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Lixin Ren

University of Nebraska-Lincoln, lixin.ren@huskers.unl.edu

Lisa Knoche

University of Nebraska-Lincoln, lknoche2@unl.edu

Carolyn P. Edwards

University of Nebraska-Lincoln, cedwards1@unl.edu

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The relation between Chinese preschoolers' social-emotional competence and preacademic skills

Lixin Ren,¹ Lisa L. Knoche,² and Carolyn Pope Edwards³

1 Center for Science, Mathematics & Computer Education, University of Nebraska–Lincoln

2 Nebraska Center for Research on Children, Youth, Families and Schools, University of Nebraska–Lincoln

3 Department of Psychology and Department of Child, Youth, and Family Studies, University of Nebraska–Lincoln

Corresponding author — Lixin Ren, Center for Science, Mathematics & Computer Education, University of Nebraska–Lincoln, 238 Burnett Hall, Lincoln, NE 68588; email lixin.ren@huskers.unl.edu

Abstract

Research Findings: The current study examines the relations between Chinese preschoolers' social-emotional competence and their preacademic skills, as well as the role of child gender and parental education in such relations. A total of 154 children from the northeastern region of China were involved in the study. Both parents and head teachers of the target children completed measures of children's social-emotional competence and preacademic skills. Multiple aspects of social-emotional competence were investigated. The results showed that children's withdrawn behaviors and attention problems were negatively related to their preacademic skills. Both parent- and teacher-reported positive social behaviors were positively related to children's preacademic skills. In addition, child gender and parental education together moderated the effects of children's anxious/depressed problems and parent-reported social behaviors on children's preacademic skills.

Practice or Policy: Teacher training and support are needed to help preschool teachers (a) better support children who are socially withdrawn or have difficulty regulating attention and (b) understand the construct and importance of social-emotional development in relation to children's preacademic development. In addition, child characteristics such as age and gender and socioeconomic factors need to be taken into consideration in the study of young children's social-emotional and cognitive competence.

Much attention has been given to early childhood education (ECE) in China over the past decade. Preschool education has become an important component of the Chinese educational system. By the end of 2013, there were 2 million preschools in China serving 39 million 3- to 6-year-old children (Ministry of Education of the People's Republic of China, 2014). It is important to note that China has been endeavoring to improve the quality of and modernize preschool education in the past decade. For instance, the Ministry of Education launched new ECE guidelines in 2012 in an effort to promote child-centered and play-based teaching and learning and the ideas of respecting children and active learning (Ministry of Education of the People's Republic of China, 2012). Consequently, researchers have been investigating Chinese preschoolers' school readiness skills, including factors that might promote success (e.g., Lau, Li, & Rao, 2011; X. Wu & Yan, 2011). The current study focuses on the role of social-emotional competence in the development of preacademic skills among Chinese preschool-age children. The study examines the relations between Chinese preschoolers' social-emotional competence and their preacademic skills, as well as whether the relations vary as a function of child gender and parental education.

Social-emotional competence and preacademic skills constitute important components of school readiness (National Education Goals Panel, 1995). An intriguing association may exist between

preacademic skills and social-emotional competence that is worthy of exploration. "Schools are social places, and learning is a social process" (Zins, Bloodworth, Weissberg, & Walberg, 2007, p. 191). Social interactions provide a mechanism for practicing language and cognitive skills; if socially skilled, children can take advantage of the social process of learning to build preacademic skills. This is particularly important in Chinese ECE settings, where 30 or more children are typically enrolled per preschool classroom (Tobin, Hsueh, & Karasawa, 2009). Children who function well with peers and are engaged meaningfully in learning activities will experience gains in preacademic skills; this has been demonstrated with American preschool children (Denham et al., 2012; Denham & Brown, 2010; Raver & Knitzer, 2002). In addition, teachers are likely to be more responsive to socially competent children, and therefore these children may receive more instruction and more positive feedback (Denham, 2006; Raver & Knitzer, 2002).

However, the association between preacademic skills and young children's social-emotional competence is not well understood at the preschool level for Chinese children. Furthermore, child characteristics such as gender and age and socioeconomic factors that may influence the relations between young children's social-emotional competence and preacademic skills are not well understood for children in general (Raver, 2004), much less for Chinese children. The purpose of this study is to investigate the associations between multiple aspects of Chinese preschoolers' social-emotional competence and their preacademic skills, as well as the moderating role of child gender and parental education in such associations.

Preadademic skills

Preadademic skill development is one commonly explored dimension of young children's school readiness, and it generally includes early math, reading, and language abilities. These skills have been repeatedly linked to children's later academic success (Duncan et al., 2007; Lonigan, 2006; National Institute of Child Health and Human Development, 2000): Studies indicate that children who are academically prepared for formal schooling fare better in the long term. Preadademic skills have always been a common instructional focus in Chinese early childhood settings (Li-Chen, 2007; Ministry of Education of the People's Republic of China, 2012; Qiu, 2007; Tobin et al., 2009).

In the past decade, Chinese ECE professionals have recognized the importance of children's social-emotional development and the role of play in addition to the long-standing emphasis on preacademic skills (J. Liu, 2007; Qiu, 2007). Great progress has been made to promote teachers' awareness and knowledge of child social-emotional development and to improve their abilities to implement a social-emotional curriculum (J. Liu, 2007). However, the role of social-emotional development in ECE has attracted attention for only a relatively short period of time, and traditional Chinese educational philosophies still have a strong influence in education. Accordingly, many Chinese parents and some preschools teachers continue to strongly emphasize academic preparation, and child social-emotional development is sometimes overlooked (J. Liu, 2007).

In addition, the Ministry of Education of the People's Republic of China (2012) has advocated that play is the basic activity in preschool. However, in actual classroom practices, it is common to "see phenomena such as 'lessons are more valued than play' and 'teaching games with a set of teaching objectives are preferred to the free play initiated by children themselves'" (Qiu, 2007, p. 990). One of the obstacles to translating the value of play into teaching practice is parents' high expectation for children's academic learning (Qiu, 2007; Tobin et al., 2009).

Social-emotional competence

Social-emotional competence generally refers to a child's effectiveness in social interactions and includes social, emotional, and social-cognitive abilities and behaviors (Rose-Krasnor, 1997). In one well-known framework, Denham (2006) outlined five domains of social-emotional competence: (a) emotional expressiveness, (b) understanding of emotion/emotion knowledge, (c) regulation of

emotion and behavior, (d) social problem solving, and (e) social and relationship skills. Emotional expressiveness includes children's positive and negative affect. Emotion knowledge is characterized by children's knowledge and labeling of emotions. Emotional regulation involves "managing, modulating, inhibiting, and enhancing emotions" (Denham, 2006, p. 70). Social problem solving includes how children process social information to meet social goals. Finally, social and relationship skills include children's abilities in cooperation; attention; following directions; and effective interactions with peers, parents, and other adults.

The five domains of social-emotional competence proposed by Denham have been associated with positive developmental outcomes (e.g., Denham, 2006; Denham et al., 2012; Denham & Brown, 2010). The five domains are not isolated constructs that operate independently; rather, they work together (Cole, Martin, & Dennis, 2004; Denham, 2006). For example, responsible decision making (e.g., resolving conflict using prosocial strategies) requires children to utilize their understanding of emotion inherent in the interaction, inhibit negative affect, suppress aggressive behaviors, and resort to prosocial approaches. The coordination and cooperation among these five domains allow children to engage in effective social interaction—"sustained positive engagement with peers, marked by positive, regulated emotions" (Denham, 2006, p. 60). According to Denham's (2006) review, one may conclude that these five domains overlap with one another to some extent.

