2 years (SD = 5.4 years). At T3, two teachers remained the same as at T1 and T2, and reported data on 25 children, while the data on the other 59 children were reported by four new homeroom teachers (all females). Most of these six teachers (83.3%) had a college degree or higher education. Their mean length of teaching experience was 10.1 years (SD = 6.3 years).

Measures

All the core measures used in this study were initially developed in the United States. We translated them and then asked an independent translator to back-translate them. Discrepancies between translation and back-translation were resolved through discussion. Using a variety of formal and informal strategies (e.g., interviews with parents and teachers, repeated discussion in the research group, psychometric analyses), three members of our research team carefully examined the items in the measures in order to ensure cultural appropriateness. All items in the measures were adopted, but the item wording inappropriate for use in China was modified.

Teacher–child relationships

Homeroom teachers rated their relationships with the target children using the Student–Teacher Relationship Scale (STRS; Pianta & Steinberg, 1992) on a 5-point rating scale, ranging from 1 (definitely does not apply) to 5 (definitely applies). The STRS contains 28 items and three subscales, namely Closeness (11 items), Conflict (12 items), and Dependence (5 items). The Closeness and Conflict scales were used for the present study. Closeness measures a teacher’s feelings of affection and open communication with the child (e.g., “This child openly shares his/her feelings and experiences with me”); Conflict measures a teacher’s perception of negativity and conflict with the child (e.g., “This child sees me as a source of punishment and criticism”). High values for internal consistency have been found for both scales in previous research (Closeness: α = .86; Conflict: α = .93; Hamre & Pianta, 2001). In this study, the α coefficients at T1, T2, and T3 were .88, .85, and .72, respectively, for the closeness scale, and .74, .74, and .89, respectively, for the conflict scale. Higher scores in the closeness scale and lower scores in the conflict scale indicate more positive teacher–child relationships.

Mother-rated social competence

Mothers rated the social competence of their children using the social competence subscale of Early School Behavior Rating Scale—Parent (ESBRS—P; Caldwell & Pianta, 1991) on a 4-point scale (1 = hardly ever, 2 = sometimes, 3 = much of the time, 4 = almost always). The subscale contains 14 items (e.g., “Plays well with other children”). The α coefficients were .75, .78, and .79 at T1, T2, and T3, respectively. Higher scores indicate stronger social competence at home.

Teacher-rated social competence

Homeroom teachers rated their perceptions of children’s social competence using the social competence subscale of Early School Behavior Rating Scale—Teacher (ESBRS—T; Caldwell & Pianta, 1991) on a 4-point scale (1 = hardly ever, 2 = sometimes, 3 = much of the time, 4 = almost always). The subscale contains 14 items (e.g., “Plays well with other children”). The α coefficients were .92, .88, and .90 at T1, T2, and T3, respectively. Higher scores indicate stronger social competence at school.

Control variables

At T1, mothers provided data on five control variables, including maternal education, the child’s sex, temperamental approach-withdrawal, and internalizing and externalizing problems. The first two controls were measured using a demographic questionnaire. Maternal education was coded as follows: 5 = Master’s degree or above, 4 = Bachelor’s degree, 3 = vocational college degree, 2 = high school or vocational school degree, and 1 = secondary school or below. Temperamental approach-withdrawal (8 items, α = .87) was assessed using the Chinese version of Thomas and Chess’s (1977) Child Temperament Questionnaire (CTQ). We focused on approach-withdrawal because it has been linked to teacher–child relationships in previous research (Rudasis, 2011; Zhang, Wang, & Chen, 2010). Moreover, approach-withdrawal has been found to be particularly relevant to children’s social adaptation during the transition from home to preschool (Ahnert, Gunnar, Lamb, & Barthel, 2004). High scores on the scale indicate approach behaviors. Internalizing (19 items measuring anxiety and withdrawal; α = .85) and externalizing (22 items measuring aggression and delinquency; α = .90) problems were assessed using the Chinese version of Achenbach’s (1992) Child Behavior Checklist/2–3 (CBCL/2–3). Higher scores indicate more behavior problems.

Procedure

Data were collected during the fall (November, i.e., three months after the children’s preschool entry), the summer of the next year (August, i.e., the last month of the first preschool year), and the summer of the year after the next year (August, i.e., the last month of the second preschool year). At each time point, families were contacted by mail and asked if they would be willing to participate in a study of child development. After agreeing to participate, mothers filled out a packet of questionnaires delivered to them together with the consent form and returned the completed questionnaires to the children’s homeroom teachers. The same homeroom teacher completed and returned another packet of questionnaires, along with an informed consent form, for each child. Data on teacher–child relationships and home and school competence were obtained at all three time points. Data collection at each time point was completed within a month. The Institutional Review Board of the first author’s university approved the data collection procedures.

