Social and School-Related Correlates of Shyness and Unsociability in Chinese Adolescents

by

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ABSTRACT

To explore subtypes of social withdrawal in different sociocultural contexts, concurrent social, school, and academic correlates of shyness and unsociability were examined in 93 urban (M_{age} = 14.05, *SD* = 0.86 years) and 136 rural (M_{age} = 14.39, *SD* = 0.69 years) seventh and eighth graders from Liaoning, China. Adolescents' shyness and unsociability were assessed with self-, peers', and teachers' reports. Peer-group relationships (acceptance, rejection, and exclusion) were obtained from peer nominations. Adolescents reported perceived friendship quality (positive friendship quality, conflict and betrayal) and school attitudes (school liking and avoidance). Teachers rated students' academic engagement and performance. Academic achievement (exam grades) also was obtained from school records.

According to factor and correlational analyses, shyness and unsociability emerged as distinct, but positively related, constructs, within each informant. Cross-informant agreements on shyness and unsociability were low to moderate, especially between teachers' and self- or peers' reports. Urban-rural differences were expected in the associations of shyness, but not of unsociability, with the correlates, but the hypotheses were not supported with multiple-group (urban vs. rural) path models. In the combined (urban and rural) sample, shyness was associated with negative peer relationships, low friendship quality, and negative school attitudes (for self- but not peer-reported shyness), but was unrelated to academic correlates. Self-reported unsociability related negatively to positive friendship quality and positively to academic achievement, but was unrelated to other adjustment correlates. Peer-reported unsociability, however, was associated with

negative peer relationships, less positive friendship quality, low school liking, low academic performance, and low academic achievement.

The study was an initial step towards understanding subtypes of social withdrawal and adjustment correlates in various domains among Chinese adolescents living in different social contexts. The lack of urban-rural differences was not consistent with the contextual-development theory. Like their Western peers, shy Chinese adolescents were at risk for relational and school adjustment problems, but they did not have academic difficulties. Unsociable Chinese adolescents also tended to have poor adjustment at school, including relational problems with peers and friends, negative school attitudes, and academic difficulties, but only when they were perceived as unsociable by peers, rather than themselves.

To my parents

and

in memory of my grandmother

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Introduction

Social withdrawal encompasses different processes (e.g., shyness, unsociability) that lead children to participate in fewer peer interactions than their less withdrawn peers (Rubin, Coplan, & Bowker, 2009). Many "faces" of social withdrawal have been identified and examined (e.g., Asendorpf, 1990; Coplan, Prakash, O'Neil, & Armer, 2004). For example, some children may desire social interactions, but their desire is simultaneously inhibited by fear and anxiety (shyness), whereas other children may prefer solitary activities relative to social interactions (unsociability). Shyness and unsociability not only differ in the underlying motivational and emotional processes, but also may have different developmental implications. For example, in contrast to shyness which often has been linked with interpersonal and internalizing problems, unsociability has been relatively (although not entirely) benign in North-American children (in this paper, North America refers specifically to the United States and Canada; e.g., Coplan et al., 2004; Coplan et al., 2013; Ladd, Kochenderfer-Ladd, Eggum, Kochel, & McConnell, 2011; Rubin & Asendorpf, 1993).

Despite the accumulating research on subtypes of social withdrawal, the field's understanding of shyness and unsociability has been largely limited to Western societies (primarily in the United States and Canada). Researchers have just started to explore the conceptualization and implications of shyness and unsociability in other cultural contexts, such as China (Ding, Weeks, Liu, Sang, & Zhou, 2015), India (Bowker & Raja, 2011), Turkey (Bayram Özdemir, Cheah, & Coplan, 2015), Korea (Kim, Rapee, Oh, & Moon, 2008), and Finland (Ojanen, Nostrand, Bowker, & Markovic, 2015). According to the contextual-developmental perspective, culture may influence how people define and

conceptualize shyness and unsociability; culture also may affect how shyness and unsociability are valued, and thus, affect how others respond to shyness and unsociability (X. Chen & French, 2008).

As a traditionally collectivistic country, Chinese culture is contrasted with the North-American culture, which is characterized with individualistic values (Oyserman, Coon, & Kemmelmeier, 2002). Since the economic reform in the 1980s, China has experienced dramatic social and cultural changes, especially in urban areas where people are more exposed to influences from Western cultures, relative to rural areas. Thus, people in urban areas may have more exposure to individualistic values relative to people in rural areas. The urban-rural differences within China provide an interesting context to contrast potential differences in the implications of shyness and unsociability (X. Chen, 2015). However, the majority of the research on shyness and unsociability has focused on the urban context of China (e.g., X. Chen, Rubin, & Sun, 1992; Ding, Weeks, et al., 2015; Liu et al., 2015). To my knowledge, shyness and unsociability have been simultaneously examined in rural China in only one study with fifth-graders (X. Chen, Wang, & Cao, 2011). Moreover, shyness and unsociability often have been assessed with peer nominations in China (e.g., Ding, Weeks, et al., 2015; Liu et al., 2015), in contrast to the research in other countries in which self-reports of shyness and unsociability often have been used, especially during adolescence (e.g., Bowker & Raja, 2011; Ojanen et al., 2015; Wang, Rubin, Laursen, Booth-LaForce, & Rose-Krasnor, 2013). Thus, the purpose of this study was to explore the informants (self-, peers', and teachers' reports) and social and school-related correlates of shyness and unsociability in urban and rural Chinese young adolescents.

Definitions and Conceptualizations Related to Shyness and Unsociability

It is challenging to synthesize the literature on social withdrawal, shyness, and unsociability because construct definitions and terminology are used inconsistently (e.g., Crozier, 2000; Rubin & Coplan, 2004). Thus, to clarify the constructs of interest in the present paper, the terms related to shyness and unsociability are briefly reviewed (see Table 1 and Figure 1; see Appendix A for Tables and Appendix B for Figures; for a comprehensive review, see Coplan & Rubin, 2010).

To begin with, behavioral solitude refers to the display of solitary behaviors in the peer context (Coplan & Rubin, 2010). Behavioral solitude can arise from external reasons, such as peer exclusion or active isolation, meaning that peers are encouraging the child to be solitary. Some researchers have examined peer exclusion as a subtype of social withdrawal that is differentiated from shyness and unsociability (e.g., Spangler & Gazelle, 2009). In this paper, peer exclusion is considered as a correlate of shyness and unsociability because, conceptually, peer exclusion can occur for heterogeneous reasons, including shyness and unsociability. Social withdrawal refers to behavioral solitude arising from internal reasons (i.e., self-imposed withdrawal from peer interactions). Social withdrawal can further be differentiated based on the underlying motivational and emotional processes (e.g., shyness, unsociability).

Shyness refers to "wariness in the face of social novelty and/or self-conscious behavior in situations of perceived social evaluation" (Rubin et al., 2009, p. 145). Shy children are believed to have a high motivation for social interactions, as well as a high motivation to avoid people (Asendorpf, 1990). The term, conflicted shyness, highlights this conflict between the desire for social interactions (high social approach motivation)

and the inhibited approach due to social fear or anxiety (high social avoidance motivation; Coplan et al., 2004). In the context of familiar peers, shyness also is referred to as anxious solitude (Gazelle & Ladd, 2003). Subtypes of shyness have been differentiated based on the sources of the fear or anxiety and/or the familiarity of the context (e.g., temperamental shyness, fearful shyness, social evaluative shyness, self-conscious shyness; Asendorpf, 1993; Buss, 1986). References to these sources of shyness, such as social novelty, negative social evaluation, and public attention, also have been identified with Chinese children (Xu & Farver, 2009). Peer-reported anxious shyness has been positively related to self-reported shyness due to all three situations (i.e., social novelty, negative social evaluation, and public attention; Xu & Farver, 2009). Thus, given the focus of the paper on the differentiation of shyness from unsociability, subtypes of shyness were not differentiated.

Unsociability refers to a non-fearful preference for solitude, as opposed to solitude due to fear or anxiety (Coplan & Weeks, 2010a). Unsociable children are believed to have a low motivation for social interactions, but they do not have a strong tendency to avoid people (Asendorpf, 1990). Two related terms, are social disinterest and preference for solitude. Social disinterest highlights the lack of a strong social approach motivation (Coplan et al., 2004), whereas preference for solitude highlights an overt preference for spending time alone (Coplan et al., 2013; Coplan, Ooi, Rose-Krasnor, & Nocit, 2014). Developmental researchers who study unsociability in children and adolescents often use the terms (unsociability, social disinterest, preference for solitude) interchangeably (Coplan & Weeks, 2010a). However, adult personality researchers have distinguished the desire for social contact (sociotropic orientation) and the desire for

solitude (solitropic orientation; Leary, Herbst, & McCrary, 2003). They have reported that the frequency and enjoyment of solitary activities are more associated with a high solitropic orientation (i.e., a high need for solitude) than with a low sociotropic orientation (i.e., a low interest in social contact).

Researchers also have started to explore social avoidance (e.g., Bowker & Raja, 2011), another subtype of social withdrawal that is conceptualized as arising from a low social approach motivation and a high social avoidance motivation (Asendorpf, 1990). Some researchers have assessed social avoidance independently from shyness and unsociability (Bowker & Raja, 2011). Other researchers have identified socially avoidant children based on assessments of shyness and unsociability (i.e., high on both; Coplan et al., 2013). Social avoidance was not examined in the present paper, but it should be differentiated from shyness and unsociability.

The terms and conceptualization discussed above are based on the Western literature. In China, the terms and conceptualization, particularly for shyness, are sometimes slightly different. Shyness-sensitivity (or sometimes shyness-inhibition), reflects individuals who are shy, usually sad, and whose feelings get hurt easily. Shyness-sensitivity measures have frequently been used with Chinese children and adolescents (e.g., Chen et al., 1992). This term seems to capture more internalizing emotions and sensitivity relative to the shyness construct typically measured in the Western literature (i.e., wariness and anxiety in social situations).

The word "shy," or "haixiu*"* in Mandarin, also may have different meanings in the Chinese culture. In a series of studies, Xu and colleagues asked Chinese elementary school children and teachers to describe the behavioral characteristics of shy children or

peers (Xu, Farver, Chang, Zhang, & Yu, 2007; Xu, Farver, Yang, & Zeng, 2008). Two types of descriptions, labelled as anxious shyness and regulated shyness, emerged from children's and teachers' responses. Anxious shyness, e.g., "anxious and nervous when speaking in front of peers," mirrored the construct of shyness in the Western literature. Regulated shyness, e.g., "behaves modestly" and "does not show off," however, has not been reported previously in Western culture. In subsequent studies, regulated shyness also has been identified in other groups of people, such as Korean children (Xu, Farver, & Shin, 2014), Turkish children (Bayram Özdemir et al., 2015), and Asian-American children (Xu & Kreig, 2014). Results from these studies have indicated that regulated shyness, rather than anxious shyness, is associated with positive adjustment. Thus, regulated shyness, which is comprised of self-restraint, modest, and unassuming behaviors, may be unique to collectivistic cultures and should be distinguished from anxious shyness in cross-cultural research.

Assessments and Informants of Shyness and Unsociability

In Western culture, researchers have utilized a variety of methodological approaches to assess shyness and unsociability in childhood and adolescence, including observations, self-reports, peer nominations, parents' and teachers' reports (e.g., Spangler & Gazelle, 2009). In non-Western cultures outside of China, self-report is more often used (e.g., Bayram Özdemir et al., 2015; Bowker & Raja, 2011; Kim et al., 2008). In China, shyness and unsociability are most frequently assessed with peer nominations (e.g., X. Chen et al., 1992; Ding, Weeks, et al., 2015; Liu et al., 2015), but self-report recently has been used too (Coplan et al., 2016; Wang, 2015).

The selection of assessment tools often depends on the developmental period of the target sample. For young children, observations (of nonsocial play) and parents' reports are commonly used (e.g., Coplan et al., 2004; Coplan, Rubin, Fox, Calkins, & Stewart, 1994). Self-reports and peer nominations are more widely used among older children and adolescents (e.g., Coplan et al., 2013; Ladd et al., 2011). Teachers' reports also have been used for children and preadolescents (e.g., Ladd et al., 2011; Spooner, Evans, & Santos, 2005). Given the focus of early adolescence in the present paper, measures assessing both shyness and unsociability which use informants appropriate for this age group (self-, peers', and teachers' reports) are reviewed.

Self-reports. The Child Social Preference Scale (CSPS; Coplan et al., 2004), which was originally a parent-report scale of shyness and unsociability, has been adapted for self-report in Indian adolescents (Bowker, Markovic, Cogswell, & Raja, 2012; Bowker & Raja, 2011). The authors revised the scale by rephrasing the items for self-report, and adding items that reflected social avoidance (e.g., "choose to play alone because don't like others") and peer exclusion (e.g., "would like to hang with kids, but excluded"). Shyness was conceptualized as arising from an approach-avoidance conflict (e.g., "like to play with others, but nervous to"). Unsociability was conceptualized as arising from low social approach and low social avoidance motivations. However, unsociability items included a tolerance of solitude ("do not mind spending time alone"), an overt preference for solitude ("like spending time alone more than with others" and "do not like being with others and prefer being alone"), and a lack of social approach motivation ("do not have a strong need to be with other kids"; Coplan, Ooi, & Nocita, 2015). Shyness emerged as a separate factor from unsociability, and both of them were

differentiated from social avoidance and peer exclusion, although all the factors were moderately and positively correlated. The revised scale demonstrated acceptable (but not very high) internal reliabilities and good discriminant validity in Indian adolescents (Bowker & Raja, 2011).

The Child Social Preference Questionnaire (CSPQ) is a self-report measure of unsociability (labelled as preference for solitude; Coplan et al., 2013). Items were adapted from previous measures and reflected an overt preference for spending time alone (e.g., "If given a choice, I prefer to play alone than with other kids"; "I usually prefer doing things alone"). The questionnaire demonstrated good internal reliability and validity in 4-to-6th grade Canadian children, and was moderately correlated with self-reported shyness on the Children's Shyness Questionnaire (CSQ; Crozier, 1995). Recently, the measures (CSQ and CSPQ) have been translated into Chinese versions, and demonstrated good internal reliabilities in Chinese 4-to-6th graders (Coplan et al., 2016; Ding et al., 2014). Like in Canadian children, shyness and unsociability were positively and moderately correlated in Chinese children (Coplan et al., 2016).

In other studies (Ojanen et al., 2015; Wang et al. 2013; Wang, 2015), researchers often have used selected items from previous, well-developed measures pertaining to shyness and unsociability, such as the Child Social Preference Scale (CSPS; Coplan et al., 2004), the Social Withdrawal Scale (SWS; Terrell-Deutsch, 1999), and the Youth Self Report (YSR; Achenbach & Rescorla, 2001) to assess self-reported shyness and unsociability. Some researchers also added new items generated by the research team (Bayram Özdemir et al., 2015). In these studies, shyness included items reflecting fear or anxiety towards social interactions (e.g., "I'm anxious in social situations"), and/or an

approach-avoidance conflict (e.g., "I spend time alone because I want to be with other kids but I don't because I'm too shy or afraid"). Unsociability usually included items that reflected an overt preference for solitude (e.g., "I like to spend time alone"), and sometimes a lack of social approach motivation (e.g., "I do not join my peers because I am not interested in what they do"). Shyness and unsociability have been found to be separate factors, and to be moderately and positively correlated (Ojanen et al., 2015; Wang et al. 2013; Wang, 2015). The measures have generally demonstrated good internal reliabilities and discriminant validity with children and adolescents from different cultural backgrounds (US, Finland, Turkey, and China).

Peers' reports. In terms of peers' reports, X. Chen et al. (2011) adapted the Revised Class Play (Masten et al., 1985), which was originally a peer nomination measure of children's social behaviors (e.g., sociability, aggression, social withdrawal), by revising and adding items that reflected motivations for solitude. Shyness-sensitivity was nominated using three items, "very shy," "usually sad," and "feelings get hurt easily." Unsociability was nominated using four items, "rather play alone than with others," "not interested in group activities," "does not prefer social interaction," and "would not like to talk with others." As mentioned previously, shyness-sensitivity captured more internalizing emotions and sensitivity and less approach-avoidance conflict relative to other measures of shyness. In addition, one unsociability item, "would not like to talk with others," has not typically been used for unsociability. Other than these differences, the measure has shown good internal reliability, test-retest reliability, and validity among children and adolescents in various cultures (e.g., China, Canada; X. Chen et al., 2011; Liu et al., 2014; Liu et al., 2015). Similar to when self-reports have been used, peer-

reported shyness and unsociability have been separate, but positively correlated, factors (X. Chen et al., 2011; Liu et al., 2014).