The social-emotional development of young children has become increasingly important in the Chinese ECE context over the past decade. Chinese preschool education historically emphasized children's orderly behaviors and compliance with adult direction, and classroom activities were primarily highly structured, teacher-directed group learning activities (Tobin, Wu, & Davidson, 1989). As described by D. Y. H. Wu (1996), "The concept of governing, monitoring, interfering, and controlling [*guan*¹] summarizes teachers' consistent actions to maintain order and discipline in the classroom" (p. 13). Many Chinese educators today argue that this emphasis on order and obedience may not be effective in increasing school readiness (Qiu, 2007). Research on children from Western and some Asian societies has shown that young children learn better and develop better socially-emotionally and cognitively through playing and engaging in hands-on experience (Elias & Berk, 2002; Fjørtoft, 2001; Lewis, 1995; Pellegrini & Bohn, 2005).

Chinese ECE guidelines delineate an updated view of Chinese children's development. The new guidelines place more importance on children's social and emotional development compared to their predecessors (Guo, 2015). The two aspects of social-emotional development described in the guidelines are *interpersonal interactions* and *social adjustment*. The guidelines acknowledge that children's social-emotional development has important implications for their well-being and development in other domains. Specific goals are defined under the social-emotional domain of the guidelines, such as "get along with peers," "care for and respect others," and "have a sense of belongingness" (Ministry of Education of the People's Republic of China, 2012). This explicit emphasis on children's social-emotional development suggests a shift from a focus on academic preparation to a more holistic, child-centered, constructive view of the child and child development and learning.

Furthermore, many Chinese ECE practitioners view social-emotional competence as a valued dimension of young children's school readiness. According to data collected from several cities in northeastern China, Chinese preschool and early elementary teachers considered social-emotional development the most important or one of the most important aspects of school readiness (X. Wu & Yan, 2011; A. Yang, Fang, & Tu, 2006; Zhang, Sun, Li, & Gai, 2005). X. Wu and Yan (2011) surveyed some preschool and early elementary teachers from Beijing, and one surprising finding was that both preschool and elementary teachers rated cognition and general knowledge as the least important dimension of school readiness. Evidently, many Chinese teachers perceive child social-emotional skills as very important for children's adjustment and learning in elementary schools. However, not all Chinese children are socially-emotionally prepared to function well in elementary school classrooms. In a study of Chinese children's school readiness during the last

1 *Guan* is the Chinese word that refers to control.

year of preschool, teachers reported that many children were not prepared for elementary school, and the most prevalent issues were related to self-regulation, interactions with teachers, attention, and attitudes toward learning (Sun, Zhang, & Gai, 2006). These findings suggest that there is variation in the social-emotional skills of Chinese children and that it is meaningful to examine how Chinese young children's social-emotional competence may be related to other areas of development.

Relations between social-emotional competence and academic achievement

Most research on the relations between Chinese children's social-emotional competence and academic achievement has been focused on school-age children (e.g., X. Chen, Chang, & He, 2003; X. Chen, Chang, Liu, & He, 2008; X. Chen & Li, 2000; F. Yang, Chen, & Wang, 2014; Zhou, Main, & Wang, 2010). X. Chen, Rubin, and Li (1997) found that aggression-disruption was negatively related to grades in the subjects of Chinese and mathematics among a group of fourth-grade children in Shanghai, China. In another study, X. Chen and Li (2000) examined depressed mood among a group of sixth-grade students from Shanghai, China, and found that children's depressed mood contributed negatively to their later school achievement. In a recent study, Zhou et al. (2010) found that children's emotional reactivity was related to their grade point average both concurrently and across time among a group of elementary school children in Beijing, China. In addition, positive aspects of children's social-emotional competence, such as sociability and leadership skills, have also been linked to both concurrent and future school achievement among Chinese elementary school children (e.g., X. Chen et al., 2008; F. Yang et al., 2014; Zhou et al., 2010).

It is not surprising to find associations between social-emotional competence and academic achievement among Chinese school-age children, considering the characteristics of Chinese elementary classrooms. In many Chinese cities, more than half of elementary classrooms have more than 65 students per classroom (Wang, 2013). In the classrooms, desks are normally placed in rows, and children are typically expected to sit at their desk throughout a 45-min class. Learning is often whole class based, teacher directed, and highly structured. With so many children in one classroom, teachers may render little help to individual children in regulating their emotions, behaviors, and attention. Thus, children have to primarily rely on themselves. Many social-emotional skills are required to engage in learning activities for a long period of time. For example, children need to inhibit intense emotional and/or behavioral reactions toward other children's behaviors, the teacher's behaviors, the learning content, and distractions in order to focus their attention on the teacher's instruction. Furthermore, children are often expected to sit quite still in class, other than raising their hand to answer questions or responding to instructions to read passages in books or write in their workbooks. Thus, they need to exert control over their body movement, which can be a very difficult task for young children.

Chinese preschool classrooms differ drastically from elementary classrooms. First, preschool classrooms often have many fewer children (approximately 30 students per classroom). Second, the student-teacher ratio is lower in preschool classrooms, where there are usually at least two teachers present at the same time. Third, preschools often engage children in a combination of different forms of activities (e.g., whole-group activity, small-group activity, free play), so preschool children have many opportunities to move around and play with peers throughout the day. Finally, social-emotional development is an important element of the ECE curriculum (J. Liu, 2007; Ministry of Education of the People's Republic of China, 2012), whereas elementary school education is primarily focused on academic learning. These dramatic differences in setting between the preschool and elementary classroom environments could contribute to differential associations between social-emotional development and academic skills. Thus, it is important to examine whether the relations between social-emotional competence and academic achievement previously identified among Chinese school-age children emerge as early as the preschool years.

Gender, socioeconomic status (SES), and child social-emotional competence

Additional child and family factors might contribute to the variations in the association between social-emotional skills and preacademic achievement. Extensive evidence has shown differences in social behaviors in boys and girls (e.g., Archer, 1992; Rose-Krasnor, 1997; F. Yang et al., 2014). For instance, boys tend to be more physically aggressive, and girls often show more relational aggression (Crick & Grotpeter, 1995). X. Chen et al. (1997) reported that Chinese elementary school boys received higher scores on measures of negative sociometric nominations, peer-assessed aggression, and teacher-rated acting out and lower scores on teacher-rated social competence than girls. Q. Chen and Jiang (2002) found that Chinese preschool boys were more withdrawn and aggressive and less socially competent than girls.

Despite the established gender differences in social behaviors, few studies have examined whether the relations between young children's social-emotional competence and school achievement differ between boys and girls. We were only able to locate one study that reported analyses of the effect of gender on the relations between social-emotional competence and academic achievement among Chinese children. Specifically, X. Chen et al. (1997) found no significant effect of gender on the associations between sociometric status and academic achievement among a sample of Chinese elementary school children in Shanghai, China. Thus, more exploration is needed of the moderating effect of gender on the association between children's social-emotional competence and school achievement.