Results

Descriptive statistics and intercorrelations among the study variables

Table 1 shows the means and standard deviations for all variables at each time point along with the Pearson correlations among them. Teacher–child closeness correlated significantly with both teacher- and mother-rated social competence within all three time points except at T3 for mother-rated competence. In contrast, teacher–child conflict did not correlate significantly with either teacher- or mother-rated competence within any time point except at T2 for teacher-rated competence. With respect to the cross-time correlations between early relationships and later competence, T1 closeness correlated significantly with T2 teacher- and mother-rated competence and T3 mother-rated competence, and T2 closeness correlated significantly with T3 mother-
compared the following four SEM models: (1) a stability model (see also Zhang & Chen, 2010; Zhang & Sun, 2011). Specifically, we applied an SEM approach with the assumption that they were missing at random and no evidence emerged from the attrition analyses indicating a significant relationship with children moving from the school district (rather than withdrawing from the study or being absent during the period of data collection), and no evidence emerged from the attrition analyses (i.e., logistic regression) that it resulted from the actual competence or relationship quality of the children at earlier time points. Thus, missing data were handled by using ML (maximum likelihood) estimation under the assumption that they were missing at random (MAR). To evaluate the reciprocal relations between teacher–child relationships and social competence, we applied an SEM approach (Mplus: Muthén & Muthén, 1998–2009) in a cross-lagged model (see also Zhang & Chen, 2010; Zhang & Sun, 2011). Specifically, we compared the following four SEM models: (1) a stability model without any cross-lagged paths (M1), (2) a model with cross-lagged paths from prior teacher–child closeness and conflict to later mother- and teacher-rated competence (M2), (3) a model with cross-lagged paths from prior competence to later teacher–child closeness and conflict (M3), and (4) a model with both cross-lagged paths, representing reciprocal effects (M4).

The effect of teacher–child relationships on social competence (i.e., teacher-driven effect) would be supported if M2 had a better fit than M1; the effect of competence on teacher–child relationships (i.e., child-driven effect) would be supported if M3 had better accounted for the data than M1; and the reciprocal effects between teacher–child relationships and social competence (i.e., bidirectional effects) would be supported if M4 had the best fit among the four models.

The chi-square statistics, the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), and the Standardized Root Mean Square Residual (SRMR) were taken as indicators for the model fit. An RMSEA/SRMR value of less than 0.05 is considered to indicate a very good fit between model and data, with a value between 0.05 and 0.08 indicating an acceptable fit (McDonald & Ho, 2002). The p value associated with the chi-square test should be nonsignificant, and the CFI should be above 0.90 for a good fit (Marsh & Hocevar, 1988). It should be noted that the nested models in this study were evaluated primarily according to relative fit, instead of absolute fit. Chi-square difference tests were used to compare the relative fit between the tested models. A significant chi-square change indicates a significant difference in fit between the two compared models.

First, we tested M1 (i.e., the stability model); second, we tested M2 (i.e., the teacher-driven model); third, we tested M3 (i.e., the child-driven model); and, finally, we tested M4 (i.e., the bidirectional model). Table 1 shows the differences in fit of the tested models (i.e., chi-square statistics).

The chi-square difference between M1 and M2 was significant, indicating that M2 had a better fit than M1. The teacher-driven paths to T3 mother-rated competence from T1 teacher–child closeness ($\beta = .24, p < .05$) and to T2 teacher-rated competence from T1 closeness ($\beta = .35, p < .001$) and conflict ($\beta = -.21, p < .05$) were statistically significant. The other teacher-driven paths were not significant. The chi-square difference between M1 and M4 was not significant, suggesting that M4 did not account for the data better than M1. All the child-driven paths did not reach significance at the .05 level. The chi-square difference between M1 and M2 was significant, suggesting that M2 had a better fit than M1. However, the chi-square differences between M1 and M4 and between M2 and M4 were not significant, indicating that M4 did not account for the data better than M2 or M4. Again, the teacher-driven paths to T3 mother-rated competence from T1 closeness ($\beta = .23, p < .05$) and to T2 teacher-rated