Another peer-assessment tool that has been used to measure shyness and unsociability is the two-step Gateway measure (Ladd et al., 2011). In the first step, children were asked to nominate classmates who "play by themselves the most." In the second step, children were asked to indicate the reason for solitude that best described the classmate nominated in the first step (i.e., they had to select one reason from shyness, unsociability, and exclusion). The shyness item reflected the approach-avoidance conflict, "does this kid want to play with other kids but does not because they are too shy or afraid?" The unsociability item reflected an overt preference for solitude, "does this kid want to play alone instead of playing with other kids?" Reliability was not calculated because it was a single-item measure (but a child could potentially be nominated by multiple peers). The measure has been shown to be useful in identifying subgroups of shy and unsociable children in American fifth graders (Ladd et al., 2011). However, the screening procedure is likely to select out extreme groups of shy or unsociable children who are observed to play alone a lot. In other words, the children selected are shy or unsociable, as well as withdrawn. The shy or unsociable children who do not frequently play alone may not be captured.

Teachers' reports. With regard to teachers' reports, Ladd et al. (2011) assessed shyness (labelled "anxious solitude") and unsociability, as well as peer exclusion, with selected teacher-report items from the Child Behavior Scale (CBS; Ladd & Profilet, 1996) and the Teacher Report Form (TRF; Achenbach, 1991). Shyness was assessed with five items, e.g., "self-conscious or easily embarrassed" and "tends to be fearful or afraid of

new things," that reflected fear, anxiety, and self-consciousness toward novel and familiar social and nonsocial situations. Unsociability was assessed with three items, "would rather be alone than with others," "prefers to play alone," and "likes to play alone," that reflected an overt preference for solitude. Shyness, unsociability, and peer exclusion emerged as separate factors. The scale demonstrated good reliability and validity among American fifth graders (Ladd et al., 2011). Thus, if provided measures with good psychometric properties (e.g., reliability, validity), self, peer, and teacher informants seem to be able to distinguish shyness and unsociability of preadolescents and adolescents.

Informants' strength and weaknesses. For older children and adolescents who are likely to be more accurate reporters relative to younger children, self-reports may be the most appropriate for constructs which are largely defined by internal processes such as shyness and unsociability because they have direct access to their motivations and emotions underlying their behaviors. However, self-reports may be susceptible to social desirability biases. Peers' reports may be more objective in that they are not subject to social desirability biases. In addition, nomination measures do not rely on a single informant's perspective. However, peer-nomination reports are sometimes difficult to obtain and not cost-efficient due to the requirement on participation rates (Marks, Babcock, Cillessen, & Crick, 2013). Also, peer-nomination data need to be adjusted for group size, and thus do not permit mean-level cross-cultural comparisons. Teachers provide a unique perspective as adults, and have knowledge of similarly aged peers that they can use to evaluate the adolescents. However, it is possible that shyness and

unsociability are less salient classroom problems, relative to behaviors like aggression, and may be unnoticed by teachers (Spooner et al., 2005).

Informant agreement. Given the strengths and weaknesses of each type of informant, the ideal solution is to collect information on shyness and unsociability from a variety of informants and form latent constructs so that informant-specific bias can be controlled. However, cross-informant agreement on shyness and unsociability, as well as other relevant psychological factors, such as social withdrawal, often has been low to moderate in previous studies (e.g., Spangler & Gazelle, 2009; for a review of cross-informant discrepancies on childhood psychopathology, see De Los Reyes & Kazdin, 2005). For example, self-reported shyness has been not significantly correlated with teacher-reported shyness among Canadian fifth and sixth graders (both of which were reported on well-established scales; Spooner et al., 2005). Ladd et al. (2011) reported moderate correlations on shyness and unsociability between peers' reports on the Gateway measure and teachers' reports on selected items from well-established scales. In urban Chinese fourth-to-sixth graders, the correlation between self-reported shyness on Children's Shyness Questionnaire (Crozier, 1995) and peer-reported shyness-sensitivity was significant but very low (Ding et al., 2014). Low correlations between self- and peer-reported shyness and unsociability have been reported in Turkish fourth and fifth graders (Bayram Özdemir et al., 2015). Moreover, peer-reported unsociability has been more associated with self-reported shyness rather than self-reported unsociability (Bayram Özdemir et al., 2015; Spangler & Gazelle, 2009). Low cross-informant agreement can make it difficult to combine informants' perspective on adolescents' shyness and unsociability.

The Contextual-Development Framework: The Role of Cultural Context

The interactive influence between children's personal characteristics and their environments (e.g., family, school, community) on development has long been recognized (e.g., Bronfenbrenner & Morris, 2006). Chen and colleagues proposed a contextual-developmental framework in which the role of the social-cultural context was highlighted (X. Chen & French, 2008; X. Chen, French, & Schneider, 2006). According to the contextual-developmental framework, culture (e.g., norms, beliefs, values) may not only influence the display of specific social behaviors, but also define the functional meaning of these behaviors. For example, shy-inhibited behaviors have been found to be more prevalent in children from a Chinese background relative to their peers from a European background (display of behavior; X. Chen et al., 1998; Rubin et al., 2006). Shyness-inhibition also has been associated with positive adjustment (e.g., peer acceptance, school competence) in Chinese culture but with negative adjustment (e.g., peer rejection, internalizing problems) in North-American culture (functional meaning of behavior; e.g., X. Chen et al., 1992).

Culture may exert influence on children's development through many levels (e.g., family socialization, school socialization, social changes). On the macro-level, Chinese culture and North-American culture often have been described as collectivistic versus individualistic (Oyserman et al., 2002). In individualistic cultures, socialization goals tend to be related to personal success (i.e., success of the individual). Thus, social competence encompasses characteristics that facilitate personal success, such as independence, assertiveness, and autonomy. Such characteristics are highly valued and encouraged in individualistic cultures. In collectivistic cultures, socialization goals tend

to be related to group success. Thus, social competence encompasses characteristics that facilitate group harmony, such as interdependence, modesty, and self-restraint behaviors. Such characteristics are highly valued and encouraged in collectivistic cultures. Thus, shyness and unsociability may have different display and/or functional meanings in individualistic versus collectivistic cultures.

Because shyness is characterized with emotional distress (e.g., fear, anxiety) towards social interactions, it is clearly contradicted with the individualistic value for personal success. Thus, in Western cultures, shyness often is viewed as immature and weak, and it is likely to elicit negative responses from others. Shy individuals also may feel badly about themselves. From this perspective, shyness is expected to be associated with interpersonal and internalizing difficulties in Western societies. Unsociability, on the other hand, may not be viewed as negatively as shyness in Western culture because it is a personal, independent choice to infrequently engage with peers (Rubin & Asendorpf, 1993). Furthermore, unsociable children are believed to be able to engage with others with competence when they do decide to engage with others (Asendorpf, 1993). However, if unsociable children constantly withdrawal from peer interactions, even out of personal preference, they may develop interpersonal problems (e.g., peers may view them as aloof); however, problems are probably not as severe as they are for shy children in Western societies (Coplan et al., 2013).

In collectivistic cultures, shyness may not be viewed as negatively as in Western culture, or may even be positively viewed. Shy children desire social relationships and feelings of belonging, which are consistent with group-oriented values. Submissive and non-assertive behaviors, which accompany shyness, are not negatively valued in

collectivistic cultures. Thus, shyness may not necessarily indicate social incompetence in collectivistic cultures (e.g., Indonesia; Eisenberg, Pidada, & Liew, 2001). In contrast, pursuing autonomy may be socially unaccepted in collectivistic cultures. Thus, the preference for solitude may be regarded as threatening to the collectivistic interest and, accordingly, may elicit negative responses from peers and adults.

Although China has been described as a collectivistic country historically, China has experienced dramatic social, economic, and cultural changes since the early 1980s (e.g., Qi & Tang, 2004). The large-scale economic reform ("open door policy") has brought in influences from other cultures, especially the United States. China, especially urban China, has shifted from an agriculturally-based society to a market-oriented society. It has been theorized that the market-oriented economy fosters the development of individualistic values (Hofstede, 1980; Valdivia, Schneider, Chavez, & Chen, 2005). Thus, people in urban China may have adopted more individualistic and less collectivistic values over time.

In contrast, people in rural areas of China live mainly on small-scale, family-based agriculture, and may have been less influenced by the economic reform and social changes than people in urban China. Thus, traditional values, such as responsibility for the family, filial piety, and compliance with the authorities, are expected to be better preserved in rural than urban areas. Consistent with the expectation, rural male adolescents have reported a stronger sense of family obligation, such as assistance to the family, respect for the family, and future support to the family, than urban male adolescents in China (urban girls did not differ from rural girls on these aspects; Fuligni & Zhang, 2004).

Moreover, rural Chinese children and adolescents may differ from their urban counterparts in their exposure, perception, and adoption of Western cultures. For example, the internet is an important media through which children are exposed to foreign (especially Western) cultures and modern lifestyles, but rural children have less access to computers and the internet than urban children (Chan & McNeal, 2006). Urban adolescents have demonstrated a better understanding of the Western values (e.g., individual uniqueness) and more accurate perceptions of cultural differences between Chinese culture and Western culture relative to rural adolescents in China (X. Chen & Chiu, 2010). X. Chen, Wang, and Liu (2012) also found that urban Chinese adolescents reported higher scores of uniqueness (e.g., "I enjoy being unique and different from others in many respects") than rural Chinese adolescents, but they did not differ in self-reported group orientation (e.g., "It is important to me to respect decisions made by the group"). In addition, in urban Chinese adolescents, uniqueness was positively associated with peer preference, whereas in rural Chinese adolescents, group orientation was positively associated with peer preference (X. Chen et al., 2012).

Parenting practices and socialization goals may also have been influenced differentially, and thus have different impacts on urban and rural children. Compared to parents of rural adolescents, parents of urban adolescents have perceived more social changes, including more work opportunities, increased demand for self-improvement in work, and experiences with high-technology (e.g., the use of computer in daily life; X. Chen, Bian, Xin, Wang, & Silbereisen, 2010). Along with the perceived social changes, urban adolescents reported receiving less controlling and more independence-encouraging parenting practices than did rural adolescents (X. Chen et al., 2010).

Similarly, parents of urban children reported encouraging their children on dimensions of social participation, independence, and social initiation to a greater extent than parents of rural children (X. Chen & Li, 2012). Thus, relative to rural parents, urban parents seemed to use more parenting practices that are consistent with the values in Western culture (e.g., encouragement of autonomy and independence) and fewer parenting practices that are commonly used in traditional Chinese culture (e.g., control).

However, as has been recognized by X. Chen (2010), rural areas of China also are experiencing rapid changes in recent years. More and more rural people, especially young adults, choose to leave their home villages and move to the cities for temporary jobs. For example, the number of rural migrant workers has been increasing every year since 2008, and in 2013, over 268 million rural labors migrated to the city (National Bureau of Statistics of China, 2014). These migrants were exposed to the urban culture, and when they returned to their hometowns, they may have brought some of the urban culture back with them.

Social and School-Related Correlates of Shyness and Unsociability

In this section, empirical research on concurrent and longitudinal correlates of shyness and unsociability in China is reviewed (see Figure 2 for a summary of findings in China across time and social contexts). Literature on shyness and unsociability in other cultures, especially in North America, is not comprehensively reviewed, but is discussed in comparison to the findings obtained in China.

Beliefs and attitudes towards shyness and unsociability. Young children's and kindergarten teachers' beliefs and attitudes towards shy versus unsociable behaviors have been examined in contemporary urban China with hypothetical vignettes (Coplan, Zheng,

Weeks, & Chen, 2012; Ding, Coplan, et al., 2015; Y. Li, Coplan, Archbell, Bullock, & Chen, 2016). A hypothetical shy child was described as "afraid to talk to other kids" and "when other kids are playing, he/she just watches them" (Coplan et al., 2012; Ding, Coplan, et al., 2015), or "hovering near some other children who are playing a game," "appears somewhat anxious," and "inches closer to the other children, but does not try to join in" (Y. Li et al., 2016). Thus, both the behavioral component (e.g., watch peers play but do not join) and the emotional component (e.g., anxious, afraid) were captured in the shyness vignette. A hypothetical unsociable child was described as "likes to play on his/her own" and "when other kids are playing, he/she plays by himself/herself" (Coplan et al., 2012; Ding, Coplan, et al., 2015), or "playing quietly away from the other children," "does not appear anxious or upset," and "if left undisturbed, would seem likely to happily continue playing on his/her own" (Y. Li et al., 2016). Thus, the unsociability vignette seemed to capture the display of solitary behaviors (e.g., play alone) and the preference for solitude (e.g., like to play alone). Y. Li and colleagues (2016) also explicitly described the unsociable child as not anxious.

Chinese young children and kindergarten teachers demonstrated different beliefs and attitudes towards the hypothetical shy versus unsociable child. Chinese children seem to have more negative attitudes towards unsociable, relative to shy, behaviors. For example, Chinese children reported less wanting to be friends with the unsociable child, and believed that the unsociable child would cause more problems in class, relative to the shy child (Coplan et al., 2012; Ding, Coplan, et al., 2015). Similar results have been obtained in Canadian children (predominantly White; Coplan, Girardi, Findlay, & Frohlick, 2007; Coplan et al., 2012).

In contrast, teachers tend to view shy behaviors more negatively than unsociable behaviors. For example, Chinese kindergarten teachers reported being more tolerant of and less worried about the unsociable than the shy hypothetical child (Y. Li et al., 2016). They also believed that peers would respond more negatively to the shy child, and the shy child would perform worse academically, relative to the unsociable child (Y. Li et al., 2016). Similar results have been reported in Canada as well. For example, Canadian kindergarten teachers reported that unsociable behaviors were more tolerable and would have less interference with social and academic development than shy behaviors (Arbeau & Coplan, 2007). Canadian preschool teachers also believed that peers would respond more negatively (i.e., less liking, more exclusion and ignorance) toward the shy, relative to the unsociable, hypothetical child (Coplan, Bullock, Archbell, & Bosacki, 2015).

The difference in young children's and teachers' attitudes and beliefs towards shy versus unsociable behaviors is interesting, especially given the consistency across cultures. The results may imply that young children and teachers have different perspectives and/or use different standards to evaluate subtypes of socially withdrawn behaviors. For example, Coplan and colleagues (2004) have speculated that young children may misinterpret unsociable children as aloof and thus respond negatively toward unsociable behaviors. Young children may also have a limited understanding of the voluntary preference for solitude (Galanaki, 2004). In fact, researchers have found that the appreciation for the positive function of solitude did not emerge until early adolescence (Larson, 1997). Thus, unsociable behaviors may become positively viewed among adolescents, although not in young children. However, it should be noted that the differential responses were toward hypothetical vignettes, rather than actual peers (Cheah

& Xu, 2015). In the hypothetical vignettes, motivations and emotions underlying the behaviors were explicitly specified. In real life, children need to infer the motivations and emotions before responding to the behaviors. Thus, responses towards actual shy versus unsociable peers (i.e., peer relationships) may be different from those based on hypothetical vignettes.

Peer-group relationships. Theoretically, shyness was not expected to be associated with negative peer relationships in Chinese, collectivistic culture. However, mixed relations between shyness and peer relationships (acceptance, rejection, preference, victimization) have been reported. In X. Chen's earlier work (data collected in urban China between 1990 and 1995), peer-reported shyness-sensitivity was positively associated with concurrent peer acceptance or peer preference (i.e., acceptance minus rejection), and unrelated to peer rejection, among younger elementary school children (e.g., grade 2 to grade 4; X. Chen et al., 1992; X. Chen, Rubin, & Li, 1995). These results were contrasted with results in which shyness-sensitivity was negatively associated with peer acceptance in Canadian children of similar ages (although also unrelated to peer rejection; X. Chen et al., 1992). However, like in their Western counterparts, shyness-sensitivity was unrelated to peer acceptance or peer preference, and positively related to peer rejection among older urban children and adolescents in the early 1990s (X. Chen et al., 1995; X. Chen, Rubin, Li, & Li, 1999). X. Chen and colleagues (1995) have speculated that during emerging adolescence, peer norms for independence and autonomy may be more influential than adult standards, and thus shy-sensitive Chinese adolescents may receive negative responses from peers. Longitudinally, shyness-sensitivity often was unrelated to later peer-relationship constructs, such as peer

acceptance, peer rejection, or peer preference (X. Chen et al., 1995; X. Chen et al., 1999; X. Chen , Rubin, & Li, 1997). Thus, during this time, shy-sensitive Chinese younger (but not older) children were better liked and not actively rejected by peers within, but not, across time.