In addition to gender, the socioeconomic context also warrants attention, because it intersects with social-emotional competence (Raver, 2004). Raver (2004) reviewed literature on the influence of cultural and economic contexts in children's emotional regulation and highlighted the importance of examining risk and protective factors both within and outside the family that may affect children's adjustment. In the current study, we look at one of the many factors that create the context for child socialization: parental education. Parental education level has been identified as an important predictor of children's educational outcomes in many studies (Christenson, Rounds, & Gorney, 1992; Davis-Kean, 2005; Dubow, Boxer, & Huesmann, 2009; Duncan, Brooks-Gunn, & Klebanov, 1994). Furthermore, parental education is a proxy for family SES. Previous research has demonstrated an interaction effect between child gender and family SES on various domains of child development (Entwisle, Alexander, & Olson, 2007; Giagazoglou, 2013). Thus, in this study, we also explore whether child gender, parental education, and child social-emotional competence interact with one another in predicting child preacademic skills.

Our interest in exploring the moderating role of child gender and parental education in the associations between child social-emotional competence and preacademic skills also draws from thinking about the social, economic, and educational changes that have occurred in China in the past three or four decades, for example, the implementation of the one-child policy.² About 90% of the children in the current study were part of single-child families. Several studies have examined the effect of only-child status on girls' education (e.g., Liang, Okamoto, & Brenner, 2010; F. Liu, 2002; Tsui & Rich, 2002) and shown that the one-child policy "had an unintended consequence of engendering a child-centered culture with a strong belief and shared interest among the urban community in educating the only child regardless of the child's sex" (F. Liu, 2006, p. 492). However, parents may still uphold gender specific expectations regarding other aspects of child development, such as children's social behaviors (Liang et al., 2010; F. Liu, 2006). Perhaps gender interacts with SES in Chinese families, as has been found elsewhere (e.g., Conger, Conger, & Martin, 2010). Using semistructured interviews, F. Liu (2006) examined the combined effects of child gender and family SES (indicated by parental education) on parental gender-specific views and expectations. F. Liu found that patterns of differences in parental expectations seemed to be related to both factors but more to gender than SES. We postulate that Chinese parents' expectations regarding their

2 The one-child policy was introduced by the central government of China between 1978 and 1980 as a population control policy. The purpose of the policy was to limit the majority of Chinese family units to one child each. It began to be formally phased out in 2015.

boys' and girls' social-emotional and academic development may be affected by their own educational experience (Bradley & Corwyn, 2002). F. Liu's findings were based on qualitative data, and the current study aims to better understand the interplay between child gender and parental education in young children's development using quantitative data.

Purpose

The current study originates from the increased interest of Chinese researchers and practitioners in Chinese preschool children's social-emotional development. The study extends what is currently known about the associations between Chinese school-age children's social-emotional competence and their academic achievement to younger children. This study aims to examine the associations between Chinese preschoolers' social-emotional competence and their preacademic skills. Informed by Denham's (2006) framework of social-emotional competence, we investigate multiple aspects of social-emotional competence, including children's emotionally reactive, withdrawn, attention, aggression, and anxious/depressed problems as well as their positive social behaviors. We hypothesized that Chinese preschoolers' social-emotional problems would be negatively related to their preacademic skills and that their positive social behaviors would be positively related to their preacademic skills. In addition, this study examines whether the associations between Chinese preschoolers' social-emotional competence and their preacademic skills vary as a function of child gender and parental education. Specific hypotheses were not generated because of the lack of previous research on the moderation effect of child gender and parental education on the relations between child social-emotional competence and academic achievement.

The study contributes to the literature in several ways. It addresses the lack of research on the relations between social-emotional competence and preacademic skills among Chinese preschool-age children. The findings provide useful information regarding Chinese young children's school readiness. Furthermore, this study examines the effect of child gender and parental education on the associations between preschoolers' social-emotional competence and preacademic skills and highlights the importance of examining child characteristics such as age and gender and contextual factors such as family SES in the study of young children's social-emotional and cognitive competence.

Method

Setting

Unlike in the United States, preschool education in China is a 3-year program. The American kindergarten program is part of the preschool program in China, and the 3 years of preschool education are collectively called *kindergarten* in China. In this study, we chose to use *preschool* instead of *kindergarten* to avoid confusion. Participants in the study were recruited from preschools located in three cities in northeastern China. All three cities are small inland cities located on the North China Plain, with populations ranging from half a million to a little bit more than 1 million. In terms of economic development, one city is slightly below the national average, one city is average, and one is slightly above average based on gross domestic product per capita. Seven preschools participated in this study: four private preschools and three public preschools. All seven preschools were full-day programs, opening around 8:00 in the morning and closing around 5:00 in the afternoon. Each classroom had approximately 30 to 35 children, usually under the care of two teachers and one classroom aide. A total of 36 classrooms were involved in this study.

Participants

A total of 166 parents with preschool-age children agreed to participate in the study, but only 154 parents (133 mothers, 21 fathers) returned completed questionnaires. Thus, the response rate was 92.77%. Children ranged in age from 37 to 72 months ($M = 52.44$, $SD = 6.86$), and 47.4% of the children

were girls. The research team asked parents to report their own as well their spouse's age, education, and occupation rather than only collecting demographic information on the participating parents in order to better represent the SES of the family (see Table 1). Education level was coded using six categories (1 = *middle school or lower*, 6 = *doctoral degree*; see Table 1). Mothers' education levels were significantly correlated with fathers' ($r = .73, p < .001$). Thus, mothers' and fathers' levels of education were averaged to create the parental education variable. The mean parental education level in the study was 3.01, which was about equivalent to an associate's degree. Parental education varied ($SD = 1.04$), ranging from 1 (i.e., middle school or lower) to 5 (i.e., a master's degree).

Procedures

Parents completed questionnaires measuring their child's social behaviors and preacademic skills. Parents' questionnaires were placed in envelopes and sent home with the help of classroom teachers. Parents were told to seal the envelope if they wished after completing the questionnaires. The current study was part of a larger study that included videotaped observations. At the time of the videotaped observations, some parents brought completed questionnaires, and the first author collected the questionnaires directly from them. Teachers helped to collect the rest of the parents' questionnaires. Head teachers completed questionnaires on child social-emotional competence and preacademic skills for each individual child who participated in the study. Teachers were given several weeks to complete all questionnaires, as there were usually several participating children from each classroom. The first author picked up all teacher questionnaires in person.

Measures

Two instruments were used to measure multiple domains of children's social-emotional competence. Teachers reported children's social-emotional problems using the Chinese version of the Child Behavior Checklist Caregiver-Teacher Report Form/1.5–5 (C-TRF/1.5–5; Achenbach & Rescorla, 2000; J. Liu, Cheng, & Leung, 2011). In addition, both parents and classroom teachers rated children's social behaviors using a Chinese version of the Social Competence subscale of the Early School Behavior Scale (Caldwell & Pianta, 1991). Both parents and teachers rated children's preacademic skills using a Chinese version of the Kindergarten Readiness Checklist ("Kindergarten Readiness Checklist," n.d.).

Table 1. Parental Age, Education, and Occupation (N = 154 Families).