### Table 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>M (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child sex</td>
<td>- .05</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother education</td>
<td>3.29</td>
<td>.10</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach-avoidance</td>
<td>23.43</td>
<td>.90</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalizing problems</td>
<td>9.06</td>
<td>.40</td>
<td>.02</td>
<td>.14</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Externalizing problems</td>
<td>11.94</td>
<td>5.95</td>
<td>.06</td>
<td>.16</td>
<td>.03</td>
<td>.54</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2 closures</td>
<td>41.12</td>
<td>7.46</td>
<td>.19</td>
<td>.03</td>
<td>.15</td>
<td>-.20</td>
<td>-.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2 conflict</td>
<td>24.41</td>
<td>6.08</td>
<td>.14</td>
<td>.15</td>
<td>.05</td>
<td>.13</td>
<td>.08</td>
<td>-.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School SC</td>
<td>37.27</td>
<td>8.44</td>
<td>-.08</td>
<td>.08</td>
<td>-.18</td>
<td>.1</td>
<td>.76</td>
<td>-.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home SC 10</td>
<td>40.66</td>
<td>5.92</td>
<td>-.25**</td>
<td>-.24</td>
<td>.11</td>
<td>-.37**</td>
<td>-.48**</td>
<td>.26**</td>
<td>-.11</td>
<td>.36**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T3 closures</td>
<td>41.69</td>
<td>6.24</td>
<td>-.08</td>
<td>-.17</td>
<td>.11</td>
<td>-.18</td>
<td>-.10</td>
<td>.57***</td>
<td>.19</td>
<td>.48***</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T3 conflict</td>
<td>26.79</td>
<td>5.81</td>
<td>-.04</td>
<td>-.08</td>
<td>-.21**</td>
<td>.04</td>
<td>-.05</td>
<td>.47***</td>
<td>.08</td>
<td>-.11</td>
<td>-.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School SC</td>
<td>35.15</td>
<td>5.51</td>
<td>-.26**</td>
<td>.01</td>
<td>-.14</td>
<td>-.24**</td>
<td>-.04</td>
<td>.37***</td>
<td>-.13</td>
<td>.40***</td>
<td>.19</td>
<td>.60***</td>
<td>-.38**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home SC</td>
<td>41.23</td>
<td>5.44</td>
<td>-.28**</td>
<td>.06</td>
<td>-.05</td>
<td>-.34**</td>
<td>-.35***</td>
<td>.23</td>
<td>-.09</td>
<td>.10</td>
<td>.56***</td>
<td>.24</td>
<td>-.10</td>
<td>.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T3 closures</td>
<td>40.26</td>
<td>5.12</td>
<td>-.37***</td>
<td>-.19</td>
<td>.01</td>
<td>.03</td>
<td>.02</td>
<td>.22**</td>
<td>-.03</td>
<td>.42***</td>
<td>.12</td>
<td>.23</td>
<td>.26</td>
<td>.27</td>
<td>.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T3 conflict</td>
<td>28.40</td>
<td>9.05</td>
<td>-.17</td>
<td>-.03</td>
<td>-.10</td>
<td>.13</td>
<td>.24</td>
<td>-.36***</td>
<td>.25</td>
<td>-.33***</td>
<td>-.16</td>
<td>-.26</td>
<td>.32**</td>
<td>-.19</td>
<td>-.08</td>
<td>-.10</td>
<td></td>
</tr>
<tr>
<td>School SC</td>
<td>36.64</td>
<td>7.29</td>
<td>-.37***</td>
<td>-.09</td>
<td>-.08</td>
<td>-.03</td>
<td>.00</td>
<td>.14</td>
<td>-.12</td>
<td>.26</td>
<td>.21</td>
<td>-.10</td>
<td>.09</td>
<td>.19</td>
<td>.18</td>
<td>.43***</td>
<td>.02</td>
</tr>
<tr>
<td>Home SC</td>
<td>41.36</td>
<td>5.89</td>
<td>-.31**</td>
<td>.14</td>
<td>-.04</td>
<td>-.09</td>
<td>-.34**</td>
<td>.23</td>
<td>-.08</td>
<td>.11</td>
<td>.52***</td>
<td>.23</td>
<td>-.14</td>
<td>.15</td>
<td>.63***</td>
<td>.07</td>
<td>.02</td>
</tr>
</tbody>
</table>

**Note.** T1 = Time 1; T2 = Time 2; T3 = Time 3; TCR = teacher–child relationship; SC = social competence.

* p < .05; ** p < .01; *** p < .001

* Effect coded: 1 boys, -1 girls.
competence from T1 closeness ($\beta = .35, p < .001$) and conflict ($\beta = -.21, p < .05$) were significant. The other teacher-driven paths and all the child-driven paths were not significant.

Because $M_2$ was more parsimonious than $M_4$ with a comparable overall fit, $M_2$ was chosen as the best-fitting model among the four models. Fig. 1(A) presents the hypothesized model $M_2$. With regard to the goodness-of-fit statistics, $M_2$ did not show a good fit to the data, $\chi^2(28, N = 118) = 54.206, p = .002, RMSEA = 0.089, CFI = 0.695, SRMR = 0.077$, suggesting that $M_2$ should be further modified.

Cross-system generalization of social competence

To evaluate the cross-system generalization of social competence between home and school, we, again, applied an SEM approach (Mplus 5; Muthén & Muthén, 1998–2009) in a cross-lagged model, in which missing data were handled using ML estimation under MAR. We chose $M_2$ as our baseline model and compared $M_2$ and the following three SEM models: (1) a model with cross-lagged paths from prior teacher-rated competence to later mother-rated competence ($M_5$), (2) a model with cross-lagged paths from prior mother-rated competence to later teacher-rated competence ($M_6$), and (3) a model with both cross-lagged paths, representing reciprocal effects ($M_7$).