Research findings on shyness-sensitivity in the 21st century have been more consistent with the Western results, indicating that shyness is no longer positively valued in contemporary urban China. In early childhood, shy Chinese kindergarteners have been observed to engage in fewer peer interactions, display more reticent behaviors, less likely to initiate social interactions with peers and teachers, and responded less often to teachers' questions, than non-shy peers (Feng, Harkness, Super, & Jia, 2014). The results were similar to findings in North-American children of similar age (e.g., Coplan et al., 2004). However, shy Chinese children did not differ from non-shy peers on the number of social initiations received from other children (Feng et al., 2014), which might suggest that shyness is not as negatively valued as in Western societies in early childhood.

In urban elementary school children, peer-reported shyness-sensitivity and anxious shyness (but not regulated shyness) have been negatively related to peer preference and positively related to peer rejection and victimization (X. Chen, Wang, & Wang, 2009; Schwartz, Chang, & Farver, 2001; Xu et al., 2007). Ding et al. (2014) also reported that both self-reported shyness and peer-reported shyness-sensitivity were negatively related to peer preference and positively related to peer victimization. Longitudinal relations between shyness-sensitivity and decreased peer preference (over and above stabilities) also have been reported (Yang, Chen, & Wang, 2015). Thus, in

contemporary urban China, shy-sensitive children were actively rejected and likely to be victimized in peer groups.

In several recent studies, shyness-sensitivity and unsociability have been simultaneously assessed and their unique associations with adjustment have been examined (B. B. Chen & Santo, 2016; Ding, Weeks, et al., 2015; Liu et al., 2014; Liu et al., 2015). In urban and suburban Chinese children and adolescents, shyness-sensitivity and unsociability have demonstrated similar patterns of associations with peer relationships. Both shyness-sensitivity and unsociability have been positively related to peer rejection and victimization and negatively related to peer preference (B. B. Chen & Santo, 2016; Ding, Weeks, et al., 2015; Liu et al., 2014; Liu et al., 2015; Liu et al., 2016). However, compared to that in middle school children, the association between shyness-sensitivity and peer problems has been stronger in elementary school children in urban China (Ding, Weeks, et al., 2015), and weaker in elementary school children in suburban China (Liu et al., 2016). In contrast, the association between unsociability and peer problems has been stronger in middle school children in urban China (Ding, Weeks, et al., 2015), and weaker in middle school children in suburban China (Liu et al., 2016), relative to elementary school children. Cross-culturally, the association between shyness-sensitivity and peer preference has been similar in Chinese and Canadian children, but unsociability has been more strongly related to low peer preference in Chinese relative to Canadian children (Liu et al., 2015).

The majority of the research on shyness and unsociability in China has focused on children in urban China. To my knowledge, there has only been one study in which both shyness-sensitivity and unsociability were examined in rural, elementary-school-children

at the time of this writing (data were collected in 2007; X. Chen et al., 2011). In contrast to the results in contemporary urban China, shyness-sensitivity was positively correlated with both peer acceptance and peer rejection, which was similar to the results in a sample of rural-to-urban migrant children (who grew up in rural China but moved temporarily to urban cities with parents; X. Chen et al., 2009). However, controlling for unsociability, which was moderately correlated with shyness-sensitivity, shyness-sensitivity was only positively related to peer acceptance, but not to peer rejection. Unsociability was positively correlated with peer rejection, but after controlling for shyness, also was negatively associated with peer acceptance.

Thus, in contemporary China, shyness seems to be associated with negative peer relationships in urban elementary and middle school children but positive peer relationships in rural elementary school children. However, unsociability is associated with negative peer relationships in both contexts.

Dyadic friendships and perceived friendship quality. Different from peer-group relationships, dyadic friendships are reciprocal and egalitarian relationships (Rubin, Oh, Menzer, & Ellison, 2011). Friendships involve frequent, close, and intimate exchanges. Key components of friendship quality may be similar across cultures. For example, S. Li, Chen, and Chen (1997) interviewed 100 Chinese children aged 6 to 15 years about their perceptions of friendships. Components of friendship quality typically identified in North-American children (e.g., Parker & Asher, 1993), such as companionship and recreation, communication, help and guidance, validation and support, conflict resolution, competition and encouragement, and intimacy exchanges, also have been identified in Chinese children's responses.

However, the value placed on components of friendship quality may vary across cultures. For example, intimacy and closeness may be particularly important in the friendship of children in more collectivistic countries, such as Korea (French, Lee, & Pidada, 2006) and Cuba (Gonzalez, Moreno, & Schneider, 2004) relative to children in more individualistic cultures, such as in the United States. Also, when facing conflicts in friendships, children from different cultural backgrounds may use different strategies. For example, in collectivistic cultures, children may tend to deal with the conflicts in a passive, avoidant way, rather than confronting the conflict (Xu, Farver, Chang, Yu, & Zhang, 2006).

However, it is not clear whether there are differences in the friendships of shy and unsociable children in individualistic versus collectivistic cultures. Theoretically, the selection and formation of friendships (e.g., the presence of a friend or mutual friend and the number of friends or mutual friends) may be affected by cultural values placed on shyness and unsociability. In the United States, shy-withdrawn children have been found to be less likely to have a mutual friend or stable friendships, and to have fewer mutual friends than non-withdrawn peers; in contrast, unsociable children have not been different in these aspects of friendships from non-withdrawn peers (Ladd et al., 2011).

In collectivistic cultures where shyness is more positively valued and unsociability is more negatively valued, shy children may be more likely to have a friend and have more friends, whereas unsociable children may be less likely to have a friend and have fewer friends, relative to peers in individualistic cultures. Consistent with this expectation, in the early 1990s in urban China (when shyness is believed to have been positively valued), shyness-sensitivity was positively associated with number of

nominations as a friend in Chinese children, whereas in Canadian children, shyness-sensitivity was negatively associated with number of nominations as a friend (X. Chen et al., 1992). In contemporary urban Chinese third to sixth graders, shyness-sensitivity was unrelated to the likelihood of having a mutual friend, but in Canadian peers, shyness-sensitivity was negatively associated with the likelihood of having a mutual friend (X. Chen, He, et al., 2004). To my knowledge, prevalence and number of friends of unsociable children have not been examined in Chinese culture. Theoretically, unsociable children may have fewer friends in Chinese culture given the negative value on unsociability.

Once a friendship is formed, the quality of the friendship may be more influenced by personal characteristics (e.g., shy, unsociable), rather than the cultural values placed on these personal characteristics. Thus, cross-cultural differences on friendship quality of shy and unsociable children who have a friend are not expected to be salient. To my knowledge, shy or unsociable Chinese children's friendship quality has not been examined. In North America, socially anxious and shy-withdrawn children have tended to rate their friendships as low on dimensions of quality, such as receiving less help and guidance and having less intimate exchange (Biggs, Vernberg, & Wu, 2012; Fordham & Stevenson-Hinde, 1999; Menzer et al., 2012; Rubin et al., 2006; but see Schneider, 1999). Anxious-withdrawal also has been associated with more self-perceived, but not friend-perceived conflicts for girls (but not for boys; Menzer et al., 2012). It is possible that shy girls are more emotional sensitive than shy boys (Ladd et al., 2011), and thus tend to perceive more conflicts in the friendships than their friends. Rubin and colleagues (2006) attributed the low friendship quality ratings of shy-withdrawn children to the nature of

shyness; shy children were likely reticent and nervous toward social interactions, and they also might act like this with a close friend. This argument has been supported by Schneider (1999; 2009) in that shy-withdrawn adolescents displayed more restricted behaviors and signs of anxiety even with close friends. It also is possible that because shy children do not have many friends, they may place high expectations on the friendships that they have and, thus, perceive the quality to be lower than it actually is (Fordham & Stevenson-Hinde, 1999). To my knowledge, friendship quality of unsociable children has not been examined in North America. However, given that unsociable children are not expected to be anxious towards peers or to have social competence deficiencies when they are motivated to interact with their peers, unsociable children may not differ from non-withdrawn peers on friendship quality.

School attitudes, academic engagement, and academic achievement. Negative peer relationships (e.g., exclusion, victimization) have been associated with increased negative school attitudes and decreased school engagement (Buhs, Ladd, & Herald, 2006). Thus, shy or unsociable children in contemporary urban China may develop negative school attitudes and be less engaged due to negative peer treatment. Consistent with this expectation, shyness has been associated with lower school liking and higher school avoidance in urban Chinese preschoolers according to mothers' reports (Wu et al., 2015). However, contrary to the expectation, mother-reported shyness was not associated with teacher-reported independent or cooperative academic participation in Chinese preschoolers (Wu et al., 2015). In rural China, shy children are not expected to have poor peer relationships and thus may not necessarily develop negative attitudes towards school or participate less in school and academic activities. However, unsociable children are

expected to be negatively treated by peers in both urban and rural China, and thus may develop negative school attitudes and less academic engagement. To my knowledge, associations of shyness and unsociability with school attitudes or academic engagement have not been examined in urban or rural Chinese elementary school or older children.

The relation between shyness-sensitivity and academic achievement has been mixed in the Chinese literature. In Chen's earlier work, shyness-sensitivity was positively (albeit only weakly) related to concurrent academic achievement in second- and fourth-graders (X. Chen et al., 1995), but not in sixth-graders (X. Chen et al., 1995) or fourth- to sixth-graders (X. Chen et al, 1997), in urban China. Cross-culturally, shyness-sensitivity has been positively associated with concurrent teacher-rated academic performance (academic ratings and learning problems) in urban Chinese, but not Canadian fifth- and sixth-graders (X. Chen, Zappulla, et al., 2004). However, based on teachers' reports, shyness (reticent, shy, timid behaviors and a lack of social contact) has been negatively correlated with academic motivation and performance, among Chinese fourth-grade girls, but not boys, and in Swiss girls and Swiss boys (Stockli, 2002).

Most recently, shyness-sensitivity has been associated with lower academic achievement in urban Chinese and Canadian preadolescents and adolescents (Liu et al., 2015). Shyness-sensitivity also has been associated with decreased academic achievement in urban elementary school children (Yang et al., 2015). However, unsociability has been negatively associated with academic achievement in only urban China, but not in Canada (Liu et al., 2015).

In rural Chinese children, shyness-sensitivity has been negatively related to teacher-rated learning problems (e.g., "having difficulties in learning academic objects")

and positively related to academic achievement, even after controlling for unsociability (X. Chen et al., 2011). However, unsociability was positively related to teacher-rated learning problems and negatively related to academic achievement, controlling for shyness-sensitivity (X. Chen et al., 2011).

Thus, although the mechanism is not clear yet, in contemporary China, shyness seems to be associated with lower academic achievement in urban children and higher academic achievement in rural children. Unsociability, on the other hand, may be negatively associated with academic achievement in both urban and rural contexts.

Other school adjustment. In the Chinese social withdrawal literature, school competence refers to teacher-rated school-related competence on frustration tolerance, assertive social skills, task orientation, and peer social skills, e.g., "participates in class discussion" (X. Chen et al., 1995). Leadership is a categorical variable used to indicate whether a student takes any leadership position in class- or school-level organizations (X. Chen et al., 1995). In Chinese schools, some students may be elected by peers or assigned by teachers to be leaders of an organization.

Similar to the associations with peer relationships, shyness-sensitivity was positively related to school competence, positive school behaviors (moral, intellectual, and physical), and leadership, in the early 1990s in urban China (X. Chen et al., 1995). Shyness-sensitivity also has been positively related to later school competence and leadership, but only the association with school competence was significant after controlling for stability over time (X. Chen et al., 1995; X. Chen et al., 1997; X. Chen et al., 1999).

In contemporary urban China, the associations between shyness-sensitivity and school adjustment variables have become negative (X. Chen et al., 2009; Ding et al., 2014; Liu et al., 2015). In a cross-cultural study, shyness-sensitivity was negatively related to school competence in both Chinese and Canadian children (Liu et al., 2015). However, shyness-sensitivity has been associated with positive school adjustment, such as higher teacher-ratings of school competence, in rural (X. Chen et al., 2011) and rural-to-urban migrant children (X. Chen et al., 2009). In contrast, unsociability has been negatively associated with school competence in both contemporary urban (Liu et al., 2015) and rural Chinese children (X. Chen et al., 2011), as well as in Canadian children (Liu et al., 2015).

Self-perceptions and internalizing problems. In the early 1990s in urban China, shyness-sensitivity was often unrelated to concurrent internalizing problems but was positively related to perceived competence (X. Chen et al., 1999). However, in contemporary urban China, shyness often has been associated with negative self-perceptions and more internalizing problems. For example, shyness-sensitivity has been positively associated with concurrent and one-year-later teacher-rated internalizing problems (X. Chen et al., 2013), as well as concurrent self-reported loneliness and depression (X. Chen et al., 2009; Ding et al., 2014; Liu et al., 2014; but see Wang, 2015). Self-reported shyness also has been positively related to loneliness and depression (Ding et al., 2014).

Cross-culturally, X. Chen and colleagues have reported that shyness-sensitivity has been negatively related to concurrent perceived social competence, scholastic competence, general self-worth, and positively related to loneliness in Canadian, but not

Chinese, elementary school children (X. Chen, He, et al., 2004; X. Chen, Zappulla, et al., 2004). In another cross-cultural study, shyness-sensitivity was similarly associated with high loneliness, high depression, and low self-worth in urban Chinese and Canadian elementary and middle school children (Liu et al., 2015).

Unsociability (often self-reported) typically has not been related to internalizing problems (e.g., anxiety, depression, low self-esteem), even after adjusting for shyness, in North-American (Coplan & Weeks, 2010b; Coplan et al., 2004; Coplan et al., 2013; but see Wang et al., 2013), Indian (Bowker & Raja, 2011), and Finnish (Ojanen et al., 2015) children. In contrast to the findings in other cultures, unsociability (both self- and peer-reported) has been positively related to internalizing problems, such as loneliness and depression, even after controlling for shyness, in urban Chinese children and adolescents (Liu et al., 2014; Wang, 2015). Results from cross-cultural research have revealed that unsociability is more strongly associated with negative self-regard and emotions, such as poor self-worth and loneliness, in urban China than in Canada (Liu et al., 2015).

Longitudinally, reticent behavior measured at 4 years of age was associated with more loneliness and depression, and lower perceived self-worth at 11 years of age in urban Chinese children (X. Chen, Chen, Li, Wang, & Wang, 2015). In contrast, solitary-passive behavior at 4 years of age was positively related to parent-rated externalizing problems and negatively to teacher-rated school competence (but not with internalizing problems) at 11 years of age (X. Chen et al., 2015). Reticent behaviors (e.g., watching peers play but not joining) have been believed to be an indicator of shyness in early childhood, and a positive association between observed reticent behaviors and shyness has been reported in North-American children (Coplan et al., 2004). Solitary-passive

behaviors have been considered as a behavioral marker of unsociability, but an association has not always been supported (Coplan et al., 2004; Spangler & Gazelle, 2009). Longitudinal relations between shyness-sensitivity and increased loneliness and depression (over and above the stabilities) also have been found in older urban Chinese children (grade 3 to grade 6; Yang et al., 2015).

In rural (X. Chen et al., 2011) and rural-to-urban migrant children (X. Chen et al., 2009) elementary-school children, shyness-sensitivity has been unrelated to concurrent internalizing problems, such as depression. However, unsociability has been positively related to internalizing problems, such as loneliness and depression, even after controlling for shyness, in rural Chinese children (X. Chen et al., 2011).

Thus, both shyness and unsociability seem to be positively related to negative self-perceptions and internalizing problems in urban China. However, in rural China, unsociability, but not shyness, is positively related to negative self-perceptions and internalizing problems.