Variable	Mothers	Fathers
Age in years (range)	31.93 (24–43)	33.83 (27–54)
Education, %		
1. Middle school or lower	15.03	11.26
2. High school	18.95	15.23
3. Associate's degree	34.64	29.80
4. Bachelor's degree	27.45	35.76
5. Master's degree	3.92	7.28
6. Doctoral degree	0.00	0.66
Occupation, %		
Stay-at-home parent	25.32	1.30
Nontechnical or semitechnical worker (e.g., farmer, factory worker)	12.34	9.09
Technical worker (e.g., salesman, driver, mechanic)	16.23	18.18
Semiprofessional or public servant (e.g., banker, policeman, secretary)	22.73	25.97
Professional or officer (e.g., doctor, accountant, manager)	20.13	42.21
High-level professional or administrator (e.g., university faculty, CEO, governor)	3.25	3.25

In each family, either the father or the mother completed the questionnaires. Participating parents reported their own as well as their spouse's demographic information. This table presents the demographic information of both mothers and fathers from the 154 families. CEO = chief executive officer.

Child social-emotional competence

The C-TRF/1.5–5 is designed to assess a wide range of behavioral, emotional, and social function problems for children ages 1.5 to 5 years. Each item describes a specific behavioral, emotional, or social problem that young children may experience. A caregiver or teacher rates each item based on the child's behaviors in the past 2 months using three response options (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true). Higher scores indicate more problematic behaviors. The C-TRF/1.5–5 comprises six empirically derived syndrome scales: Emotionally Reactive (seven items), Anxious/Depressed (eight items), Somatic Complaints (seven items), Withdrawn (10 items), Attention Problems (nine items), and Aggressive Behavior (25 items). Internalizing and externalizing problem scores can be constructed based on the six syndrome scales. In the current study, syndrome scale scores were used instead of composite problem scores in order to present a more nuanced picture of the relationships between specific domains of children's social-emotional competence and their preacademic skills.

J. Liu and colleagues (2011) translated the C-TRF/1.5–5 into Chinese and examined its cross-cultural factorial validity for preschoolers in Mainland China. Confirmatory factor analyses confirmed that the original multifactor model derived from the U.S. samples best fit the Chinese preschool data. The findings support the applicability of the C-TRF/1.5–5 for Chinese preschoolers. Raw scores were used in all subsequent analyses instead of normalized scores, as the C-TRF/1.5–5 has not been standardized among Chinese young children.

In the current study, Cronbach's alphas were calculated for each syndrome scale. Four scales obtained acceptable alphas based on the .7 standard (Nunnally, 1978): Anxious/Depressed ($\alpha = .70$), Withdrawn ($\alpha = .80$), Attention Problems ($\alpha = .81$), and Aggressive Behavior ($\alpha = .91$). The Emotionally Reactive ($\alpha = .53$) and Somatic Complaints ($\alpha = .33$) scales had relatively low reliability. The Somatic Complaints scale was not used because of its very low alpha. J. Liu et al. (2011) found that Chinese parents' ratings on the Somatic Complaints scale were not correlated with teachers' ratings at all, suggesting that the Somatic Complaints scale may not be appropriate for Chinese young children or that Chinese parents and/or teachers may have difficulty rating items from the scale. This finding justifies our decision not to use the Somatic Complaints scale. The Emotionally Reactive scale was used but needs to be interpreted with caution because of its relatively low reliability.

In addition, parents rated their child's social behaviors using the parent version of the Social Competence subscale of the Early School Behavior Scale, and teachers used the corresponding teacher version (Caldwell & Pianta, 1991). This subscale was selected for two reasons. First, it is short and easy for parents and teachers to fill out. Second, it was used among Chinese parents and teachers in a recent study by Zhang (2011) and shown to be a reliable instrument assessing young children's social competence. The parent version consists of 16 items, whereas the teacher version contains 14 items. Most of the items from the two versions overlap. This subscale assesses parents' and teachers' perceptions of a child's social behaviors (e.g., "Plays well with other children"), mostly positive social behaviors. Parents and teachers were asked to rate how well each item described the child using a 4-point Likert scale (1 = *hardly ever*, 4 = *almost always*). Higher scores indicate better social behaviors. Cronbach's alpha was .79 for parents' reports and .91 for teachers' reports in this study.

Parent- and teacher-reported child social behaviors did not correlate significantly ($r = .15$, $p = .07$). Children may behave differently at home and school because these two contexts are very different from each other. Also, parents and teachers may have different experiences with the various characteristics and behaviors displayed by children. In addition, teachers usually interact with many more children for a longer period of time than parents, so they may evaluate a child's behaviors in comparison to other children, whereas parents may evaluate their child more based on their close experience with the child. It is not unusual for informants to show low agreement in rating children's social behaviors (Renk & Phares, 2004), and Achenbach, McConaughy, and Howell (1987) recommended that investigators preserve the contributions of different informants, even if their reports do not correlate highly. Thus, parent-reported and teacher-reported child social behaviors were analyzed separately in all subsequent analyses.

Based on Denham's (2006) framework of social-emotional competence described previously, the Anxious/Depressed and Withdrawn scales measure children's emotional expressiveness, the Attention Problems and Emotionally Reactive scales assess children's regulation of emotion and behavior, and the Aggressive Behavior scale and the Social Competence subscale tap children's social and relationship skills. We must note that the scales used in the study only measure some aspects of the social-emotional constructs in Denham's framework rather than sufficiently capturing the whole constructs. For example, the Anxious/Depressed and Withdrawn scales only measure some aspects of the emotional expressiveness construct, and other aspects of emotional expressiveness, particularly positive affect, are not captured by the two scales. Thus, we do not equate the scales with the social-emotional constructs in Denham's framework, and we may consider each scale an indicator of the social-emotional construct. In addition, it is worth noting that this categorization is arbitrary. As discussed previously, the five domains outlined in Denham's framework may overlap to some extent. Furthermore, Denham reviewed existing measures of young children's social-emotional competence, and many of the measures seemed to tap several domains of the framework without necessarily distinguishing one domain from another.

We examined the items in each scale used in the study and classified each scale into one domain of Denham's framework that we considered the most appropriate based on Denham's (2006) definitions and descriptions of each domain. However, we acknowledge that the scales can be classified differently. For example, although aggression was frequently regarded as an element of social relationship skills in previous research (e.g., Howes & Matheson, 1992; Miller, Gouley, Seifer, Dickstein, & Shields, 2004), a child's aggressive behaviors may also indicate his or her failure to regulate emotion and behaviors. Furthermore, aggression may also reflect the expression of negative affect and thus fall under the umbrella of the emotional expressiveness domain (Denham, Zahn-Waxler, Cummings, & Iannotti, 1991). The purpose of drawing on Denham's framework is not to make an exact one-to-one correspondence between our measures and the five domains of the social-emotional competence framework but to provide support for the multidimensional conceptualization of the social-emotional competence construct.

Preademic skills

Parents and teachers rated children's preacademic skills using items from the Kindergarten Readiness Checklist ("Kindergarten Readiness Checklist," n.d.). Each item in the checklist describes skills or knowledge that children may master in early childhood. The checklist was adapted to accommodate the Chinese culture. Items that are not appropriate for Chinese children were removed (e.g., "Identify letters [capital and small]"). Some items were revised to accommodate the Chinese context. For example, the item "Orally identify and recognize letters in name" was changed to "Orally identify and recognize characters in name." The first author, whose native language is Chinese, translated the adapted English version into Chinese. A Chinese expert on ECE who was a visiting scholar in the United States at the time back-translated the Chinese version into English. The third author, whose native language is English, carefully compared the original English version and the back-translated English version. The first and third authors discussed the comparisons and made further revisions to address some minor differences.