<table>
<thead>
<tr>
<th>Tested models</th>
<th>$\chi^2$</th>
<th>df</th>
<th>Model comparisons ($\chi^2$ difference test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No cross-lagged paths ($M_1$)</td>
<td>76.361</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>2. Cross prior TCR-later SC ($M_2$)</td>
<td>54.206</td>
<td>28</td>
<td>$M_1$ vs. $M_2$: $\Delta \chi^2(12) = 22.155, p = .036$</td>
</tr>
<tr>
<td>3. Cross prior SC-later TCR ($M_3$)</td>
<td>65.051</td>
<td>28</td>
<td>$M_1$ vs. $M_3$: $\Delta \chi^2(12) = 11.310, p = .503$</td>
</tr>
<tr>
<td>4. Both cross-lagged paths of TCR and SC ($M_4$)</td>
<td>43.091</td>
<td>16</td>
<td>$M_2$ vs. $M_4$: $\Delta \chi^2(12) = 11.115, p = .519$</td>
</tr>
</tbody>
</table>

Note. $N = 118$. TCR = teacher–child relationship; SC = social competence.

Table 2

The goodness-of-fit statistics (chi-square) for the four SEM models on the relations between teacher–child relationships and social competence.

Cross-system generalization of social competence

To evaluate the cross-system generalization of social competence between home and school, we, again, applied an SEM approach (Mplus 5; Muthén & Muthén, 1998–2009) in a cross-lagged model, in which missing data were handled using ML estimation under MAR. We chose $M_2$ as our baseline model and compared $M_2$ and the following three SEM models: (1) a model with cross-lagged paths from prior teacher-rated competence to later mother-rated competence ($M_5$), (2) a model with cross-lagged paths from prior mother-rated competence to later teacher-rated competence ($M_6$), and (3) a model with both cross-lagged paths, representing reciprocal effects ($M_7$).

Fig. 1. Hypothesized models $M_2$ and $M_5$.

Note. $M_2$: the hypothesized model representing the cross-lagged effects of teacher–child relationships on social competence (i.e., teacher-driven effect); $M_5$: the hypothesized model representing the cross-lagged effects of school competence on home competence (i.e., school-to-home generalization). T1 = Time 1; T2 = Time 2; T3 = Time 3. TCR = teacher–child relationship; SC = social competence.
The effect of teacher-rated competence on mother-rated competence (i.e., school-to-home generalization) would be supported if M8 had a better fit than M2; the effect of mother-rated competence on teacher-rated competence (i.e., home-to-school generalization) would be supported if M8 better accounted for the data than M2; and the reciprocal effects between teacher-rated and mother-rated competence (i.e., bidirectional generalization) would be supported if M8 had the best fit to the data among the four compared models. Again, the chi-square statistics, the RMSEA, the CFI, and the SRMR were taken as indicators for the fits of the models, and chi-square difference tests were used to compare the relative fit between the models. Table 3 shows the differences in fit of the tested models (i.e., chi-square statistics).

The chi-square difference between M2 and M8 was significant, indicating that M8 better accounted for the data than M2. The path to T3 mother-rated competence from T2 teacher-rated competence (β = .38, p < .001) was statistically significant. The other school-to-home paths were not significant. In addition, the teacher-driven paths to T2 teacher-rated competence from T1 closeness (β = .36, p < .001) and conflict (β = −.21, p < .05) remained significant; however, the path from T1 closeness to T3 mother-rated competence (β = .11, p = .34) became nonsignificant. The chi-square difference between M8 and M7 was not significant, suggesting that M8 had no better fit than M7. None of the home-to-school paths reached significance at the .05 level. The chi-square differences between M5 and M7 and between M6 and M7 were significant, indicating that M7 had a better fit than M5 and M6. However, the chi-square difference between M5 and M6 was not significant, indicating that M6 did not account for the data better than M5. In M5, the school-to-home path from T2 teacher-rated competence to T3 mother-rated competence (β = .38, p < .001) remained significant. The other school-to-home paths and all the home-to-school paths were not significant.

Because M6 was more parsimonious than M7 with a comparable overall fit, M7 was chosen as the best-fitting model among the four tested models. Fig. 1(B) presents the hypothesized model M7. With regard to the goodness-of-fit statistics, M7 showed a relatively good fit to the data, χ²(N = 118) = 38.597, p = 0.040, RMSEA = 0.068, CFI = 0.842, SRMR = 0.065. The goodness-of-fit statistics (chi-square) for the four SEM models on the relations between teacher- and mother-rated social competence.