Cohort studies. The changing meaning of shyness-sensitivity has been reported in several studies. X. Chen et al. (2005) examined shyness-sensitivity in three cohorts (1990, 1998, and 2002) of urban elementary school children. In the 1990 and 1998 cohorts, shyness-sensitivity was positively related to peer acceptance, leadership, and academic achievement, and the associations were nonsignificant in the 2002 cohort. Shyness-sensitivity was unrelated to peer rejection in the 1990 cohort, but became positively related in the 1998 and 2002 cohort. The association between shyness-sensitivity and teacher-rated school competence also changed from positive in the 1990

cohort, to nonsignificant in the 1998 cohort, and to negative in the 2002 cohort. Shyness-sensitivity also was related to depression in the 2002 cohort.

In addition, Liu et al. (2012) examined shyness-sensitivity in two cohorts (1994 and 2008) of urban middle school children. In the 1994 cohort, shyness-sensitivity (controlling for aggression) was positively related to leadership and academic achievement, and unrelated to peer preference or self-reported loneliness. In the 2008 cohort, shyness-sensitivity was negatively related to peer preference, unrelated to leadership or academic achievement, and positively related to loneliness. In both cohorts, shyness-sensitivity was not related to teacher-rated school competence.

X. Chen et al. (2014) examined the relation between shyness-sensitivity and loneliness with three cohorts of urban children and one cohort of rural children in grades 3 to 5. The relation between shyness-sensitivity and loneliness was negative in the 1992 urban cohort, nonsignificant in the 1998 urban cohort and 2007 rural cohort, and positive in the 2002 and 2005 urban cohort.

Thus, the trends from the cohort studies suggest that the implications of shyness have changed from positive in the early 1990s to negative in recent years in urban China. Trends regarding the implications of shyness in rural China cannot be inferred due to lack of research, but shyness seems to be positively (or at least not negatively) valued in rural China in 2007.

Gender differences. In China, mean-level gender differences on peer-reported shyness-sensitivity have been repeatedly reported (e.g., X. Chen et al., 2005; X. Chen et al., 2009; X. Chen et al., 2011; Ding, Weeks, et al., 2015; Liu et al., 2012; Liu et al., 2014; Liu et al., 2015). Girls have been more likely to be nominated as shy than boys. Mean-

levels of self-reported anxious-shyness have not been different among boys and girls, but girls have reported more regulated shyness than boys (Xu et al., 2007). Boys and girls usually do not differ on mean scores of unsociability (Ding, Weeks, et al., 2015; Liu et al., 2014), but when differences have been found, boys have been more likely to be nominated as unsociable relative to girls (B. B. Chen, 2012; B. B. Chen & Santo, 2016; Liu et al., 2015). Thus, there seems to be some gender stereotypical ideologies that boys are more autonomous and prefer to be alone more than girls, and girls are shyer and more sensitive than boys in Chinese culture.

Gender differences in the associations of Chinese children's shyness-sensitivity and unsociability with adjustment correlates have not been entirely consistent. In urban samples, unsociability has been associated with negative peer relationships and internalizing problems for boys, but not for girls (B. B. Chen & Santo, 2016; Liu et al., 2014), or less strongly for girls (Ding, Weeks, et al., 2015). In rural children, unsociability has been negatively related to peer acceptance among girls, but not boys (X. Chen et al., 2011). The association between shyness-sensitivity and adjustment often has not been different among boys and girls (X. Chen et al., 2009; Ding, Weeks, et al., 2015), but shyness-sensitivity has been negatively associated with peer rejection among girls, but not boys, in an urban sample (B. B. Chen & Santo, 2016) and less positively (but significantly) associated with academic achievement among girls relative to boys, in a rural sample (X. Chen et al., 2011). Self-reported anxious shyness also has been positively related to internalizing problems in girls, but not in boys (no gender difference in the relation with peer problems; Xu et al., 2007). This is in contrast to gender differences found in Western culture that suggest shy boys are at a greater risk than girls

for interpersonal relationship difficulties and internalizing problems (Doey, Coplan, & Kingsbury, 2014).

The Present Study

The purpose of the study was to examine concurrent social and school-related correlates of shyness and unsociability in Chinese adolescents. Early adolescence is a transitional period during which the implications of shyness and unsociability may change. On the one hand, peer affiliations become increasingly important (Crockett, Losoff, & Petersen, 1984), and thus the display of social withdrawal, regardless of the reason (shy or unsociable), is likely viewed as problematic by peers because it is contradicted with peer norms (Rubin & Asendorpf, 1993). On the other hand, children begin to appreciate the potential constructive functioning of solitude during this period (e.g., better cognitive performance; Larson, 1997), and thus may show an understanding of the need for solitude.

Data were collected from urban and rural adolescents, so that the contextual effect on the correlates of shyness and unsociability could be examined. The majority of previous studies on shyness and unsociability has been conducted in metropolitan areas such as Beijing and Shanghai, which only represent a small proportion of the urban population. Children in other less-developed urban areas, and especially rural areas, are under-represented in social withdrawal studies. To help address this weakness of the literature, the present sample was drawn from a small city and a nearby rural area in Northeast China.

Adolescents' shyness and unsociability were assessed with self-, peers', and teachers' reports. Social correlates included peer-reported acceptance, rejection, peer

exclusion, and self-reported friendship quality. School-related correlates included self-reported school liking and avoidance, teacher-reported behavioral academic engagement and academic performance, as well as academic achievement from school records.

The first research question pertained to the informants of shyness and unsociability. I was interested in whether shyness and unsociability would be differentiated by each informant (i.e., statistically whether shyness and unsociability were separate factors and/or were low-to-moderately correlated), and to what extent the informants agreed on ratings of shyness and unsociability, among Chinese adolescents. Adolescents, peers, and teachers were expected to be able to differentiate shyness and unsociability, and moderate cross-informant correlations for shyness and for unsociability were expected. Shyness, as well as unsociability, rated by different informants was expected to be associated with the correlates in a similar manner.

The second research question pertained to the correlates of shyness and unsociability in different contexts (urban versus rural China). Specifically, I was interested in whether shyness and unsociability were associated with the correlates in a different manner, and whether the pattern of the associations were different in urban versus rural China. Based on the theory and previous findings, shyness was expected to be negatively viewed in urban China and positively viewed in rural China. Thus, I hypothesized shyness to be associated with peer difficulties, negative school attitudes, and poor academic outcomes in urban China, and with positive peer relationships, school attitudes and academic outcomes in rural China. According to the theory, unsociability was expected to be more negatively viewed in rural (more collectivistic values), than in urban (more individualistic values) China. However, empirical evidence has not revealed

any differences in adjustment correlates of unsociability in different social contexts of China. Thus, unsociability was hypothesized to be associated with peer difficulties, negative school attitudes, and poor academic outcomes in both urban and rural China. Friendship quality is believed to be more influenced by child characteristics (shyness and unsociability) and less influenced by cultural values on these characteristics. Thus, in both urban and rural China, shyness was hypothesized to be associated with poor friendship qualities, and unsociability was hypothesized to be unrelated to (neither positive nor negative) friendship qualities. Specific hypotheses were made below.

In urban Chinese adolescents (see Figure 3), shyness was expected to be: 1) negatively related to peer acceptance, and positively related to peer rejection and peer exclusion, 2) negatively related to positive friendship quality and positively related to conflict and betrayal, 3) negatively related to school liking and positively related to school avoidance, and 4) negatively related to academic engagement, and negatively related or unrelated to academic performance and academic achievement. In urban Chinese adolescents, unsociability was expected to be: 1) negatively related to peer acceptance, positively related to peer rejection and peer exclusion, 2) unrelated to positive friendship quality or conflict and betrayal, 3) negatively related to school liking and positively related to school avoidance, and 4) negatively related to academic engagement, and negatively related or unrelated to academic performance and academic achievement.

In rural Chinese adolescents (see Figure 4), shyness was expected to be: 1) positively related to peer acceptance, and unrelated to peer rejection or peer exclusion, 2) negatively related to positive friendship quality and positively related to conflict and

betrayal, 3) positively related to school liking and negatively related to school avoidance, and 4) positively related to academic engagement, academic performance, and academic achievement. In rural Chinese adolescents, unsociability was expected to be: 1) negatively related to peer acceptance, positively related to peer rejection and peer exclusion, 2) unrelated to positive friendship quality or conflict and betrayal, 3) negatively related to school liking and positively related to school avoidance, and 4) negatively related to academic engagement, and negatively related or unrelated to academic performance and academic achievement.

The third research question pertained to gender. Due to the limited research on gender differences in Chinese context and inconsistent findings in existing studies, gender questions were mainly exploratory. Girls were expected to receive higher ratings of shyness, and boys were expected to receive higher ratings of unsociability. No hypotheses were made regarding gender differences (or the lack of) in the associations of shyness and unsociability with the correlates.

Method

Participants

Participants were 229 (48% girls; M_{age} = 14.25, *SD* = 0.78 years) seventh- and eighth- graders recruited from a small city, Lingyuan, and a nearby rural area, which is about 20 kilometers away from the city, in Liaoning province, People's Republic of China. Information letters were sent to principals and teachers in one urban and one rural middle school. Due to the large school size in the urban school (7 to 8 classes per grade) and the limited research budget, one class in seventh grade and one class in eighth grade were selected by the school principal to participate. In the rural schools, all the classes in seventh grade (*n* = 2), and eighth grade (*n* = 2) were recruited. All the students in these classes (*N* = 240) were invited to participate with no exclusion criteria. Written informed child assent and parental consent were obtained from 95% of the targeted students. Sixth graders (*n* = 93) from four classes in two rural primary schools also participated in this study, but their data were not used for comparability between urban and rural samples because no urban sixth graders were recruited (see Appendix C for summary of results in rural sixth graders).

The urban school was located in a subdistrict of the city with a population of 31,500 and an area of 9.6 square kilometers (3281 people per square kilometer; the total population and area of the city were 187,400 and 251.49 square kilometers). The rural school was located in a town with a population of 13,500 and an area of 85.20 square kilometers (158 people per square kilometer). In China, urban and rural people are differentiated upon birth based on the household registration system (*Hukou*; X. Chen & Li, 2012). People with urban Hukou do not possess farm land, and live in an

industrialized environment. People with rural Hukou are allocated farm land by the government, and live in an agricultural environment. In our sample, among those who reported parents' occupation (96% in the urban group and 88% in the rural group), 80% of the fathers and 78% of the mothers were non-farmers in the urban group, in contrast to that 84% of the fathers and 93% of the mothers were farmers in the rural group. Thus, although our urban and rural samples were recruited from areas that were not very far away from each other, differences in social and cultural values were expected above and beyond socioeconomic status (albeit perhaps smaller differences relative to urban cities like Beijing versus very remote rural areas).

Demographic statistics for the urban and the rural samples were presented in Table 2. There were no urban-rural differences in the composition of participant gender or ethnicity. However, the rural students were slightly older on average than were the urban students. In terms of family background, families of the urban students had higher socioeconomic status (income, parental education and job) than families of the rural students. Moreover, a larger proportion of the urban students, relative to the rural students, were the only child of the family. Overall, the demographic statistics were consistent with the expected urban-rural differences.

Procedures

This study was approved by Arizona State University's Institutional Review Board (IRB; see Appendix D for IRB approval documents). Data were collected at the end of the spring semester in 2013. By this time of the school year, students were expected to know each other, and teachers were expected to know students, very well. Information regarding participants' social withdrawal, peer relationships, and academic

performance were collected from participants themselves, their peers, and their teachers using questionnaires in June. Students' final exam grades were obtained from school records in July.

One week prior to the data collection, parental consent forms, child assent forms, and a one-page demographic questionnaire were passed out to students in their classrooms. Students were instructed to take the forms home and answer the demographic questions with parental consultation if needed (e.g., parents' education) once consent and assent forms were completed. Teachers were informed of the study with information letters. Consent and assent forms, as well as the demographic questionnaires were collected prior to the administration of the main questionnaires (consent rate was 95%). On the day of data collection, a ten-page student questionnaire, including self-report and peer-report questions, were group-administered to participating students during a 45-minute class period, and were collected at the end of the session. Non-participating students (n = 11) were instructed to stay in the classroom and work on their homework. Head teachers of the class were present in the classroom, and were asked to complete a three-page teacher questionnaire for each participating student. Teacher questionnaires were collected immediately after the students' group administration if teachers had completed them (n = 5), or one to two weeks later if the teachers needed more time (n = 1). Data collection was completed within three weeks.

In Chinese middle schools, students are assigned to a class on the first day of school, and usually stay in the same class throughout the school years. Unlike in the United States, the teachers, rather than students, move from class to class. Each class has a head teacher (like the role of a homeroom teacher in the United States), and the head

teacher usually teaches a course and does administrative work (e.g., discipline) in the class. Head teachers spend more time with students in their class and are more familiar with the students than are other teachers. However, given the large class sizes in some classrooms (e.g., about 50 students per class in the urban school), we asked the teachers to rate their familiarity with each student on a 3-point scale (1 = *not very familiar to* 3 = *very familiar*). In the present sample, the teachers reported *moderately familiar* (35%) or *very familiar* (58%) with all the students who were not missing data on this item (7% non-response rate).

Upon completion of the questionnaires, teachers were each paid ￥100 (about $16). Students were each given a pen for their participation.

Measures

Questionnaires were administered in Chinese (see Appendix E for measures in English and Chinese). The measures were originally in English and were translated into Chinese following the forward-backward translation procedure. All the translators' first language was Chinese and second language was English. The author translated the measures from English to Chinese. Two graduate students in developmental psychology who were not on the research team translated the measures back to English. Discrepancies were discussed by the research team and translations were revised.

Exploratory Factor Analyses (EFA) with Principal Axis Factoring (PAF) were performed in SPSS 22 to examine the factor structure prior to the formation of composites. EFA was chosen over Confirmatory Factor Analyses (CFA) because the factor structure of the measures had either not yet been established (e.g., self-reported shyness and unsociability), or not yet been established in Chinese culture (e.g., teacher-

reported academic engagement). EFA is more flexible than CFA in understanding the relationships among the items, the relations between the items and the factor(s), and the performance of a specific item (e.g., whether the item has high enough communality with other items).

If two or more factors were specified, oblimin rotation (oblique) was used so that factors were allowed to be correlated. Factor loadings were considered high if they were equal to or above .32 and low if they were below .32 (Tabachnick & Fidell, 2001; a factor loading of .32 corresponds to about 10% of shared variance). The number of factors was decided using theory, scree plots, and the interpretability of factors. Once the factor structure was established, composites were created by averaging the item scores within the factor when less than 20% of the items were missing. Otherwise, the composite scores were coded as missing.

EFAs were performed on the total sample, including sixth graders who were part of the research project but whose data were not used in the present study. All participants were used because the purpose of EFA was to establish the factor structure of the measures in Chinese students, and theoretically, the factor structure was expected to be the same across subgroups of the sample (e.g., 6^{th} to 8^{th} grades; urban versus rural). Ideally, factor structures would be analyzed in each subgroup to provide empirical support for equivalence across subgroups, and the common factor structure would be used. However, the small sample size restricted the feasibility of examining EFAs within subgroups. For this reason, and so that the same composites to be used across studies from the overall project (those using and not using 6^{th} graders), factor solutions based on

the total sample were reported and used in the present study. Cronbach's alphas were calculated based on the present sample (i.e., only 7th and 8th graders).

Demographic information. Each participant reported his/her gender (0 = girl, 1 = boy), birthdate (age was calculated from birthdate), ethnicity (1 = Han, 0 = other; if other was selected, he/she was asked to indicate the ethnicity group), and whether he/she had any siblings (0 = only child, 1 = have siblings). Each student also reported his/her father's and mother's education and job. Parental education was coded on the following scale: 1 = grade school and below, 2 = middle school, 3 = high school or equivalent, and 4 = college and above. Parental job was coded following the categories reported in Shi and Shen (2007): 1 = temporary worker, unemployed, and farm worker, such as farmer, 2 = labor worker, individual managers, and technical worker, such as construction worker, 3 = low-level administrative, professional, and technical work, such as driver, and 4 = mid-level administrative, professional, and technical work, such as teacher. Students also reported who they were living with. The information was coded into two categories: 1 = living with both parents and 0 = living with one parent or other relatives (e.g., aunt). Finally, students reported annual family income in CNY on a 4-point scale: 1 = less than 10,000, 2 = 10,000 to 30,000, 3 = 30,000 to 50,000, and 4 = more than 50,000.