The final checklist included 43 items measuring multiple areas of children's preacademic skills, such as cognition (e.g., "Put together simple puzzles"), language (e.g., "Communicate needs and express feelings appropriately"), reading (e.g., "Recognize print in everyday situations"), writing (e.g., "Draw and color beyond simple scribble"), and math (e.g., "Make comparisons using words such as *longer*, *shorter*, *larger*, *heavier*"). Parents and teachers were asked to evaluate what the target child could do using four response options (1 = not yet, 2 = some of the time, 3 = more than half of the time, 4 = almost always). Higher scores indicate better preacademic skills.

Correlational analyses were conducted between parent and teacher reports at the item level. A total of 29 items yielded significant correlations between parent and teacher reports, with correlation coefficients ranging from .17 to .70. To obtain a more accurate and objective assessment of

Table 2. Descriptive Statistics for Studied Variables (N = 154).

Variable	M	SD	Min	Max	Possible Range
Child age	52.44	6.86	37	72	
Parental education	3.01	1.04	1	5	1–6
Preadademic skills	3.01	0.49	1.69	3.91	1–4
Anxious/Depressed	0.24	0.26	0	1.38	0–2
Emotionally Reactive	0.18	0.22	0	0.86	0–2
Attention Problems	0.37	0.36	0	1.78	0–2
Aggressive Behavior	0.22	0.26	0	1.36	0–2
Parent-reported social behaviors	2.67	0.36	1.80	3.73	1–4
Teacher-reported social behaviors	2.88	0.57	1.64	3.86	1–4

children's preacademic skills, we used the 29 items in further analyses, as teachers' and parents' ratings on these items converged to some extent. Exploratory factor analyses were conducted on the 29 items for parent and teacher reports separately. For both parent and teacher reports, scree plots suggested a one-factor model. The factor loadings ranged from .34 to .71 for parents' reports and from .29 to .79 for teachers' reports. All factor loadings were statistically significant. Cronbach's alphas were .91 and .95 for parent and teacher reports, respectively, indicating good reliability. Parent- and teacher-rated total scores for the 29 items were significantly correlated ($r = .45, p < .001$). Therefore, we averaged parent and teacher ratings into a child preacademic skills composite. Javaras, Goldsmith, and Laird (2011) found that the simple average method was a better choice for reconciling multiple reports of child functioning than several other methods, such as principal component analysis and optimal weighted average.

Results

Table 2 presents descriptive statistics for the variables in the study. Table 3 shows correlations among the variables. The C-TRF/1.5–5 syndrome scales were all positively correlated with one another. Teacher-reported child Emotionally Reactive, Withdrawn, and Attention Problems syndrome scores were all negatively associated with children's preacademic skills. The results suggested that when a child had difficulty regulating emotions or attending to tasks, or often refrained from social activities and interactions with others, he or she would be likely to have lower levels of preacademic skills. Both parent- and teacher-reported child social behaviors were positively correlated with child preacademic skills, indicating that children tended to have better preacademic skills when they demonstrated more positive social behaviors, such as abilities to share, cooperate, and effectively resolve conflicts during social interactions.

Table 3. Correlations Among Variables in the Study (N = 154).

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Preadademic skills	—										
2. Anxious/Depressed	-.12	—									
3. Withdrawn	-.31***	.58***	—								
4. Emotionally Reactive	-.20*	.65***	.53***	—							
5. Attention Problems	-.27***	.39***	.49***	.48***	—						
6. Aggressive Behavior	-.14	.40***	.34***	.44***	.75***	—					
7. Parent-reported social behaviors	.37***	-.09	-.24**	-.14	-.14	-.04	—				
8. Teacher-reported social behaviors	.61***	-.34***	-.50***	-.38***	-.50***	-.40***	.15	—			
9. Child gender	-.03	.02	.03	.08	.22**	.24**	.06	-.06	—		
10. Child age	.64***	-.11	-.22**	-.19*	-.14	-.14	.16*	.31***	-.02	—	
11. Parental education	.04	.04	.16	.11	-.02	-.06	.09	-.07	.15	-.14	—

Child gender was dummy coded (0 = girl, 1 = boy).

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

Child social-emotional competence and demographics

We examined child age and gender differences on children's social-emotional competence. Teachers rated boys ($M = .45$, $SD = .40$) as having higher Attention Problem scores than girls ($M = .29$, $SD = .29$), $t(143) = 2.82$, $p = .006$. In addition, boys ($M = .28$, $SD = .31$) received higher scores on the Aggressive Behavior scale than girls ($M = .15$, $SD = .18$), $t(129) = 3.14$, $p = .002$. Thus, boys were perceived as having more difficulties in regulating attention and being more aggressive than girls. These findings were consistent with those among Chinese preschoolers discovered by J. Liu et al. (2011) using the same measure. In addition, consistent with the findings reported by J. Liu et al., boys and girls did not differ in their Emotionally Reactive or Withdrawn scale scores in this study. J. Liu et al. found that Chinese preschool-age girls demonstrated significantly higher scores on the Anxious/Depressed scale, but such gender difference was not found in this study. In addition, there was no significant gender difference in either parent- or teacher-reported child social behaviors.

In terms of the associations between children's age and their social-emotional competence, the older the children were, the more likely they were to demonstrate low scores on the Emotionally Reactive and Withdrawn scales (see Table 2). Thus, when children were older, they became more emotionally stable and socially involved. Children's age was not related to their Anxious/Depressed, Attention Problems, or Aggressive Behavior syndrome scores. According to both parents and teachers, older children tended to have better social behaviors (see Table 2). Thus, older children were more likely to demonstrate positive social behaviors such as sharing toys and collaborating in games.

Social-emotional competence and preacademic skills

To examine the relations between Chinese preschoolers' social-emotional competence and preacademic skills, we estimated a series of multiple regression models using the PROC GLM procedure in SAS. Because of the high correlations among the various aspects of child social-emotional competence (see Table 3), we estimated a separate model for each scale instead of estimating only one model with all scales to avoid the multicollinearity issue. In each model, the effects of child age, child gender, and parental education on child preacademic skills were controlled for. In the models, each continuous predictor was centered at its mean, and child gender was dummy coded (0 = girl, 1 = boy). Table 4 presents the unstandardized and standardized regression coefficients for these models. R^2 coefficients indicate the amount of variance in children's preacademic skills that was explained by all of the predictors in the model.

Several models showed significant main effects of children's social-emotional competence on their preacademic skills. First, after we controlled for child age, child gender, and parental education, children's withdrawn behaviors were negatively associated with child preacademic skills, indicating that the more socially withdrawn a child was, the worse the child's preacademic skills were. Second, attention problems had a negative effect on child preacademic skills after we accounted for the demographic variables, suggesting that children with more attention problems were more likely to have poor preacademic skills. Finally, both teacher-reported and parent-reported child social behaviors were positively related to child preacademic skills after we took into account the controlling variables. Thus, children had better preacademic skills when they demonstrated more positive social behaviors. However, children's anxious/depressed problems, emotionally reactive problems, or aggressive behaviors were not related to their preacademic skills after we controlled for the effects of child age and gender and parental education.