<table>
<thead>
<tr>
<th>Tested models</th>
<th>χ²</th>
<th>df</th>
<th>Model comparisons (χ² difference test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross prior TCR-later SC (M2)</td>
<td>54.206</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Cross prior TSC-later MSC (M6)</td>
<td>38.597</td>
<td>25</td>
<td>M7 vs. M5: Δχ²(3) = 15.609, p = .001</td>
</tr>
<tr>
<td>Cross prior MSC-later TSC (M5)</td>
<td>52.194</td>
<td>25</td>
<td>M7 vs. M6: Δχ²(3) = 2.012, p = .570</td>
</tr>
<tr>
<td>Both cross-lagged paths of TSC and MSC (M7)</td>
<td>36.593</td>
<td>22</td>
<td>M7 vs. M6: Δχ²(3) = 17.613, p = .007</td>
</tr>
</tbody>
</table>

Note: N = 118. TCR = teacher-child relationships; TSC = teacher-rated social competence; MSC = mother-rated social competence.

In order for teacher-rated competence to be a mediator between teacher–child relationships and mother-rated competence, the following conditions must be met (Baron & Kenny, 1986): (1) the association between teacher–child relationships and mother-rated competence (Path C) must be significant; (2) teacher-rated competence must be significantly associated with both teacher–child relationships (Path A) and mother-rated competence (Path B); (3) the strength of the association between teacher–child relationships and mother-rated competence must be reduced significantly when teacher-rated competence is added to the model (Path C'). Based on these conditions, we evaluated the mediating role of teacher-rated competence in the associations between teacher–child relationships and mother-rated competence.

Condition (1) was met for testing the mediator effect in the paths from early teacher–child relationships to later mother-rated competence (Path C: β = .23, p < .01) from T1 closeness to T3 mother-rated competence in M2 but not in those from early mother-rated competence to later teacher–child relationships (Path C: βs = .17–.07, ns in M4). We, therefore, evaluated the former mediator effect but not the latter. The path from T1 closeness to T2 teacher-rated competence (Path A: β = .24, p < .01 in M2) and the path from T2 teacher-rated competence to T3 mother-rated competence (Path B: β = .38, p < .001 in M4) were both significant, indicating that Condition (2) was met. When teacher-rated competence was added to M2 to predict mother-rated competence, the path from T1 closeness to T3 mother-rated competence became statistically nonsignificant (Path C': β = .11, p = .34 in M7), indicating that Condition (3) was met. The model comparison between M2 and M7 also suggested that the fit of the model to the data was significantly improved when the mediation process was accounted for (M7 vs. M2: Δχ²(3) = 15.609, p = .001). Hence, teacher-rated competence significantly mediated the paths from early closeness to later mother-rated competence. As demonstrated in Fig. 2, T1 teacher–child closeness significantly predicted T2 teacher-rated competence, which, subsequently, predicted T3 mother-rated competence.

Notably, our mediation evaluation closely followed the steps proposed by Cole and Maxwell (2003) for the use of SEM in mediation analyses with longitudinal data. The important merits of these steps include the control of shared method variance by allowing the error variances of the indicators assessed by the same reporter, either within or across time, to be correlated.

Control variable analyses

Next, we examined to what extent the cross-lagged paths would remain significant when the control variables (i.e., the child’s sex,
Sex invariance analyses

To assess whether the observed effects differed significantly between girls and boys, we applied a multi-group SEM approach. Specifically, we tested and compared the following two models: (1) an unconstrained model with all significant cross-lagged path coefficients allowed to be unequal across sex, and (2) a constrained model with all significant cross-lagged path coefficients constrained to be equal across sex. Comparable fit between the two models indicates sex invariance, whereas a significant difference in fit indicates a significant sex difference in the observed effects.

We first tested sex invariance in M2 and then in the final model. For M2, the chi-square difference between the constrained and unconstrained models was not significant, \( \Delta \chi^2(3) = 2.44, p = .49 \), indicating that boys and girls did not differ significantly in the observed effects. For the final model, the chi-square difference between the constrained and unconstrained models was significant, \( \Delta \chi^2(3) = 11.671, p = .01 \), suggesting that boys and girls differed significantly in the observed effects.

To identify where the differences were in the final model, we used modification indices to partially remove the constraints from the constrained model. We removed the constraint of the path from T2 teacher-rated competence to T3 mother-rated competence. The difference between this partially constrained model and the unconstrained model was not significant, \( \Delta \chi^2(2) = 2.43, p = .30 \), suggesting that boys and girls differed significantly in the predictability of home competence from school competence but not in the predictability of school competence from teacher–child closeness and conflict. T2 competence in school significantly predicted T3 competence at home for boys (\( \beta = .57, p = .02 \)), but not for girls (\( \beta = -.06, p = .64 \)).

Discussion

Using a two-year and three-wave longitudinal sample of Chinese preschool children, we sought to examine bidirectional relations between teacher–child relationships and children’s social competence in school and at home, and the cross-system generalization of competence between the two settings. The results of the SEM model comparisons supported the effects of teacher–child relationships on social competence in both the school and home settings, but not the effects of competence on relationships or reciprocal effects. The results also supported the cross-system generalization of competence from school to home, but not the generalization from home to school or bidirectional generalization. Moreover, competence at school fully mediated the associations between early teacher–child closeness and later competence at home.