Self-reported shyness and unsociability. Participants rated seven selected items from the Pathways Project (Ladd, 2002) on a 5-point Likert Scale (1 = never to 5 = always). One item, "I would rather be alone than with other kids," was removed due to cross-loadings (loadings were above .30 on both factors) in the initial two-factor solution EFA. A new EFA was performed on the remaining six items. A "communality-greater-than-one" error (Heywood case) emerged. Heywood cases may occur for various reasons,

such as sampling fluctuations (e.g., too few cases or heterogeneous sample) and model misspecification (e.g., too many or too few specified factors; F. Chen, Bollen, Paxton, Curran, & Kirby, 2001). One suspected reason for the occurrence of Heywood case in the present data was that only two items were hypothesized to load on the unsociability factor once the cross-loading item was removed. The exploratory factor model may be too complex (e.g., too many parameters to be estimated) with relatively few items (at least for one of the factors). Thus, a simpler, two-factor CFA was estimated instead. The four shyness items loaded on one factor. The two unsociability items loaded on the other factor. No cross-loadings were allowed. The factors were allowed to correlate.

The two-factor CFA model fit the data well, $\chi^2(df = 8, N = 319) = 5.11$, $p = .75$, CFI = 1.00, RMSEA = .00, and SRMR = .01. The standardized factor loadings ranged from .58 to .70 for shyness, and .79 to .81 for unsociability. The factors were correlated, $r(319) = .55$, $p < .001$. In addition, the two-factor CFA model was compared to a one-factor CFA model, in which all the items loaded on one factor (undifferentiated social withdrawal). The two-factor CFA model was better than the one-factor model in terms of model fit according to the likelihood ratio test, $\chi^2(df = 1, N = 319) = 95.40$, $p < .001$, and Akaike Information Criterion (AICs = 4332.89 for the two-factor model and 4426.29 for the one-factor model), which further supported the two-factor, over one-factor, structure of the items.

Composites of shyness and unsociability were formed based on the two-factor CFA solution. The shyness items were: 1) "I feel that I'm not myself around other kids," 2) "I am more shy and quiet than the other kids and I talk less than they do," 3) "I'm afraid I will embarrass myself around other kids," and 4) "Sometimes I want to play with

other kids but I am nervous to." The unsociability items were: 1) "I'm interested in what I am doing. I like playing alone," and 2) "Sometimes I enjoy playing alone." Self-reported shyness captured anxious and self-conscious feelings, as well as conflicted motivations toward peer interactions. Self-reported unsociability captured an overt preference for solitude and positive emotions towards solitary activities. Cronbach's α of shyness was .75 in the urban group and .68 in the rural group. Cronbach's α of unsociability was .64 in the urban group and .82 in the rural group.

Peer-reported shyness, unsociability, and exclusion. Participants nominated peers on single items following a Gateway procedure (Ladd et al., 2011). The single-item assessment is considered reliable given the multiple-informant nature of peer nominations (Coie, Dodge, & Kupersmidt, 1990). The measure has been demonstrated valid (moderate correlations with teacher-reports of shyness, unsociability, and exclusion) with preadolescents in the United States (Ladd et al., 2011).

Students were first asked to nominate up to three peers who "play by themselves more often than other children" from a roster of classmates' names. For each nominee, follow-up questions were asked about perceived reasons for solitude on a yes/no scale: a) "Does this kid want to play with other kids but does not because he or she is too shy or afraid?" (shyness), b) "Does this child want to play alone instead of playing with other kids?" (unsociability), and c) "Does this kid play by themselves because other kids do not want to play with him or her?" (exclusion). Peer-reported shyness captured conflicted motivations towards peer interactions, and peer-reported unsociability captured an overt preference for solitude and positive emotions towards solitary activities.

Different from the original Gateway procedure, the questions were not exclusive, i.e., a child could be nominated as both shy and unsociable by the same nominator. We allowed multiple choices in order to assess whether participants could confidently differentiate shy versus unsociable peers when not forced. In 27 nominations (i.e., a student nominated a peer), the nominator (i.e., the student who made the nomination) rated the nominee (i.e., the peer who was nominated; n = 14 nominees) as both shy and unsociable. For example, student A nominated student B as socially withdrawn due to both shyness and unsociability. Because the wording of the shyness and unsociability items were somewhat exclusive (i.e., "want to play with others" versus "want to play alone"), we believe that the nominators might be unsure whether the nominee was shy or unsociable in these nominations. Therefore, these nominations were not counted. After removing these nominations, 8 of them were still nominated by others as both shy and unsociable (e.g., student A was nominated as shy by student B and as unsociable by student C), 3 were nominated by others as shy but not unsociable, 1 was nominated by others as unsociable but not shy, and 2 were not nominated by others as shy or unsociable. Moreover, four students nominated themselves as socially withdrawn (but none of them rated themselves as both shy and unsociable), and the nominations were excluded. Standardized scores were created by standardizing the remaining number of nominations received from peers for shyness, for unsociability, and for peer exclusion within class.

Teacher-reported shyness and unsociability. Teachers rated participants' shyness and unsociability on a 5-point Likert Scale (1 = never to 5 = always) using six select items from the Pathways Project (Ladd, 2002). The reliability and validity of the measure have been demonstrated with teachers and preadolescents in the US (Ladd et al.,

2011). A two-factor EFA was performed on the six items. The two-factor structure was consistent with the expectation (i.e., item loadings were high on the expected factor and low on the other factor). The shyness factor consisted of three items with factor loadings ranging from .70 to .82. The unsociability factor consisted of three items with factor loadings ranging from .63 to .90. The factor correlation was .74.

Composites were formed based on the two-factor EFA solution. *Shyness* items were: 1) "This child is self-conscious or easily embarrassed," 2) "This child is too fearful or anxious," and 3) "This child tends to be fearful or afraid of new things." *Unsociability* items were: 1) "This child prefers to play alone," 2) "This child likes to be alone," and 3) "This child would rather be alone than with others." Teacher-reported shyness captured anxious and self-conscious feelings but not specifically in social situations. Teacher-reported unsociability captured an overt preference for solitude and positive emotions towards solitary activities. Cronbach's α of shyness was .77 in the urban group and .76 in the rural group. Cronbach's α of unsociability was .74 in the urban group and .77 in the rural group.

Peer-reported peer acceptance and peer rejection. Participants nominated peers "who they like to play with the most" (peer acceptance) and "who they like to play with the least" (peer rejection) in the class. There was no limitation on the number or gender of the peers they could nominate. Self-nomination was not allowed. This procedure has been demonstrated valid in Chinese children (e.g., X. Chen et al., 1999).

Standardized scores of peer acceptance and peer rejection were created by standardizing the number of nominations received from classmates on each item within

class. Peer acceptance and peer rejection were moderately and negatively correlated, $r(229) = -.59$, $p < .001$.

Self-reported perceived friendship quality. Participants were asked whether they had a best friend, and whether they had a best friend in class (96% reported having a best friend in class). If the participants reported having a best friend in class, they were then asked to identify the best friend and to complete the Friendship Quality Questionnaire-Revised (Parker & Asher, 1993) about their relationship with the best friend using a 5-point Likert scale (1 = not at all true to 5 = really true). An abbreviated version of FQQ (18 items) has demonstrated good internal reliability and validity with Chinese children (Zhang et al., 2014; Zhou, Zhu, Sun, & Liu, 2006).

The 40-item questionnaire assessed six dimensions of friendship quality. The dimensions were validation and caring (10 items; e.g., "My friend tells me I am good at things"), conflict resolution (3 items; e.g., "We talk about how to get over being mad at each other"), help and guidance (9 items; e.g., "We help each other with chores a lot"), companionship and recreation (5 items; e.g., "We always pick each other as partners for things"), intimate exchange (6 items' e.g., "We always tell each other our problems"), and conflict and betrayal (6 items; e.g., "We get mad a lot").

The six-factor structure was not supported by EFA in the present study's sample. Rather, a two-factor structure emerged with these data. One item ("We talk about the things that make us sad") with high loadings (above .30) on both factors and three items ("We always sit together at lunch," "My friend has good ideas about games to play," and "We help each other with schoolwork a lot") with low loadings (below .30) on both factors were removed. The remaining items loaded clearly on two factors. The items of

the original conflict and betrayal subscale (except for one reversed coded item, "I can count on my friend to keep promises") loaded on one factor (labelled as conflict and betrayal; *n* items = 6). All the other items loaded on another factor (labelled as positive friendship quality; *n* items = 30). Factor loadings ranged from .35 to .74 for the conflict and betrayal factor, and .34 to .71 for the positive friendship quality factor. The factor correlation was -.20. Cronbach's α of positive friendship quality was .93 in the urban group and .92 in the rural group. Cronbach's α of conflict and betrayal was .71 in the urban group and .77 in the rural group.

Self-reported school liking and avoidance. Participants reported attitudes towards school on a 5-point Likert Scale (1 = never to 5 = always) using the School Liking and Avoidance Questionnaire (SLAQ; Ladd & Price, 1987). The SLAQ was originally a teacher-report measure of young children's attitudes towards school. A self-reported version has been reported to have good internal reliability in 7- to 12-year old American children (Valiente, Lemery-Chalfant, & Castro, 2007). The original SLAQ included two subscales: school liking (6 items) and school avoidance (3 items).

The original, 2-factor structure was not supported by EFA in this study. One item on the original school avoidance subscale, "Do you feel happier when it's time to go home from school?", was removed due to low communality. Two items that originally loaded (reverse coded) on the school liking subscale, "Does school make you feel like crying?" and "Do you hate school?", loaded onto the school avoidance factor with the present data. Thus, two new subscales were formed with eight items. The school liking subscale included 4 items (e.g., Is school fun?). The school avoidance subscale included 4 items (e.g., Do you hate school?). Factor loadings ranged from .48 to .85 for the school

liking subscale, and .40 to .71 for the school avoidance subscale. The factor correlation was -.56. Cronbach's α of school liking was .82 in the urban group and .77 in the rural group. Cronbach's α of school avoidance was .75 in the urban group and .61 in the rural group.

Teacher-reported academic engagement. Teachers rated students' academic participation and on-task behaviors with the Behavioral Academic Engagement Scale (Hughes & Coplan, 2010) using a 5-point scale (1 = never to 5 = always). Ten items, e.g., "completes assignments in a timely fashion," assessed students' behavioral academic engagement in the classroom. The one-factor structure that emerged in EFA was consistent with the expectation. Factor loadings ranged .73 to .85. Cronbach's α of academic engagement was .94 in the urban group and .93 in the rural group.

Teacher-reported academic performance. Teachers rated students' current academic performance on Math, Chinese, and English on a 5-point Likert scale (1 = very poor to 5 = very good). Teachers' ratings on Math, Chinese, and English were significantly correlated, rs(227) = .76 to .78, ps < .001. Teachers' ratings also were significantly correlated with the grades of the same subject, rs(224) = .54 to .70, ps < .001. A composite of academic performance was formed by averaging teachers' ratings on the three subjects. Cronbach's α of academic performance was .92 in the urban group and .90 in the rural group.

Academic achievement. Grades on Math, Chinese, and English in the final exam of the spring semester were obtained from school records. The maximum score for each subject was 100. The exams were conducted by the school (the same exams were used in urban and rural schools for each grade). Grades on these major subjects have been a valid

measure of academic achievement in Chinese schools (e.g., X. Chen et al., 1997). Grades on Math, Chinese, and English were significantly correlated, *r*s(226) = .58 to .68, *p*s < .001. A composite of academic achievement was formed by averaging the grades across the three subjects. Cronbach's α of academic achievement was .85 in the urban group and .75 in the rural group.

Results

Analytic Strategy

Descriptive analyses were examined in SPSS 22 (pairwise deletion for missing data) and reported. Within-informant correlations between shyness and unsociability were evaluated to examine the extent of differentiation for each informant type (self-, peers', and teachers' reports). Cross-informant agreement on shyness and unsociability was evaluated by examining correlations for shyness across reporters and correlations for unsociability across reporters.

Path models were performed in M*plus* 6.12 (full information maximum likelihood for missing data) to examine the relations of shyness and unsociability with the social and school-related correlates (conceptual path diagrams were presented in Figure 3 and Figure 4). The independent variables were self-reported, peer-reported, and teacher-reported shyness and unsociability (separate models for each informant). The dependent variables were peer-reported peer relationships (peer acceptance, peer rejection, peer exclusion), self-reported friendship quality (conflict and betrayal and positive friendship quality), self-reported school liking and school avoidance, teacher-reported academic engagement and academic performance, and academic achievement from school records.

The potential contextual differences (urban versus rural) and gender differences (girls versus boys) were examined using multiple group models. In multiple group models, estimates were freely estimated in each group (e.g., urban versus rural). Cross-group equality of unstandardized path coefficients (one path per time) was evaluated using Wald Chi-square tests in M*plus* using the "model test" command. If the Wald chi-square statistic was significant, the path coefficients were statistically different across

groups. Otherwise, the path coefficents were not different across groups. This approach is identical to comparing a constrained model (i.e., contraining the path coefficients to be equal across groups) to an unconstrained model (i.e., allowing the path coeffcients to be freely estimated in each group) with chi-sqaure difference test.

Missing Data

Missing data rates ranged from 0% to 7% across the items and composites. Missing data likely occurred due to non-response or invalid response of certain items (e.g., skipped an item, ambiguous answer, illegible handwriting), missing teacher-reported questionnaires (two students were missing hard-copy teacher questionnaires), or missing self-report questionnaires (two students were absent on the day of data collection). Data were likely missing at random (MAR), but there is no statistical test to verify the missing at random assumption. Full information maximum likelihood (FIML) estimation was used to deal with missing data under the assumption of MAR in M*plus*. The MAR assumption is less strict than the assumption of missing completely at random (MCAR), which methods such as listwise or pairwise deletion assume.

Violation of Normality

Univariate normality of the study variables was examined with descriptive statistics. Criteria suggested by Curran, West, and Finch (1996) were used to define the extent of normality violation (i.e., variables are moderately non-normal with an absolute value of skewness that is higher than 2 and an absolute value of kurtosis that is higher than 7, p. 20). The majority of the variables did not reach the criteria for "moderately non-normal." However, standardized scores of peer-reported shyness, unsociability, and exclusion exceeded the criteria. Variables were non-normal likely because only a small

proportion of the participants were nominated by peers as withdrawn due to shyness (15%), unsociability (12%), or exclusion (15%). For these variables, the number of peers each participant could nominate was limited to three, compared to the other peer-nomination variables (i.e., peer acceptance, peer rejection) for which the number of nominations was unlimited. However, the limitation of three nominations may not explain the non-normality because most participants (75%) nominated fewer than three peers. Skewness and kurtosis were reduced after transformation of the variables (i.e., taking the square root of the number of nominations and then standardizing within class), but still exceeded the criteria. Thus, the original variables were used but an estimator that adjusts for non-normality (MLR) was used in path models.

Dependency of Scores Within Classroom

Intraclass correlations (ICC) were computed to assess the extent of non-independence on the adjustment variables (except for standardized peer-nomination variables) for students in the same class. The model did not converge for positive friendship quality in the present sample. Lack of convergence was likely due to low between-class variance (the ICC was .02 in the total sample including sixth graders). In the present sample, ICCs were .02 for conflict and betrayal, .02 for school liking, .00 for school avoidance, .07 for academic engagement, .00 for academic performance, and .09 for academic achievement. Design effects were computed, and according to Muthén and Satorra (1995), non-independence needs to be taken into account if the design effect is greater than 2. In the present data, design effects for academic engagement (3.60) and academic achievement (4.35) exceeded the criterion. Due to the small number of classes (n = 2 urban and 4 rural classes), I was unable to adjust for the clustering effect with

"Type = Complex" in M*plus* because the number of clusters did not exceed the number of parameters estimated.

A different approach was taken in an effort to explore the impact of the clustering effects. Dummy variables were created to indicate classroom membership (separately for each group [urban and rural] and for the combined group), and were added as covariates in the corresponding path models (for urban, rural, and combined groups). The majority of the path model estimates (magnitude, direction, and significance levels of the estimates) stayed the same when the classroom covariates were added. However, the significance level of three path coefficients changed. In the rural group, the negative relation between self-reported shyness and academic achievement became significant and the negative relation between peer-reported unsociability and academic engagement became nonsignificant. In the combined sample, the positive relation between self-reported unsociability and academic achievement became nonsignificant. Because different dummy variables were created for the urban and the rural groups, the estimates could not be compared across groups in a multiple-group framework. Therefore, results without controlling for the clustering effects were presented, but the differences in estimates with and without controlling for the clustering effects with dummy variables were noted in the tables (see notes in Tables 7 to 9).