The moderating role of child gender and parental education

To examine the research question regarding whether the relations between social-emotional competence and preacademic skills would vary as a function of child gender and parental education, we tested three-way interactions among child gender, parental education, and each aspect of child

Table 4. Models of the Relations Between Different Aspects of Social-Emotional Outcomes and Child Preacademic Skills (N = 154).

Model	Variable	R ²	B	SE	β
Emotional expressiveness					
Anxious/Depressed			.44		
	Child age		.05***	.005	.66***
	Child gender		-.02	.06	-.02
	Parental education		.06	.03	.13
	Anxious/Depressed		-.10	.12	-.06
		.48			
	Child age		.04***	.004	.62***
	Child gender		-.03	.06	-.03
	Parental education		.07*	.03	.15*
	Withdrawn		-.40***	.12	-.22***
Regulation of emotion and behavior					
Emotionally Reactive			.44		
	Child age		.05***	.005	.65***
	Child gender		-.02	.06	-.02
	Parental education		.06*	.03	.13*
	Emotionally Reactive		-.22	.15	-.09
		.47			
	Child age		.04***	.004	.63***
	Child gender		.02	.06	.02
	Parental education		.05	.03	.11
	Attention Problem		-.25**	.09	-.19**
Social and relationship skills					
Aggressive Behavior			.44		
	Child age		.05**	*.005	.66***
	Child gender		-.01	.07	-.01
	Parental education		.06	.03	.12
	Aggressive Behavior		-.09	.13	-.04
		.63			
	Child age		.04***	.004	.51***
	Child gender		-.01	.05	-.01
	Parental education		.06*	.03	.13*
	Teacher-reported social behaviors		.05	.46***	
Parent-reported social behaviors			.39***		
		.50			
	Child age		.04***	.004	.61***
	Child gender		-.04	.06	-.04
	Parental education		.05	.03	.10
	Parent-reported social behaviors		.35***	.27***	

Child gender was dummy coded (0 = girl, 1 = boy).

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

social-emotional competence in a series of multiple regression models. In those models, each continuous predictor was centered at its mean, and child gender was dummy coded (0 = girl, 1 = boy). Significant three-way interaction effects were found in the models of anxious/depressed problems ($B = .51$, $\beta = .18$, $p = .04$) and parent-reported child social behaviors ($B = .30$, $\beta = .17$, $p = .03$). Table 5 presents the model estimates.

To better understand the three-way interactions, we conducted simple slope analyses to decompose the interaction effects. We first examined the interaction effect between child gender and child anxious/depressed syndrome on child preacademic skills in two contexts: families with lower parental education (1 *SD* below the mean) and families with higher parental education (1 *SD* above the mean). The interaction between child gender and child anxious/depressed syndrome was not significant for children of parents with lower education (left panel of Figure 1; $B = .57$, $p = .12$) or for children of parents with higher education (right panel of Figure 1; $B = -.48$, $p = .15$). Given the relatively small sample size and the homogeneity of the sample, the two-way interactions might become statistically significant with a larger and more heterogeneous sample. However, it is worth noting that the interaction effects were in opposite directions for the lower and higher parental education groups, which might have made the three-way interaction statistically significant. Furthermore, the significance of the slopes of all of the lines plotted in Figure 1 was tested. The effect of

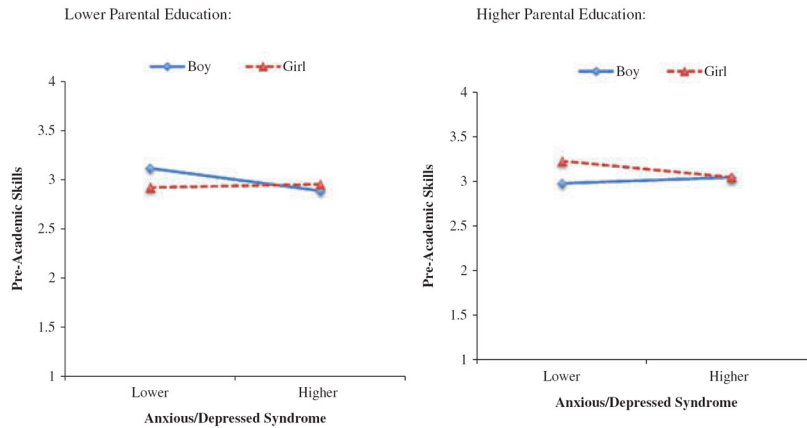


Figure 1. Three-way interaction among child gender, parental education, and child anxious/depressed syndrome in predicting child preacademic skills. The left panel depicts the lower parental education group, and the right panel depicts the higher parental education group. Lower anxious/depressed syndrome = 1 SD below the mean; higher anxious/depressed syndrome = 1 SD above the mean; lower parental education = 1 SD below the mean (i.e., about high school); higher parental education = 1 SD above the mean (i.e., about a bachelor's degree).

anxious/depressed problems on child preacademic skills approached significance for boys from families with lower parental education (solid line in the left panel; $B = -.44$, $p = .10$), but it was not significant for girls from families with lower parental education (dashed line in the left panel; $B = .13$, $p = .60$). For boys of parents with higher education, their anxious/depressed syndrome was not related to their preacademic skills (solid line in the right panel; $B = .13$, $p = .58$), and the effect of anxious/depressed syndrome on child preacademic skills was also nonsignificant for girls from families with higher parental education (dashed line in the right panel; $B = -.35$, $p = .15$).

In the parent-reported social behaviors model, the interaction effect between child gender and parent-reported child social behaviors on child preacademic skills was not significant for children from families with lower parental education (left panel of Figure 2; $B = .11$, $p = .59$), although it was significant for children from families with higher parental education (right panel of Figure 2;

Table 5. Models With Significant Three-Way Interaction Effects Between Child Gender, Parental Education, and Child Social-Emotional Competence on Child Preacademic Skills ($N = 154$).

Model	Variable	R ²	B	SE	β
Anxious/Depressed		.47			
	Child age		.05***	.005	.65***
	Child gender		-.02	.06	-.02
	Parental education		.10*	.04	.22*
	Anxious/Depressed		-.11	.18	-.06
	Gender \times Education		-.10	.06	-.14
	Anxious/Depressed \times Education		-.23	.16	-.12
	Anxious/Depressed \times Gender		-.04	.24	-.02
Parent-reported social behaviors	Anxious/Depressed \times Education \times Gender	.51*	.24	.18*	
		.53			
	Child age		.04***	.004	.62***
	Child gender		-.04	.06	-.05
	Parental education		.10**	.04	.21**
	Social behaviors		.20	.12	.15
	Gender \times Education		-.11*	.06	-.16*
	Social Behaviors \times Education		-.23*	.09	-.21*
	Social Behaviors \times Gender		.19	.16	.10
	Social Behaviors \times Education \times Gender		.30*	.14	.17*

Child gender was dummy coded (0 = girl, 1 = boy).