Teacher–child relationships and children’s social competence

The results showed that the model representing the cross-lagged effects of teacher–child relationships on social competence was the best-fitting model among the four models of the associations between the two constructs. The cross-lagged paths from T1 teacher–child closeness and conflict to T2 teacher–reported social competence were significant. The cross-lagged path from T1 teacher–child closeness to T3 mother-reported competence was also significant. In other words, children who had closer teacher–child relationships at three months after preschool entry displayed stronger home competence at the end of the second preschool year along with stronger school competence at the end of the first preschool year. Children who had less conflictual relationships with teachers at three months after preschool entry also displayed stronger school competence at the end of the first preschool year. Previous research has shown evidence that high closeness and low conflict in teacher–child relationships contribute to the development of social competence in preschool, kindergarten, and even primary school (Birch & Ladd, 1998; Ewing & Taylor, 2009; Howes, 2000; Howes et al., 1994; Howes et
Yet little attention has been paid to whether this contribution can be extended over and beyond the school setting. The present study represents the first endeavor to test whether teacher–child relationships contribute to children’s competence in settings other than school. Our findings showed support for the effects of teacher–child relationships on social competence in both the school and home settings and thus make an important contribution to the existing body of knowledge.

Our findings highlight the importance that relationships with initial teachers place on children’s later development of social competence. As indicated at the outset, the participating children in this study were navigating the transition from home to preschool. This transition is the first occasion that Chinese children have to establish relationships with teachers. It is possible that having secure relationships with their initial teachers orients children positively to the social world and provides them with a secure foundation for their social development. It is also noteworthy that social competence was predicted by teacher–child relationships as early as three months after entry into preschool. It thus seems that initial teachers can have an impact on young children at a very early stage of their teacher–child relationships (i.e., the first three months of these relationships).

We also further examined whether inclusion of the child’s sex, maternal education, temperament, and internalizing and externalizing behavior influenced the observed effects of teacher–child relationships on social competence. The results indicated that the inclusion of broad individual and family SES variables did not have any influence on the observed effects. These findings suggest that the effects of teacher–child relationships on social competence are robust to several alternative explanations that have been suggested in previous research. These observed effects were also tested for differential sex effects. Our analyses showed sex invariance, indicating that the effects of teacher–child relationships on social competence operated similarly across boys and girls in this sample.

Our findings did not show any significant cross-lagged paths from mother–or teacher-rated social competence to teacher–child closeness and conflict. Hence, neither the effects of competence on relationships nor reciprocal effects were supported. These findings were consistent with two longitudinal studies in which early competence did not predict any aspects of later relationships with teachers (Birch & Ladd, 1998; Howes et al., 2000). Only one previous study found support for the role of social competence in teacher–child relationships (Blankemeyer et al., 2002); however, this study was cross-sectional in nature. According to Silver et al. (2005), closeness reflects, to a large extent, a teacher-driven effect on teachers’ interpretations of teacher–child relations. Closeness is more likely to be fostered by skillful teachers through their sensitive and responsive support than by competent children. Conflict, on the other hand, tends to be perceived by teachers when they feel challenged by children’s behavior problems (Silver et al., 2005). It has also been consistently found that conflict in teacher–child relationships is predicted by children’s negative behaviors, including internalizing and externalizing problems (Birch & Ladd, 1998; Hamre et al., 2007), rather than positive competencies (Birch & Ladd, 1998; Howes et al., 2000).

**Cross-system generalization of social competence**

The results lent support for the cross-system generalization of social competence from school to home. Specifically, the model representing the cross-system generalization of competence from school to home was the best-fitting model among the four models representing diverse patterns of associations between school and home competence. Moreover, the cross-lagged path from T2 teachers’ reports to T3 mothers’ reports of competence was statistically significant. That is, children who had stronger social competence in school at the end of the first preschool year were more likely to display higher levels of social competence at home at the end of the second preschool year. This finding was consistent with previous research in which children’s social competence, when fostered through the school curriculum, carried over into the home setting (e.g., Domitrovich et al., 2007).

Our control analyses further revealed that the generalization of competence from school to home was robust to inclusion of the child’s sex, age, maternal education, and internalizing and externalizing behavior as potential common cause processes. Yet our sex invariance analyses suggested that this generalization was more likely to operate in boys than in girls. This finding is likely due to a culture of son preference in Asian societies in which sons traditionally are considered a greater economic asset than daughters. It has been found previously that many Asian parents are more likely to be involved in caring for their sons than daughters (Chen et al., 1981). According to Sheridan et al. (2004), the generalization of social/behavioral gains occurs more readily when families are involved in a joint-problem solving process with teachers. Thus, it is possible that the generalization of social competence skills from school to home is difficult for Chinese girls to achieve because their parents are relatively reluctant to collaborate with their teachers.