Descriptive Statistics

Descriptive statistics for the study variables were presented in Table 3. Potential range, minimum, maximum, skewness, and kurtosis were reported based on the urban-rural combined sample. All the variables were within the expected range. Means and standard deviations were reported separately for the urban and the rural groups.

Urban-Rural Differences in Variable Means

Urban-rural differences on variable means (except for peer-nomination variables which were standardized within class and thus did not allow for mean-level cross-group comparisons) were examined with independent samples *t*-tests (see Table 3). Significant urban-rural differences were found for 3 out of 11 variables. On average, rural students had higher scores on self-reported shyness, self-reported unsociability, and teacher-reported unsociability than their urban peers.

Gender Differences in Variable Means

Gender differences in variable means were examined separately in the urban group and the rural group with independent samples *t*-tests. Significant gender differences were found for 5 out of 16 variables in the urban group and 4 out of 16 variables in the rural group.

In the urban group, girls had higher scores, on average, than boys on teacher-reported unsociability (*M*s = 1.48 and 1.27), $t(74.69) = 2.17$, $p < .05$, positive friendship quality (*M*s = 4.07 and 3.67), $t(87.66) = 3.32$, $p < .01$, academic engagement (*M*s = 3.72 and 3.11), $t(90) = 3.46$, $p < .001$, academic performance (*M*s = 3.32 and 2.67), $t(90) = 3.32$, $p < .01$, and academic achievement (*M*s = 71.78 and 62.77), $t(88) = 2.27$, $p < .05$, respectively.

In the rural group, girls had lower scores, on average, than boys on peer acceptance (*M*s = -0.22 and 0.21), $t(134) = -2.54$, $p < .05$, and higher scores than boys on self-reported unsociability (*M*s = 2.35 and 1.98), $t(116.02) = 2.38$, $p < .05$, conflict and betrayal (*M*s = 2.15 and 1.89), $t(112.86) = 2.04$, $p < .05$, and academic achievement (*M*s = 68.59 and 61.48), $t(134) = 3.02$, $p < .01$, respectively.

Relations of Study Variables with Demographic Variables

To simplify the analyses, a composite of family socioeconomic status (SES) was created by averaging the standardized scores of father's education, mother's education, father's job, mother's job, and family income for each child, *r*s(196 to 214) = .26 to .70, *ps* < .001. Relations between the study variables and demographic variables were examined with independent samples *t*-tests for binary demographic variables (only child versus having siblings; living with both parents versus living with one parent or other relatives) and correlations for continuous demographic variables (adolescent age in years and family SES) in the urban-rural combined sample. Significant results are presented below.

On average, students who were the only child of the family had significantly lower scores in self-reported unsociability (*M*s = 1.81 and 2.08), *t*(209) = -2.22, *p* < .05, higher scores in school liking (*M*s = 3.64 and 3.41), *t*(218) = 2.06, *p* < .05, and lower scores in school avoidance (*M*s = 1.64 and 1.88), *t*(216) = -2.86, *p* < .01, than peers who had siblings, respectively. Students who lived with one parent or other relatives had significantly higher scores in school liking (*M*s = 3.74 and 3.43), *t*(219) = 2.26, *p* < .05, than peers who lived with both parents, respectively.

Age was significantly and positively correlated with self-reported shyness, *r*(223) = .16, *p* < .05 and self-reported unsociability, *r*(212) = .16, *p* < .05, and significantly and negatively correlated with academic engagement, *r*(225) = -.20, *p* < .01 and academic achievement, *r*(224) = -.24, *p* < .001. Family SES was significantly and negatively correlated with self-reported shyness, *r*(224) = -.19, *p* < .01, peer-reported shyness, *r*(228) = -.13, *p* < .05, and peer exclusion, *r*(228) = -.15, *p* < .05, and significantly and positively

correlated with academic performance, $r(226) = .20$, $p < .01$ and academic achievement, $r(225) = .35$, $p < .001$.

Cross-Informant Correlations of Shyness and Unsociability

Correlations among self-, peer-, and teacher-reported shyness and unsociability were presented in Table 4 for urban, rural, and urban-rural combined groups. In both urban and rural groups, shyness and unsociability were moderately correlated within self- and peers' reports, and highly correlated within teachers' reports. According to Fisher's *r*-to-*z* test, the correlations were not significantly different across urban and rural groups. In the urban group, the correlation between shyness and unsociability was significantly higher for teachers' report than self-report, $z = 2.62$, $p < .01$, both of which did not differ significantly from the correlation for peers' report. In the rural group, the correlation between shyness and unsociability was significantly higher for teachers' report than self-report, $z = 2.84$, $p < .01$, and peers' report, $z = 3.06$, $p < .01$, the latter of which did not differ significantly from each other.

Cross-informant correlations of shyness were moderate between self- and peers' report (significant in both groups), and low between self- and teachers' report (only significant in the rural group) and between peers' and teachers' report (not significant in either group). There was a lack of cross-informant relations for unsociability. None of the correlations between self- and peer-reported, self- and teacher-reported, and peer- and teacher-reported unsociability was significant in urban and rural groups. Instead, peer-reported unsociability was significantly correlated with self-reported shyness in urban and rural groups.

Correlations Among Social and School-Related Adjustment

Overall, the correlations among the social and school-related adjustment variables were in the expected directions in urban, rural, and urban-rural combined groups (see Table 5). Among peer-group relationships, peer acceptance was negatively correlated with peer rejection and peer exclusion, and peer rejection was positively correlated with peer exclusion. For dyadic friendships, positive friendship quality was negatively correlated with conflict and betrayal. For school attitudes, school liking was negatively correlated with school avoidance. All the academic measures (academic engagement, academic performance, and academic achievement) were significantly and positively correlated.

Peer relationships were occasionally, but not always, correlated with friendship quality and school attitudes such that positive peer relationships were associated with positive friendship quality and positive school attitude. Peer acceptance and peer rejection, but not peer exclusion, were consistently and moderately correlated with academic measures. Positive friendship quality was positively correlated with school liking, and conflict and betrayal was positively correlated with school avoidance. Moreover, friendship quality and school attitude were significantly correlated with academic measures in the urban group, but not in the rural group.

Correlations of Shyness and Unsociability with Adjustment

Correlations of shyness and unsociability with social and school-related adjustment were different for self-, peers', and teachers' reports (see Table 6 for correlations in the urban, rural, and urban-rural combined groups). Some of the correlations also were different across urban and rural groups; however, most of the

correlations were in the same direction, and the differences may have been due to the sample size difference (93 in the urban group and 136 in the rural group).

Self-reports. In urban and rural groups, self-reported shyness was positively correlated with peer exclusion and school avoidance, and negatively correlated with positive friendship quality. In both groups, self-reported unsociability was negatively correlated with positive friendship quality. In the urban, but not the rural group, self-reported unsociability was positively correlated with conflict and betrayal. In the rural, but not the urban group, self-reported shyness was positively correlated with conflict and betrayal and negatively correlated with school liking; self-reported unsociability was positively correlated with school avoidance and academic achievement.

Peers' reports. In both groups, peer-reported shyness and unsociability were negatively correlated with peer acceptance, and positively correlated with peer rejection and peer exclusion. In the rural, but not the urban group, peer-reported shyness and unsociability were negatively correlated positive friendship quality and school liking. In the rural, but not the urban group, peer-reported unsociability was negatively correlated with academic performance and academic achievement.

Teachers' reports. In the urban, but not the rural group, teacher-reported shyness was negatively correlated with conflict and betrayal and positively correlated with academic achievement; teacher-reported unsociability was positively correlated with peer rejection. In the rural, but not the urban group, teacher-reported shyness was positively correlated with peer exclusion, and negatively correlated with positive friendship quality and academic achievement; self-reported unsociability was negatively correlated with school liking.

Path Models: Unique Relations of Shyness and Unsociability with Adjustment

Self- and peer-reported shyness and unsociability were used in subsequent analyses to examine relations with adjustment variables. The lack of consistency between teachers' report with self- or peers' reports for shyness and unsociability was worrisome and called into question the validity of teachers' reports for these variables. Thus, teacher-reported shyness and unsociability were not used in subsequent analyses. It also was worrisome that peer-reported unsociability was correlated with self-reported shyness rather than self-reported unsociability. Although results for peer-reported unsociability should be interpreted with caution, relations of peer-reported shyness and unsociability with adjustment variables are reported to facilitate comparison with findings in the literature (which have tended to focus on peers' reports).

To examine the unique relations of shyness and unsociability with adjustment variables, and potential urban-rural differences in the relations, two multiple-group (urban versus rural) path models (one for self- and the other for peer-reported shyness and unsociability) were estimated in M*plus*. The dependent variables were peer acceptance, peer rejection, peer exclusion, positive friendship quality, conflict and betrayal, school liking, school avoidance, academic engagement, academic performance, and academic achievement. The independent variables were self-reported or peer-reported shyness and unsociability. Shyness and unsociability were simultaneously included to assess their unique relations with the dependent variables. According to the preliminary analyses, gender (girl versus boy), only child (yes versus no), living with both parents (yes versus no), age, and family SES were included as covariates. To rule out potential multicollinearity issues (i.e., high correlations among the predictors),

regression models were run for each dependent variable, predicted by self- (or peer-) reported shyness and unsociability, as well as the covariates, in SPSS 22. For shyness and unsociability, the tolerance indices were above .80 and VIFs (Variance Inflation Factor) were below 1.25, indicating that multicollinearity was not a concern.

The path models were saturated, i.e., zero degrees of freedom, because all the parameters (means, variances, covariances) are of interest and are estimated. Fit indices are used when a hypothesized model is more restricted (i.e., fewer parameters estimated relative to a saturated model), e.g., by restricting a path estimate to zero. In non-saturated models, fit indices assess the degree of consistency between the model-reproduced data and the original data. In a saturated model, the model perfectly reproduces the data. Thus, no meaningful fit indices were available. However, the estimates that are of most interest (i.e., partial path coefficients) were obtained and reported. Urban-rural differences on the unstandardized path coefficients were examined with Wald chi-square tests one path at a time. Path model results for the urban and rural groups were presented in Table 7 (self-reported predictors) and Table 8 (peer-reported predictors).

Urban-Rural Differences in Relations of Shyness and Unsociability with Adjustment

Relations of self-reported shyness and unsociability with the adjustment variables were not significantly different across urban and rural groups for most of the variables. Significant urban-rural differences were only found in the relations between shyness and academic achievement and between unsociability and academic performance. Controlling for unsociability and covariates (gender, only child, living with both parents, age, and family SES), self-reported shyness was positively but not significantly related to academic achievement in the urban group, and negatively but not significantly related to

academic achievement in the rural group. Controlling for shyness and covariates, self-reported unsociability was negatively but not significantly related to academic performance in the urban group, and positively but not significantly related to academic performance in the rural group. Because both of the relations were not significant in either group, and because most of the relations were not significantly different across the groups, results for the combined sample were reported (see Table 9).

Similar to self-report, relations of peer-reported shyness and unsociability with the adjustment variables were not significantly different across urban and rural groups for most of the variables. Significant urban-rural differences were only found in the relations between shyness and peer exclusion and between unsociability and positive friendship quality. Controlling for unsociability and covariates (gender, only child, living with both parents, age, and family SES), peer-reported shyness was positively and significantly related to peer exclusion in both groups, but the relation was stronger in the urban group than in the rural group. Controlling for shyness and covariates, peer-reported unsociability was not significantly related to positive friendship quality in the urban group, but was negatively and significantly related to positive friendship quality in the rural group. Again, because most of the relations were not significantly different across the groups, results for the combined sample were reported (see Table 10).

Relations of Shyness and Unsociability with Adjustment in the Combined Sample

In the combined sample (see Table 9; also see Figure 5), controlling for unsociability and covariates (gender, only child, living with both parents, age, and family SES), self-reported shyness was negatively related to peer acceptance, unrelated to peer rejection, and positively related to peer exclusion. Self-reported shyness was negatively

related to positive friendship quality and positively related to conflict and betrayal. Self-reported shyness also was negatively related to school liking and positively related to school avoidance. Self-reported shyness was unrelated to academic engagement, academic performance, and academic achievement. Controlling for shyness and covariates (gender, only child, living with both parents, age, and family SES), self-reported unsociability was unrelated to peer acceptance, peer rejection, or peer exclusion. Self-reported unsociability was negatively related to positive friendship quality, and unrelated to conflict and betrayal. Self-reported unsociability was unrelated to school liking or school avoidance. Self-reported unsociability was unrelated to academic engagement or academic performance, but positively related to academic achievement.

In the combined sample (see Table 10; also see Figure 6), controlling for unsociability and covariates (gender, only child, living with both parents, age, and family SES), peer-reported shyness was negatively related to peer acceptance and was positively related to peer rejection and peer exclusion. Peer-reported shyness also was negatively related to positive friendship quality and unrelated to conflict and betrayal. Peer-reported shyness was unrelated to school liking or school avoidance. Peer-reported shyness was unrelated to academic engagement, academic performance, or academic achievement. Controlling for shyness and covariates (gender, only child, living with both parents, age, and family SES), peer-reported unsociability was negatively related to peer acceptance, and was positively related to peer rejection and peer exclusion. Peer-reported unsociability also was negatively related to positive friendship quality and unrelated to conflict and betrayal. Peer-reported unsociability was negatively related to school liking and unrelated to school avoidance. Peer-reported unsociability was unrelated to academic

engagement, but was negatively related to academic performance and academic achievement.

The evaluation of the associations of self- and peer-reported shyness with the adjustment correlates in the combined sample in the context of the hypotheses was presented in Table 11. The evaluation of the associations of self- and peer-reported unsociability with the adjustment correlates in the combined sample in the context of the hypotheses was presented in Table 12.

Gender Differences

Gender differences in the relations of self- and peer-reported shyness and unsociability with the adjustment variables were examined with Wald chi-square tests in the combined sample (see Tables 9 and 10). For each type of reporter of shyness and unsociability (i.e., self- or peers' reports), only 1 out of 20 possible relations was significantly different for girls and boys. Specifically, the relation between self-reported unsociability and peer acceptance was positive and significant for girls, and negative but not significant for boys. The relation between peer-reported unsociability and academic achievement was negative and significant for girls, and negative but not significant for boys.

Discussion

Social withdrawal is a complex phenomenon. Its implication not only depends on the underlying motivation but also on the sociocultural context in which it appears (X. Chen & French, 2008). In the present study, concurrent social, school, and academic correlates of shyness and unsociability were examined in urban and rural Chinese middle school students. Information regarding adolescents' shyness and unsociability were obtained from multiple sources (self-, peers', and teachers' reports), but somewhat unexpectedly, agreement was low to moderate across informants. Cross-informant agreement was especially poor when assessing correspondence of peers' reports or self-reports with teachers' (teachers' reports were consequently dropped). Consistent with previous research in various cultures (e.g., Bowker & Raja, 2011; Coplan et al., 2004), shyness and unsociability emerged as separate, but positively related, constructs in Chinese adolescents. Results suggest that social withdrawal is a multi-faceted, heterogeneous phenomenon in China (e.g., X. Chen et al., 2011; Coplan et al., 2016).

Based on the contextual-developmental theory and previous research findings (e.g., X. Chen, 2010; X. Chen et al., 2011; Ding, Weeks, et al., 2015; Liu et al., 2015), the associations of shyness, but not unsociability, with the correlates (except for friendship quality), were expected to be different across urban and rural adolescents. However, the hypotheses were not supported. Therefore, correlates of shyness and unsociability were examined in the combined sample. Partly consistent with the hypotheses, self- and peer-reported shyness were associated with peer problems, low friendship quality, and negative school attitudes, but were not associated with academic correlates. The patterns of the associations with shyness in the combined sample were

mostly in line with previous findings in urban China (e.g., Ding, Weeks, et al., 2015), indicating that shyness is likely a problematic, undesirable characteristic in contemporary China.