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

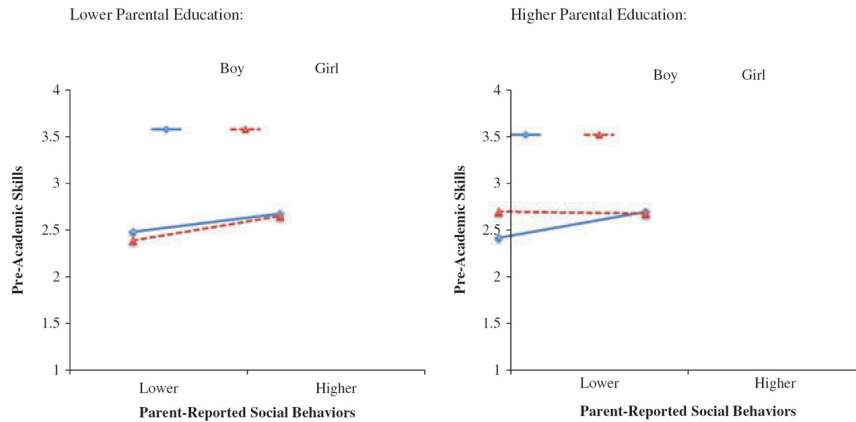


Figure 2. Three-way interaction among child gender, parental education, and parent-reported child social behaviors in predicting child preacademic skills. The left panel depicts the lower parental education group, and the right panel depicts the higher parental education group. Lower parent-reported social behaviors = 1 SD below the mean; higher parent-reported social behaviors = 1 SD above the mean; lower parental education = 1 SD below the mean (i.e., about high school); higher parental education = 1 SD above the mean (i.e., about a bachelor's degree).

$B = -.50, p = .03$). In addition, simple slope analyses showed that for girls from families with lower parental education, their social behaviors were positively related to their preacademic skills (dashed line in the left panel; $B = .44, p < .001$), whereas the association between social behaviors and preacademic skills only approached significance for boys from families with lower education (solid line in the left panel; $B = .33, p = .06$). For children from families with higher parental education, social behaviors had a positive effect on preacademic skills for boys (solid line in the left panel; $B = .47, p < .001$) but not for girls (dashed line in the left panel; $B = -.03, p = .85$).

The other aspects of child social-emotional competence did not interact with child gender and parental education in predicting child preacademic skills, including teacher-rated children's emotionally reactive, withdrawn, attention, and aggression problems and positive social behaviors. Thus, the three-way interactions were removed from the models of these social-emotional aspects. Next two-way interactions between child gender and each aspect of child social-emotional competence were tested to examine whether child gender moderated the effect of children's social-emotional competence on their preacademic skills. Similarly, the two-way interactions between parental education and child social-emotional competence were also examined to test the moderation effect of parental education. However, none of the two-way interactions was significant. Therefore, the effects of children's withdrawn behaviors, emotionally reactive problems, attention problems, aggressive behaviors, and teacher-reported child positive social behaviors on their preacademic skills did not vary by children's gender, their parents' education levels, or the interaction between child gender and parental education.

Discussion

Chinese children's academic achievement and cognitive abilities have received great attention from researchers for decades. In contrast, Chinese children's social-emotional functioning did not attract much interest from researchers until the past decade or so (X. Chen et al., 1997). This increased attention may be partly due to the accumulated research on young children's social-emotional learning among Western samples. Some researchers have investigated the associations between social-emotional functioning and academic achievement among Chinese school-age children (e.g., X. Chen et al., 1997, 2003, 2008; Zhou et al., 2010), but these associations have not been explored among Chinese preschool-age children. Chinese ECE guidelines, curriculum, and professional development have increased attention

to promoting Chinese young children's social-emotional development (J. Liu, 2007; Ministry of Education of the People's Republic of China, 2012). Thus, it is important to examine the relations between social-emotional functioning and preacademic skills in Chinese preschool-age children.

Relations between social-emotional competence and preacademic skills

The findings from the current study indicated that Chinese preschoolers' social-emotional functioning was associated with their preacademic skills. Specifically, teacher-reported withdrawn behaviors and attention problems were negatively related to children's preacademic skills. Furthermore, both parent- and teacher-reported positive social behaviors were positively associated with children's preacademic skills. These findings are consistent with the literature on Chinese school-age children (e.g., X. Chen et al., 1997; Zhou et al., 2010) and young children in Western societies (e.g., Denham, 2006; Denham et al., 2012).

According to the findings, children demonstrated lower levels of preacademic skills when they were more socially withdrawn. The nature of preschool classrooms is heavily social, especially in Chinese preschools, where there are usually 30 or more children in one classroom. Learning is a social process, and "students do not learn alone but rather in collaboration with their teachers, in the company of their peers, and with the support of their families" (Zins et al., 2007, p. 191). Thus, when children withdraw from classroom activities and social interactions with children and adults in the classroom, they may miss important opportunities to engage in learning with peers and teachers. Furthermore, socially withdrawn children are more at risk for experiencing peer neglect and rejection compared to their more sociable age-mates (X. Chen, DeSouza, Chen, & Wang, 2006; Ladd, 2006; Nelson, Rubin, & Fox, 2005; Normandeau & Guay, 1998), and as a result they may dislike school, participate less in class, and have low achievement eventually.

This study also showed that children with more attention problems tended to have lower levels of preacademic skills. Research on American children has consistently demonstrated that children's abilities to control and sustain attention are related to their academic performance during the preschool and early elementary school years (Alexander, Entwisle, & Dauber, 1993; Duncan et al., 2007). Similar relations have also been found among Chinese preschool- and school-age children. For example, Lan, Legare, Ponitz, Li, and Morrison (2011) and Zhou et al. (2010) reported that Chinese young children's effortful control (a construct that contains attentional control) was related to their performance in several subject areas.

Children's abilities to regulate attention are very important for learning, especially considering the ECE context in China. Chinese preschools often have higher student-teacher ratios with more large-group activities and teaching than preschools in the United States (Tobin et al., 2009). Although there have been changes in Chinese ECE guidelines and curriculum to engage in more child-centered and play-based education than previously done, many preschool teachers still emphasize children's obedience and self-regulation and carry out many large-group activities throughout the day (J. Liu, 2007; Tobin et al., 2009). Thus, children with difficulty regulating attention may be less able to engage and participate in learning activities compared to their peers with better attention regulation skills, especially large-group activities. Children's attention regulation skills become even more important when they enter elementary school because of the large class size and highly structured learning environment (Wang, 2013).

In addition, the current study showed that Chinese preschoolers' social behaviors were also related to their preacademic performance, consistent with the findings from a few studies on Chinese school-age children (e.g., X. Chen et al., 2003, 2008). Positive social and relationship skills, such as cooperating, taking turns, and sharing, help children form and maintain positive relationships with peers and adults, which may in turn help children develop positive attitudes toward school and learning (Ladd, 1990). Also, as discussed previously, learning is a social process, and children may be more engaged and learn better from one another and from teachers when they have positive relationships with their learning partners (Denham, 2006).

As described previously, Chinese ECE guidelines, curriculum, and professional development have been shifting; Chinese government and ECE professionals have been promoting child-centered education; and the role of play has also been acknowledged (Ministry of Education of the People's Republic of China, 2012; Qiu, 2007; Tobin et al., 2009). Play makes crucial contributions to young children's development during the early childhood years, as play supports children's development of language and abilities to control their cognitive and emotional processes (i.e., self-regulation; Denham & Brown, 2010; Karpov, 2005; Vygotsky, 1978; Whitebread, 2010). Thus, the shifts under way in Chinese ECE contexts may help contemporary Chinese young children better acquire social-emotional and cognitive skills that prepare them for learning in elementary school through engaging in more play-based, child-centered, and creativity-oriented learning during the preschool years.