The results did not support the generalization of competence from home to school or bidirectional generalization. No significant cross-lagged paths from mothers’ to teachers’ reports of social competence were found. This finding was inconsistent with previous longitudinal and intervention studies in which children’s home competence has been reported to carry over into their schools (e.g., Webster-Stratton et al., 2001). The characteristics of our sample may explain why the home-to-school generalization was not supported. The participating children in this study were predominantly only children in their families. Because early care and education in China rarely involves home- or center-based care for infants and toddlers, the children, before preschool entry, rarely had peer or sibling experience; instead, their social experience was primarily with parents and nonparental caregivers such as grandparents. Recent theorists have questioned the assumption of the enduring formative significance of early experience (e.g., attachment) with parents for children’s later social adaptation (Lamb, 2005; Zhang, 2011). Thompson (2005), for example, argued that many of the functions of early parental experience become less relevant as the child matures. It is, therefore, possible that the participating children’s early home competence, which was formed primarily on the basis of their interactions with family adults, contributed little to their later school competence with peers (Howes et al., 1994).

Consistent with our hypothesis, social competence in school fully mediated the paths from early teacher–child relationships to later social competence at home. Specifically, closeness in teacher–child relationships at three months after preschool entry predicted children’s school competence at the end of the first preschool year, which, in turn, predicted their home competence at the end of the second preschool year. This finding suggests that the mechanism underlying the effects of teacher–child relationships on home competence may consist of two interlocking components: one takes place in the school setting and is characterized by the effects of teacher–child relationships on the competence that children display in school; the other probably takes place in the children’s internal world and manifested by a cross-system generalization process in which competence in the school setting carries over into other settings. Thus, young children who have close relationships with their teachers are more likely to learn effective ways to interact with others at school and develop positive social competence (Myers & Pianta, 2008), which may carry over into their families and is observed by parents. In contrast, children who do not have close teacher–child relationships may view hostility and aggression as effective ways to settle disputes and solve social problems (Myers & Pianta, 2008); consequently, it is hard for them to display positive competence either in school or at home.
Implications for educational practices

The results of this study highlight the role that teacher–child relationships play in children’s social competence in both the school and home settings. We consider the following two implications of our findings for children’s development of positive social competence during the preschool years.

First, because the results indicated that relationships with teachers predicted social competence at both school and home, teacher education may be an effective way to help preschool children develop positive social competence. In a recent review, Jennings and Greenberg (2009) conclude that many models of training and support show great promise for improving teachers’ social and emotional competence and, in turn, helping them develop and maintain supportive teacher–child relationships. These models “range from changes in preservice training focused on social and emotional development and classroom management to in-service models of stress reduction, mindfulness, explicit teaching of emotional awareness, and the deeper development of teachers’ inner lives” (p. 513). For example, in-service programs, such as the Child Development Project (Solomon, Watson, Delucchi, Schaps, & Battistich, 1988) and the PATHS curriculum (Kusche & Greenberg, 1994), have shown efficacy in improving teachers’ responsiveness to children’s psychosocial and emotional needs and, in turn, their development of social competence. However, current teacher education programs in China place little emphasis on training preschool teachers’ social-emotional skills with young children. To help children develop positive social competence, teacher education programs should place greater emphasis on ways in which teachers can provide emotional support to children and establish positive teacher–child relationships.

Second, because our findings suggest that children’s social competence at school mediates the associations between early teacher–child relationships and later social competence at home, the enhancement of social skills should be emphasized in preschool education and classroom management to in-service models of stress reduction, mindfulness, explicit teaching of emotional awareness, and the deeper development of teachers’ inner lives” (p. 513). For example, in-service programs, such as the Child Development Project (Solomon, Watson, Delucchi, Schaps, & Battistich, 1988) and the PATHS curriculum (Kusche & Greenberg, 1994), have shown efficacy in improving teachers’ responsiveness to children’s psychosocial and emotional needs and, in turn, their development of social competence. However, current teacher education programs in China place little emphasis on training preschool teachers’ social-emotional skills with young children. To help children develop positive social competence, teacher education programs should place greater emphasis on ways in which teachers can provide emotional support to children and establish positive teacher–child relationships.

Limitations and directions for future research

Several limitations of this study should be noted. First, all the teachers had multiple students in their classes and each teacher rated her relationships with 10–23 students, which could have led to high intra-class correlations in the student data. However, after group-centering the teachers’ ratings within each classroom (to remove any between-teacher variability in the ratings) and rerunning all the analyses, we obtained results similar to those reported here. Nevertheless, it would be valuable to study a larger sample and account for the nested nature of the data by including classroom-level variables in multi-level analyses.