The associations between unsociability and the adjustment correlates in the combined sample showed different patterns when unsociability was self-reported versus peer-reported. Contrary to the hypotheses, self-reported unsociability was unrelated to the correlates except for a negative association with positive friendship quality and a positive association with academic achievement. However, consistent with hypotheses and previous findings in both urban and rural China (e.g., X. Chen et al., 2011; Ding, Weeks, et al., 2015), peer-reported unsociability was associated with peer problems, low friendship quality, negative school attitudes, and poor academic performance and achievement. The results require replication, but seem to suggest that Chinese adolescents were more likely at risk for adjustment difficulties when peers perceived them as unsociable, rather than when the adolescents viewed themselves as unsociable.

In summary, the present study provided nuanced information about shyness and unsociability in Chinese urban and rural adolescents, including information regarding informants, contextual differences (or lack of), and associations with concurrent adjustment correlates in various domains. The study represents an initial step towards understanding multiple forms of social withdrawal in Chinese adolescents from different social contexts, and the results may be used to inform future research.

Informants of Shyness and Unsociability in Chinese Adolescents

There has been ongoing debate about the informants of subtypes of social withdrawal in childhood and adolescence. Some researchers have favored peers, because

their unique position allows them to directly observe the focal child's social interactions in the school context, and peer assessment is relatively unbiased because information often is provided by multiple peers (e.g., Liu et al., 2015; Spangler & Gazelle, 2009). Other researchers, however, have argued that self-report may be most appropriate for older children and adolescents, because shyness and unsociability are manifested and differentiated more in internal motivations and emotions, than in observable behaviors (e.g., Bowker & Raja, 2011; Coplan et al., 2015; Coplan et al., 2016).

In the present study, self-, peer-, and teacher-reported shyness and unsociability were examined in Chinese adolescents. As hypothesized, all the informants' reports showed some support for the distinguishability of shyness and unsociability, as indicated by the support for the two-factor, over one-factor, models for self- and teachers' reports (recall that peers' reports did not allow for factor analyses), and the moderate correlations between shyness and unsociability for all the reporters. However, the informants varied in the extent to which their reports differentiated shyness and unsociability. Consistently across the social contexts (i.e., urban and rural), adolescents and peers (which did not differ from each other) demonstrated better differentiation of shyness and unsociability than teachers, suggesting that Chinese teachers may not be as good as adolescents in perceiving middle school students' motivations underlying social withdrawal. However, it should be noted that for peers' reports, nominations in which the nominator rated the nominee as both shy and unsociable were not counted because it likely reflected the rater's uncertainty about the reasons for social withdrawal. This reduced the correlation between peer-reported shyness and unsociability.

It also was hypothesized that the informants would agree at least modestly on the ratings of shyness and unsociability; however, the hypothesis was only partly supported. First, teachers' ratings of shyness and unsociability were almost unrelated to either adolescent self-reports or peers' ratings in both groups (the only exception is that teacher-reported shyness was significantly but weakly correlated with self-reported shyness in the rural group). In other words, teachers' ratings of shyness and unsociability were not only less discriminated, but also diverged from adolescents' ratings. Chinese middle school teachers' poor performance as informants of shyness and unsociability was unexpected. In Western culture, teachers have been reliable informants of classroom social behaviors, including asocial and anxious behaviors, throughout elementary and middle school years (Ladd, Herald-Brown, & Andrews, 2009; Ladd et al., 2011). In China, although teachers' reports of shyness and unsociability have not been examined prior to the present study, teachers' ratings of social withdrawal, not differentiating shyness and unsociability, have showed modest consistency with self-reports and peers' ratings in fourth and fifth graders (Xiao & Matsuda, 1998). It is possible that in Chinese schools, especially in rural and small-city urban areas, the majority of the interactions between teachers and students occur in structured, academic contexts. Thus, Chinese teachers may not be in a good position to observe and report students' interactions with peers, especially socially withdrawn behaviors, which are not as salient or disruptive as aggressive behaviors. Moreover, in most Chinese middle schools, class sizes are larger than those in the United States, and thus Chinese teachers may not know the students as well as teachers in the United States.

As expected, self- and peer-reported shyness were modestly correlated in both groups, suggesting some, although not high, agreement between adolescent self- and peers' reports of shyness. However, self- and peer-reported unsociability were not significantly correlated; instead, peer-reported unsociability was modestly correlated with self-reported shyness in both the urban and rural groups. The pattern of the associations between self- and peer-reported shyness and unsociability seems to be relatively robust across measures, developmental, and cultural contexts, as it has been reported repeatedly in studies in which self- and peer-reported shyness and unsociability were simultaneously assessed (Bayram Ozdemir et al., 2015; Spangler & Gazelle, 2009). One possible reason for the low cross-informant consensus for shyness may be the use of different items across the informants. Self- and peer-shyness items likely assessed anxious shyness towards both strangers and familiar peers, whereas peer-reported shyness specifically assessed shyness with familiar peers in the school context. The items for unsociability were more similar across the informants than the items for shyness, assessing adolescents' affinity for solitude. However, the cross-informant consensus was weaker for unsociability relative to shyness, which may be partly attributed to researchers' better understanding and more developed measures of shyness relative to unsociability. In the current literature, our understanding and assessment of unsociability is still limited to the unobservable motivations (which may be difficult for others to infer in someone else); the behavioral, cognitive, and emotional manifestations of unsociability are still not well understood.

The lack of consensus between self- and peer-reported unsociability, and the unexpected correlation between peer-reported unsociability and self-reported shyness, are

worrisome. The majority of the research findings about unsociability in China have been based on peer nominations of unsociability. It is not clear whether the findings would have been fully replicated with self-reported unsociability, and this complicates comparison of the present results with previous results. However, unsociability often has been assessed with self-reports in Western (e.g., Coplan et al., 2013) and other non-Western cultural contexts (India, Turkey, Finland; Bayram Ozdemir et al., 2015; Bowker & Raja, 2011; Ojanen et al., 2015). The cross-culture variation in assessments of unsociability (i.e., peers' reports in China, self-reports elsewhere) may have confounded interpretations of the cross-cultural differences regarding the implications of unsociability. Specifically, differences obtained across cultures in the correlates of unsociability may be attributable partly to informant rather than cultural variability.

The lack of cross-informant consensus also adds complexity to the ongoing debate about self- versus peers' reports of shyness and unsociability. Ideally, integrating information from multiple, reliable informants would enhance accuracy and reduce bias, but the divergent cross-informant perspectives make such approach difficult. As suggested by Coplan and colleagues (2015), adolescents may be the best informant of their own internal motivations, emotions, and behaviors, and thus are likely to provide the most accurate information regarding their own shyness and unsociability. As mentioned previously, peers' reports may have many advantages, but some problems with peer nominations are often overlooked. For example, researchers often assume that peers have equal and full knowledge of all classmates' behaviors and relationships, but that is not necessarily true (Neal, Neal, & Cappella, 2016). For example, in the present study, some students rated individuals as both shy and unsociable despite the fact that the wordings of

shyness and unsociability items clearly indicated distinct and exclusive motivations (these nominations were not used), likely because they were not sure why the peer played alone. Another problem is that within peer reporters, variation may exist in their inferences of motivations for social withdrawal. For example, the same student may be rated as shy by one peer and as unsociable by another peer. Such divergences within peers' nominations are often ignored in aggregated scores. Thus, peers may not be the most accurate reporters of internal motivations underlying shyness and unsociability. However, peers' perspectives may have unique value because peers' attitudes and treatment towards socially withdrawn peers are likely influenced by the inferred, more than the actual motivation. Taken together, both adolescents' and peers' perspectives have merits and shortcomings, and incorporating both perspectives may open a window for interesting exploration (e.g., what predicts peer-reported unsociability). In future research, the reasons for the lack of self-peer consensus should be further explored (e.g., investigate how peers' perceptions of motivations formed).

Shyness and Unsociability in Urban and Rural Contexts

Before diving into the main results, a few mean-level urban-rural differences should be mentioned. On average, rural students reported themselves as more shy and more unsociable than did urban students. Teachers also tended to report rural students as more unsociable, on average, than urban students. Mean-level urban-rural differences could not be assessed for peer-reported shyness and unsociability because they were standardized with class. Because previous research often has relied on peer nominations, mean differences in shyness and unsociability have not been examined across socio-cultural contexts in China. However, the novel results are consistent with the theory that

the functional meanings and the prevalence of social behaviors are influenced by the social contexts (X. Chen & French, 2008). For example, consistent with the present findings, Chinese children have been found to be more behaviorally inhibited than their Canadian peers, and the difference may be attributed to different socialization processes (X. Chen et al., 1998). In rural contexts where shy-inhibited behaviors are more acceptable relative to that in urban contexts, such behaviors may be reinforced, or at least not discouraged, by parents or teachers, and thus lead to the higher prevalence. In rural contexts, children and teachers may also feel more comfortable reporting their or others' shyness than people in urban contexts. Both may explain the urban-rural difference in shyness. However, this does not explain the difference in unsociability, because unsociable behaviors are believed to be more tolerable in urban China, or individualistic cultures, than in rural China, or collectivistic cultures (e.g., X. Chen, 2010; Liu et al., 2015). Although speculative, it is possible that rural students have fewer choices for playmates, relative to urban students, and thus are more likely to choose to play alone, because of differences in class or school sizes. These arguments are theoretical; future research should directly examine perceptions and attitudes towards unsociable behaviors in different social contexts.

One major research question of the present study was to explore the correlates of shyness and unsociability in different sociocultural contexts — urban and rural China. The question was driven by the contextual-development theory, which highlights the role of cultural context in defining the functioning meanings of social behaviors, such as shyness and unsociability (X. Chen et al., 2006; X. Chen & French, 2008). The assumption is that shyness would be associated with negative adjustment in

individualistic cultures, and less negative, or even positive, adjustment in collectivistic cultures. In contrast, unsociability would be associated with negative adjustment in collectivistic cultures, and less negative adjustment in individualistic cultures. Compared to people in urban China, people in rural China are expected to be less influenced by western, individualistic values, and preserve more traditional, collectivistic values.

Contrary to the hypotheses, there was an overall lack of urban-rural differences in the correlates of shyness and unsociability. Out of the correlates examined in the study, only one significant urban-rural difference emerged for each combination of reporter (self-, peer-) and construct (shyness, unsociability). Specifically, the association between self-reported shyness and academic achievement was positive, albeit nonsignificant, in urban adolescents, and negative, albeit nonsignificant, in rural adolescents; the association between self-reported unsociability and teacher-reported academic performance was negative, albeit nonsignificant, in urban adolescents, and positive, albeit nonsignificant, in rural adolescents; the association between peer-reported shyness and peer exclusion was positive and significant in both contexts, but stronger in urban than in rural adolescents; the association between peer-reported unsociability and perceived positive friendship quality was near zero (nonsignificant) in urban students, but negative and significant in rural students. Because of the overall lack of urban-rural differences, and among the significant differences, the associations often were nonsignificant in one or both groups, the results were not discussed in detail. One finding that stood out is that peer-reported shyness and peer exclusion were more strongly associated in urban than in rural students, which is consistent with the theory but needs further exploration given that

no urban-rural differences were found in the associations with other peer-relationship indicators (i.e., acceptance, rejection).

Several reasons may account for the lack of urban-rural differences in associations between shyness and the correlates (associations with unsociability were not expected to be different across contexts). First, the hypotheses regarding the association between shyness and positive adjustment in rural China were made based on one study in which shyness-sensitivity was measured (Chen et al., 2011). The present measure captures more anxious shyness, as opposed to shyness-sensitivity. Shyness-sensitivity may have captured some of regulated shyness (Xu et al., 2007). In the present study, not only were no urban-rural difference in adjustment correlates of shyness found, the rural findings were similar to the expected findings in urban China (i.e., shyness was associated with negative, not positive, adjustment). Unfortunately, shyness-sensitivity and regulated shyness were not measured in the present study, and thus the speculation could not be tested. Another possible reason is that the present urban and rural samples were recruited from areas that were not far from each other; thus, the socio-cultural differences may not be as salient as that between urban cities like Beijing versus very remote rural areas; thus, the urban-rural differences may be too weak to detect.

Due to the overall lack of urban-rural differences, the samples were combined to enhance statistical power and simplify analyses. Results based on the combined sample were discussed in the following sections. Demographic covariates (gender, family SES, age, only child versus having siblings, living with both parents versus living with one parent or other relatives) were adjusted in the associations. Because shyness and unsociability were moderately correlated within each informant, the associations reflected

partial relations controlling for the overlapping effect (e.g., the association between shyness and peer acceptance refers to the partial relation controlling for unsociability). The partial relations were mostly consistent with the zero-order correlations in terms of statistical significance and direction of the association with few exceptions (5 out of 40; noted in the following sections).

Social and School-related Correlates of Shyness

In urban Chinese adolescents, shyness was hypothesized to relate negatively to peer acceptance, positively to peer rejection and peer exclusion, negatively to positive friendship quality, positively to conflict and betrayal, negatively to school liking, positively to school avoidance, negatively to academic engagement, and negatively or not significantly to academic performance and academic achievement. In rural Chinese adolescents, shyness was hypothesized to relate positively to peer acceptance, not significantly to peer rejection or peer exclusion, negatively to positive friendship quality, positively to conflict and betrayal, positively to school liking, negatively to school avoidance, positively to academic engagement, and positively to academic performance and academic achievement.

The associations between shyness and social and school correlates were mostly consistent across self- and peer-reported shyness with minor exceptions (statistically significant for one but not the other, but in the same direction; see Table 11). Consistent with the hypotheses for urban Chinese adolescents, self- and peer-reported shyness were associated with negative peer relationships, including low peer acceptance, high peer rejection (for peer-, but not self-, reported shyness), and high peer exclusion. Self-reported shyness was significantly and positively (although only weakly) correlated with

peer rejection in zero-order correlations, but the relation was not significant after accounting for the effects of self-reported unsociability and the covariates. The results implicated that in Chinese middle schools, shy students were not only less preferred as playmates, but were also likely to be actively disliked by peers and excluded from group activities. The results were consistent with research findings that peer-reported shy-sensitive Chinese adolescents are likely to elicit negative attitudes and responses from peers in classrooms in contemporary urban and suburban China (e.g., Coplan et al., 2016; Ding, Weeks, et al., 2015; Liu et al., 2015; Liu et al., 2016). The findings were also parallel to findings in Western (e.g., Coplan et al., 2004; Ladd et al., 2011) and other non-Western cultures (Bayram Ozdemir et al., 2015; Bowker & Raja, 2011; Ojanen et al., 2015), indicating that shyness is a risk factor for relationship difficulties, such as low peer acceptance and peer victimization. In Western culture, shy children have been less perceived as less socially competent (Karevold et al., 2012), and have tended to be anxious or disengaged in social interactions (Asendorpf & Meier, 1993). Thus, it may be difficult for shy children to develop and maintain positive relationships with a large group of peers. Also, shy children often are viewed as vulnerable, immature, and over-sensitive, which are contradicted with individualistic values of assertiveness and leadership (e.g., X. Chen & French, 2008). Thus, both a lack of social competency and negative cultural values on shyness may have contributed to the relationship difficulties with peers for Chinese adolescents.

Shy Chinese adolescents also reported less positive friendship quality and more conflict and betrayal (for self-, but not peer-reported shyness) with their best friends in class. Thus, like their Western peers (e.g., Fordham & Stevenson-Hinde, 1999; Rubin et

al., 2006), shy Chinese adolescents also tended to have trouble maintaining positive relationships with close friends. Shy adolescents' friendship quality has rarely been examined in China. However, in Western cultures, although shy-anxious children have been as likely as nonshy peers to have a friendship (Ladd et al., 2011), they have tended to rate their friendships as low in quality, such as low in intimacy and help (e.g., Menzer et al., 2012; Rubin et al., 2006). It has been argued that low social competence and social efficacy, which may have accounted for shy adolescents' peer relationship difficulties, also are likely to interfere with their interactions with close friends (Schneider, 2009). Thus, shy adolescents may not have sufficient social skills to maintain a positive friendship. However, it also is possible that shy adolescents tend to perceive their friendship quality as lower than it actually is, because they do not have a broad peer network, and thus, likely place high expectations on the existing friendships (Fordham & Stevenson-Hinde, 1999). In future research, it would be interesting to examine perceived friendship quality from both shy adolescents and their friends in a dyadic framework.