It is worth noting that children's scores on the Anxious/Depressed, Emotionally Reactive, and Aggressive Behavior scales did not relate to their preacademic skills when we controlled for children's age and gender and their parents' education levels. These findings are not consistent with those reported for Chinese school-age children described earlier (e.g., X. Chen & Li, 2000; X. Chen et al., 1997; Zhou et al., 2010). It is difficult to explain why such associations were not present among this group of preschool-age children, and the findings suggest the value of looking within the preschool age group. Perhaps such associations will not emerge until children reach school age. In addition, many children in this study came from middle-class families (see Table 1), and they generally demonstrated low levels of problem behaviors (see Table 2). More heterogeneous samples are needed to examine how variations in Chinese preschoolers' social-emotional problems are related to their preacademic skills.

Moderation effects of child gender and parental education

Parental education can be considered a proxy for family SES. Previous research has suggested that various child outcomes can be influenced by the interplay of child gender and family SES (Conger et al., 2010; Entwisle et al., 2007; Giagazoglou, 2013). Furthermore, the socialization context for Chinese young children has been altered dramatically by social changes, especially the one-child policy and unprecedented economic growth. Research has suggested potential combination effects of child gender and family SES on parents' expectations for their only boys and girls (F. Liu, 2006). The larger project of which the current study was a part also included semistructured interviews of 10 mothers. It is interesting that contrary to several previous studies (e.g., Liang et al., 2010; F. Liu, 2002), mothers of girls generally expressed lower academic expectations for their child compared to mothers of boys, although all mothers were concerned about their child's social-emotional well-being. Given the small sample size of 10, these findings were only suggestive, and it was impossible to determine whether mothers' expectations for their child's social-emotional and academic development differed by family SES; this matter requires further exploration. Thus, in the current study, we examined the role of child gender and parental education levels in Chinese preschoolers' social-emotional competence and preacademic skills.

The findings revealed interesting moderation effects of child gender and parental education on the relations between some aspects of children's social-emotional competence and their preacademic skills. Research has shown the predictive role of parental education in children's academic achievement (e.g., Christenson et al., 1992; Davis-Kean, 2005). Parents with higher educational attainment may create a different socialization environment to cultivate their children's social-emotional and cognitive competence compared to parents with lower education levels. Parents' expectations for their children's development and their aspirations for and involvement in their children's learning may be affected by their own educational experiences. For example, using data collected from the same Chinese sample as in the current study, we previously found that parents with higher education placed more emphasis on their child's development of social-emotional skills and were more likely to adopt authoritative parenting practices relative to parents with lower education (Ren & Edwards, 2015).

In addition, parents may socialize boys and girls differently, particularly in a society like China where many traditional values pertain to gender roles (Xie, 2013). Parents may have different expectations for boys' and girls' academic achievement and educational and occupational attainment (F. Liu, 2006). They may engage in different amounts and/or types of learning activities with boys and girls. Parents' own educational experiences may influence the way in which they view boys and girls, and thus parents with different education levels may demonstrate different expectations and socialization practices for boys and girls.

One significant finding is the interaction effect between child gender and parent-reported child social behaviors on children's preacademic skills for children of parents with higher education (left panel of Figure 2), although the same effect was not observed among children from families with lower parental education (right panel of Figure 2). This finding suggests that parental education seemed to act as a protective factor for girls, because girls from families with higher parental education showed no difference in their preacademic skills regardless of their social behaviors. However, the mechanism underlying the protective role of parental education for girls remains unclear. Future research is needed to examine how the educational experiences of Chinese parents influence the way in which they view and socialize their daughters.

Future directions and implications

The overall findings of the study indicate that all three domains of social-emotional competence (i.e., emotional expressiveness, regulation of emotion and behavior, and social and relationship skills based on Denham's, 2006, framework) were associated with preacademic skills among a sample of Chinese preschoolers, although some indicators (i.e., scores on individual scales) under each domain did not relate to children's preacademic skills. The indicators under each domain do not collectively make up the domain, but they are aspects of these domains. For instance, the Anxious/Depressed and Withdrawn scales do not capture the whole construct of emotional expressiveness, but they measure some aspects of the construct. Thus, future research is needed to examine how other indicators under each domain are related to Chinese preschoolers' preacademic skills, such as positive aspects of the emotional expressiveness domain (e.g., display of positive emotions) and the regulation of emotion and behavior domain (e.g., emotional regulation). Furthermore, the classifications of the indicators in each domain are mainly based on Western literature (see the review by Denham, 2006), and these indicators may form different clusters of domains in the Chinese context. Researchers need to examine whether the framework of social-emotional competence developed based on Western samples is applicable to Chinese populations and what cross-cultural variations may exist.

In addition, it is not clear why significant three-way interactions among child gender, parental education, and child social-emotional competence only emerged for some aspects of child social-emotional competence in predicting children's preacademic skills. The sample size may not have been big enough to sufficiently detect three-way interactions, and moreover the sample may not have been diverse enough to offer much variability. Future research is needed to examine whether the relations between various aspects of child social-emotional competence and preacademic skills vary across boys and girls from families of different SES. The current findings do highlight the importance of examining child characteristics such as gender and socioeconomic factors in the study of child social-emotional and cognitive competence.

It is impossible to determine whether children's social-emotional competence influences their academic performance or the other way around, based on findings from the present study. X. Chen et al. (1997) found that social-emotional functioning predicted and was predicted by academic achievement among Chinese elementary school-age children. Longitudinal research is needed to examine whether such reciprocal effects also exist among Chinese preschoolers. In addition, the sample in the current study came from three small cities in the northeastern region of China (the context is discussed further in Ren, 2015; Ren & Edwards, 2016). China is a very diverse country, and the findings of the current study may be particular to schools from the regions where these three cities

are located. Thus, further research is needed to examine the associations between social-emotional competence and preacademic performance among preschoolers from other regions of China and from other backgrounds.

This study has important implications for Chinese early childhood researchers, educators, and practitioners. Preschool teachers need to attend to withdrawn children to better prepare children for later academic success in elementary school. In typical Chinese preschool classrooms with 30 or more children, withdrawn children may be easily neglected by teachers. Professional development programs may inform teachers of research on withdrawn behaviors and their consequences for children's well-being to increase teachers' awareness of withdrawn children in their classrooms. In addition, the associations between children's social-emotional competence and preacademic skills indicate that teacher training and support are needed to help preschool teachers better understand the construct and importance of social-emotional competence. Denham's (2006) framework may be used to help teachers understand the multiple facets of social-emotional competence and their influence on young children's learning. Furthermore, the findings suggest that it is important for teachers and parents to communicate with each other regarding the child's behaviors at home and school, as children may behave differently in different contexts. Finally, the findings indicate that the interplay of child gender and parental education may affect the associations between young children's social-emotional competence and preacademic skills. Future research on Chinese young children's social-emotional and cognitive competence needs to take into account the role of child characteristics and socioeconomic factors. A better understanding of the role of child characteristics and socioeconomic factors in children's social-emotional and cognitive competence will provide useful information for intervention and prevention programs to better target at-risk children and families.

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