Second, all of our predictor and outcome variables were reported by parents and teachers, which might have led to shared method variance and biased the results. However, the analytic strategies that we employed here controlled a large amount of shared method variance by allowing the error variances of the indicators assessed by the same informant, either within or across time, to be correlated (Cole & Maxwell, 2003). Another limitation is that teacher–child relationships were assessed through self-report questionnaires, which can cause social desirability bias. It would be useful for future studies to use alternative methods (e.g., observations) to measure these relationships and replicate this study.

Third, our sample was drawn from a relatively privileged urban community in China. It is unclear whether our results are unique to urban Chinese samples or universal to all Chinese samples. It also remains to be seen whether the results are unique to Chinese samples or universal to samples across different cultures. In particular, it has been found that Chinese parents, as compared with American parents, are more frequently involved in their children’s education (e.g., helping with homework, maintaining personal contact with teachers, encouraging and supporting teachers, and attending parent–teacher conferences) throughout the preschool, elementary, and secondary school years (Chen & Stevenson, 1989; Cheung & Pomerantz, 2011; Pan, Gauvain, Liu, & Cheng, 2006). Because such parental practices tend to enhance the generalization of social/behavioral gains between school and home (Sheridan et al., 2004), it is possible that school competence skills that develop within teacher–child relationships are more likely to carry over to the home setting and be perceived by the parents of Chinese children than those of American children. Future studies with more diverse samples are needed.

For example, in-service programs, such as the Child Development Project (Solomon, Watson, Delucchi, Schaps, & Battistich, 1988) and the PATHS curriculum (Kusche & Greenberg, 1994), have shown efficacy in improving teachers’ responsiveness to children’s psychosocial and emotional needs and, in turn, their development of social competence. However, current teacher education programs in China place little emphasis on training preschool teachers’ social-emotional skills with young children. To help children develop positive social competence, teacher education programs should place greater emphasis on ways in which teachers can provide emotional support to children and establish positive teacher–child relationships.

Limitations and directions for future research

Several limitations of this study should be noted. First, all the teachers had multiple students in their classes and each teacher rated her relationships with 10–23 students, which could have led to high intra-class correlations in the student data. However, after group-centering the teachers’ ratings within each classroom (to remove any between-teacher variability in the ratings) and rerunning all the analyses, we obtained results similar to those reported here. Nevertheless, it would be valuable to study a larger sample and account for the nested nature of the data by including classroom-level variables in multi-level analyses.

Second, all of our predictor and outcome variables were reported by parents and teachers, which might have led to shared method variance and biased the results. However, the analytic strategies that we employed here controlled a large amount of shared method variance by allowing the error variances of the indicators assessed by the same informant, either within or across time, to be correlated (Cole & Maxwell, 2003). Another limitation is that teacher–child relationships were assessed through self-report questionnaires, which can cause social desirability bias. It would be useful for future studies to use alternative methods (e.g., observations) to measure these relationships and replicate this study.

Third, our sample was drawn from a relatively privileged urban community in China. It is unclear whether our results are unique to urban Chinese samples or universal to all Chinese samples. It also remains to be seen whether the results are unique to Chinese samples or universal to samples across different cultures. In particular, it has been found that Chinese parents, as compared with American parents, are more frequently involved in their children’s education (e.g., helping with homework, maintaining personal contact with teachers, encouraging and supporting teachers, and attending parent–teacher conferences) throughout the preschool, elementary, and secondary school years (Chen & Stevenson, 1989; Cheung & Pomerantz, 2011; Pan, Gauvain, Liu, & Cheng, 2006). Because such parental practices tend to enhance the generalization of social/behavioral gains between school and home (Sheridan et al., 2004), it is possible that school competence skills that develop within teacher–child relationships are more likely to carry over to the home setting and be perceived by the parents of Chinese children than those of American children. Future studies with more diverse samples are needed.

Last but not least, a relatively large percentage of the children had the same teacher across the three time points, which could explain some of the observed relations between teacher–child relationships and children’s social competence. This characteristic of the sample may also limit the generalizability of our findings and should be kept in mind when interpreting the results.

Our findings also suggest several other directions for future research. First, although the results indicated that social competence did not predict closeness or conflict in teacher–child relationships, it might predict other dimensions in these relationships. It would be useful, for example, to examine whether social competence can predict relational dimensions such as teacher–child dependency (Plaats & Steinberg, 1992) and teacher socialization (Howes et al., 1994). Second, because our findings highlight the important role of teacher–child relationships in social competence in both the school and home settings, it would be helpful for future studies to systematically investigate what teacher and school factors contribute to positive teacher–child relationships and, in turn, inform teacher education and school reform. Finally, in urban China several nursery teachers as well as one or two homeroom teachers are usually present in one preschool class. Nursery teachers differ from homeroom teachers in that they are not responsible for teaching children. Future research could investigate the associations between nursery teacher–child relationships and children’s social competence.

References