Partly consistent with the hypotheses for urban Chinese adolescents, self-, but not peer-, reported shyness was associated with low school liking and high school avoidance. Peer-reported shyness was significantly and negatively (although weakly) correlated with school liking in zero-order correlations, but the relation was not significant after accounting for the effects of peer-reported unsociability and the covariates. As have been discussed, due to the likelihood of experiencing negative peer relationships, shy adolescents may perceive school as a stressful social environment, and thus develop less positive and more negative attitudes toward school (Buhs et al., 2006). The associations between shyness and school liking/avoidance have not been examined in Chinese

adolescents, but in Chinese preschoolers, similar results have been reported (Wu et al., 2015). However, in the present study, peer-reported shyness was not associated with school liking or school avoidance, suggesting that the associations may not be as robust as associations with peer relationships, or that the associations with school attitudes may have been inflated for self-reported shyness due to the shared method.

Lastly, contrary to the hypotheses for urban Chinese adolescents, neither self- nor peer-reported shyness was associated with academic correlates, including teacher-reported academic engagement and performance, and academic achievement from school record. In urban and suburban China, peer-reported shyness-sensitivity has been negatively associated with academic achievement and positively associated with teacher-rated learning problems in some studies (Liu et al., 2015; Yang et al., 2015), but not others (Liu et al., 2016). In a recent study, self-reported shy children also have been rated by teachers as having more learning problems than comparison peers (achievement was not examined; Coplan et al., 2016). Thus, although the negative association between shyness and academic performance has been reported occasionally in China, the association has not been very robust. In Western culture, a significant relation between shyness and academic achievement has not been consistently found (Evans, 2010). Theoretically, academic achievement is not expected to be a proximal correlate of shyness, such as peer relationships, because shyness is a social phenomenon. However, shyness may be linked to academic achievement indirectly through its associations with socioemotional problems and classroom engagement (e.g., Hughes & Coplan, 2010; Ladd, Birch, & Buhs, 1999). In China, whether and how shyness is associated with academic achievement needs further examination.

Although more than half of the sample was from rural middle schools, the results did not replicate previous findings in rural Chinese elementary-school children that shyness was associated with positive social and school adjustment, such as peer acceptance, school competence, and academic achievement (X. Chen et al., 2011). As mentioned earlier, an important methodological difference is that the shyness measures in the present study captured more of anxious shyness, as opposed to peer-reported shyness-sensitivity used in previous studies, which captured more of emotional distress/sensitivity. It is possible that something captured in shyness-sensitivity, but not in anxious shyness, such as regulated shyness (Xu et al., 2007) or social sensitivity (X. Chen, Liu, Ellis, & Zarbatany, 2016), was positively valued, in traditional Chinese culture. Another possible explanation is that as social changes continue, shyness may no longer be a positively valued characteristic in rural China.

To summarize, the present findings indicated that in contemporary urban and rural China, shy adolescents were at risk for relationship problems both in peer groups and with best friends. They also were likely to develop negative attitudes toward school, but not to suffer from academic difficulties.

Social and School-related Correlates of Unsociability

In both urban and rural Chinese adolescents, unsociability was expected to relate negatively to peer acceptance, positively to peer rejection and peer exclusion, not significantly to positive friendship quality or conflict and betrayal, negatively to school liking, positively to school avoidance, negatively to academic engagement, negatively or not significantly to academic performance and academic achievement.

Different patterns of associations with the adjustment correlates emerged for self- versus peer-reported unsociability (see Table 12). In contrast to the hypotheses for urban and rural Chinese adolescents, self-reported unsociability was unrelated to most of the adjustment correlates except for a negative association with perceived positive friendship quality and a positive association with academic achievement (the relation was not significant in zero-order correlations). Self-reported unsociability was significantly and positively correlated with conflict and betrayal and school avoidance in zero-order correlations, but the relations were not significant after accounting for the effects of self-reported shyness and the covariates. The discrepancy between the zero-order correlations and partial relations may indicate that the associations between unsociability and conflict and betrayal, or school avoidance, could be inflated, if not accounting for shyness, which was moderately correlated with unsociability. Overall, the results were similar to the findings in Western (e.g., Coplan et al., 2013; Ladd et al., 2011) and other non-Western cultures (e.g., Bowker & Raja, 2011; Ojanen et al., 2015), indicating that unsociability is a relatively benign form of social withdrawal. However, the results contradicted recent findings in which unsociability was self-reported in Chinese urban elementary school students (4^{th} to 6^{th} graders; Coplan et al., 2016). Specifically, using a person-centered approach, Coplan and colleagues (2016) compared indices of social and emotional functioning among groups of shy (and low unsociable), unsociable (and low shy), shy-unsociable (high on both), and comparison (low on both) children, based on self-reports of shyness and unsociability. Consistent with previous findings based on peer-reported unsociability (e.g., Ding, Weeks, et al., 2015), they found that like shy children, unsociable Chinese children were more likely to have heightened internalizing symptoms

(loneliness, depression, self-worth), peer difficulties (victimization, lack of peer preference), and school problems (low school competence, learning problems), than peers who were neither shy nor unsociable. The discrepancy between the present findings and Coplan et al.'s findings need further exploration, but two differences need to be noted. First, in the present study, unsociability was measured with two items capturing affinity for aloneness (e.g., like/enjoy playing alone), whereas in Coplan et al.'s study, unsociability was measured as a combination of affinity for aloneness and an overt expression of preference for solitude (e.g., "if given a choice, I prefer to play alone rather than with other kids"). It is possible that the negative adjustment associated with unsociability was driven more by the preference for solitude than the affinity for aloneness. Second, the present sample was comprised of young adolescents from middle school, compared to Coplan et al.'s sample of late elementary school students. It has been suggested that unsociability may be associated with more negative socio-emotional and academic adjustment in childhood than in early adolescence (Liu et al., 2016), likely due to the increasing understanding and appreciation of autonomy and independence during the transition to adolescence.

The associations between peer-reported unsociability and social and school adjustment were mostly consistent with hypotheses and profiles of unsociable urban and rural Chinese children in previous research (e.g., X. Chen et al., 2011; Ding, Weeks, et al., 2015; Liu et al., 2014; Liu et al., 2015). In the present study, Chinese adolescents who were perceived as unsociable by peers were likely to be less accepted, more rejected, and more excluded, perceive less positive friendship quality (but not more conflict and betrayal), report less positive (but not more negative) attitudes toward school, and have

poorer academic performance and achievement (but not less academic engagement). The results replicated previous findings in urban and rural China that peer-reported unsociable children and adolescents are likely at risk for pervasive adjustment difficulties at school, including peer problems (rejection. victimization), internalizing problems (loneliness, depression), and academic problems (e.g., Chen et al., 2011; Ding, Weeks, et al., 2014; Liu et al., 2014; Liu et al., 2015). The study also revealed novel findings that in addition to the existing difficulties, peer-reported unsociable adolescents also tended to perceive less positive friendship quality and less positive attitudes toward school. Unsociable adolescents' friendships have rarely been examined, but in one study, both US and Chinese adolescents who prefer solitude, which reflects both unsociable and socially avoidant motivations, perceived less support in friendships (Wang, 2014). Taken together, unsociable Chinese adolescents, at least those perceived as such by peers, are at risk for a broad range of adjustment problems in school context.

It has been argued that because unsociable children voluntarily choose to withdraw from social interactions and engage in solitary activities, they may be viewed as deviant from social norms and a potential threat to group interest in collectivistic cultures (Chen, 2010). In individualistic cultures, however, unsociability may not be viewed as negatively because it is not necessarily contradicted with values of independence and personal success (Rubin & Asendorpf, 1993). Thus, one would expect unsociability to be benign in contemporary China because under the influence of Western cultures, individualistic values, such as respect for autonomy and independence, have been increasingly adopted by Chinese parents and adolescents, at least in urban areas (e.g., X. Chen & Chiu, 2010; X. Chen & Li, 2012; X. Chen et al., 2012). However, the theory

does not fully correspond with the results repeatedly suggesting that negative outcomes are associated with unsociability in China. It is possible that the change in adjustment correlates of unsociability may take time to emerge as sociocultural changes are slow (and unlike shyness which has been examined for decades, unsociability has not been examined until recent years), or there may be other cultural factors that influence the outcomes of unsociability in China.

The empirical findings regarding adjustment outcomes of unsociability have not been entirely consistent within Western culture. For example, unsociability, often self-reported, has generally not been associated with negative outcomes, except for some minor peer problems in Western children (e.g., Coplan et al., 2013; Ladd et al., 2011). However, in a recent study, peer-reported unsociability was associated with negative peer relationships, low school competence, and internalizing problems, in Canadian preadolescents and adolescents, although the associations were less strong than those in Chinese peers (Liu et al., 2015). Taken together with the present findings, besides sociocultural differences, different methodology (e.g., informants) may also have contributed to the different findings of unsociability across cultures, especially given the lack of cross-informant agreement on unsociability. Recall that in the present study, peer-reported unsociability was more strongly related with self-reported shyness than self-reported unsociability. Thus, researchers should be cautious drawing conclusions about cross-cultural differences from studies with different methodologies. Also, research is needed to examine potential reasons (e.g., poor items) for the lack of agreement between self- and peer-reported unsociability to better understand the different findings.

Gender Differences

The results indicated an overall lack of gender differences in average ratings of shyness and unsociability (significant gender differences were found in some adjustment variables, but were not discussed because that was not the focus of the study). As exceptions, girls reported higher unsociability in the rural group, and received higher ratings of teacher-reported unsociability in the urban group, on average than did boys. No significant gender differences were found for self-reported shyness, peer-reported shyness, and peer-reported unsociability. In previous studies, when gender differences have existed, girls have tended to be nominated by peers as more shy and less unsociable than boys (e.g., Liu et al., 2015). In this study, gender differences in peer-reported shyness and unsociability were consistent with the pattern, but not statistically significant.

The results also indicated an overall lack of gender differences in associations of shyness and unsociability with adjustment correlates. As exceptions, gender differences emerged in the associations between self-reported unsociability and peer acceptance, and peer-reported unsociability and academic achievement. Specifically, self-reported unsociability was positively associated with peer acceptance for girls, and unrelated to peer acceptance for boys. In contrast, peer-reported unsociability was negatively associated with academic achievement for girls and unrelated to academic achievement for boys. These gender differences were neither consistent with the theory nor previous empirical findings (e.g., X. Chen et al., 2011; Ding, Weeks, et al., 2015). In Western culture, researchers have argued that shy boys may be at a greater risk for relational and emotional problems, than shy girls, due to gender stereotype that shyness is a more accepted characteristic in girls than in boys (Doey et al., 2014). However, theory on gender differences in adjustment of unsociable children or adolescents is still lacking.

Moreover, it is not clear whether the theory regarding gender differences in adjustment of shy children or adolescents is applicable in Chinese culture. Given the number of comparisons and lack of consistency in gender differences across informants and groups, the results should be replicated.

Strengths, Limitations, and Future Directions

Several limitations need to be acknowledged. First, the urban and rural samples were recruited from areas not far from each other; thus, the urban-rural differences in sociocultural values may be underrepresented. Also, the urban sample was from a small city, which might be less influenced by Western cultures compared to urban samples from large cities like Beijing and Shanghai. The sample sizes also may have limited the statistical power to detect urban-rural differences. Therefore, although urban-rural differences were not found in this study, it may be worth further investigation with larger and more representative urban and rural samples.

Second, the hypotheses regarding urban-rural differences were made based on the premises that people in urban and rural contexts differ in the cultural values (e.g., individualistic/collectivistic), and that cultural values are associated with the adjustment correlates of shyness and unsociability. However, cultural values were not measured in this study (to my knowledge, nor have they been measured in other published studies of shyness and unsociability). In future research, adolescents' or adults' perceptions of cultural values should be measured, such that the role of cultural values in the adjustment correlates of shyness and unsociability can be directly assessed.

Third, in the present study, shyness was operationalized differently from the typical measure used in China (i.e., peer-reported shyness-sensitivity), but similar to the

measures used in Western and other cultures. The methodological difference made it difficult to compare and interpret findings in the present study relative to findings from previous studies in China, especially given that peer-reported shyness-sensitivity has been only weakly correlated with self-reported shyness on an adapted Western scale in a younger Chinese sample (4-6th graders; Ding et al., 2014). In future research, researchers should examine the relations among anxious shyness, shyness-sensitivity, and regulated shyness as well, to facilitate the synthesis and interpretation of the findings based on different measures in China.

Fourth, most of the measures, especially the measures of shyness and unsociability, were adapted from Western measures and used in Chinese adolescents for the first time. Although the factor structures were supported and the internal reliabilities were mostly satisfactory, some of the measures still need to be improved. For example, self-reported unsociability was measured with only two items, and thus might not fully capture all the components of unsociability (i.e., content validity).

Finally, the study was cross-sectional, which limited the ability to infer the directionality of the associations of shyness and unsociability with the adjustment correlates. Although theoretically, shyness and unsociability are believed to have a negative impact on social and school adjustment, it is possible that social and school adjustments influence shyness and unsociability as well. For example, adolescents may become shy or unsociable after experiencing peer exclusion, because peer exclusion may discourage their motivation for social interactions and/or increase their tendency to avoid social interactions. Longitudinal data is needed in future research to explore the directions of the associations. Also, adjustment in various domains — social, school, and

academic — was assessed as independent correlates of shyness and unsociability. However, social, school, and academic adjustments may be interrelated. For example, academic engagement may have mediated the association between shyness and academic achievement. It is also possible that friendship quality or peer relationships may moderate or mediate the associations between shyness/unsociability and school/academic adjustments. In future research, complex mechanisms connecting different domains of adjustments associated with shyness and unsociability should be examined using longitudinal data.

Despite the limitations, the present study contributed to the literature by taking an initial step towards understanding shyness and unsociability during early adolescence in different social contexts of China. First, the assessment of cross-informant agreement on shyness and unsociability may inform future researchers on the selection of appropriate informants. The low-to-moderate self-peer agreement on shyness and unsociability also raised the need to replicate the findings in China, which have been primarily based on peers' reports, with self-reports.

Second, the study replicated previous findings about social and academic correlates of shyness and unsociability in China, and extended the examination of adjustment correlates to broader domains, such as dyadic friendships, school attitudes, and academic engagement, in middle school students, compared to elementary school children in most previous studies. Taken together with previous findings, the results implicated that shy adolescents, both self-identified and peer-reported, and adolescents who were perceived as unsociable by peers, may be at risk for a variety of adjustment problems at school in contemporary China.

Finally, the study represented the first empirical comparison of correlates of shyness and unsociability in different social contexts (i.e., urban versus rural) within China. Although urban-rural differences were not found in the present study, the results were informative with regard to adjustment correlates of shyness and unsociability among Chinese adolescents living in less developed urban areas and rural areas, which have been underrepresented in the extant literature.

In summary, the results provided one of the first comprehensive investigation of shyness and unsociability and their associations with social, school, and academic adjustment in Chinese adolescents. Following the conceptualization and methodology from Western cultures, shyness and unsociability were identified by adolescents and teachers as distinct, but related, reasons for internally motivated social withdrawal in China. However, informants' agreements were low to moderate for shyness and low for unsociability. Moreover, in both urban and rural contexts, shyness was associated with social and school, but not academic problems, and the associations were mostly consistent across self- versus peer-reported shyness. However, peer-, but not self-, reported unsociability was associated with social, school, and academic problems. The present research provided answers to some questions, but also raised more questions. In addition to questions already been mentioned, it is important to take a step back and examine (perhaps in a qualitative manner) how Chinese adolescents and adults conceptualize and perceive "unsociability" so that it can be better assessed and understood in Chinese context.

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APPENDIX A

TABLES

Table 1

Constructs Related to Shyness and Unsociability

Constructs	Definition	Example references
➢ Behavioral solitude	Solitary behaviors in peer context	Coplan & Rubin, 2010
○ Passive withdrawal (social withdrawal)	Internally motivated behavioral solitude	Rubin et al., 2009
• Shyness	Wariness or self-consciousness in certain social situations	Rubin et al., 2009
▪ Conflicted shyness	High social approach and high social avoidance motivations	Coplan et al., 2004
▪ Anxious solitude	Solitary behaviors due to social anxiety in familiar peer context	Gazelle & Ladd, 2003
▪ Temperamental shyness	Shyness towards strangers	Asendorpf, 1993
▪ Social evaluative shyness	Shyness due to fear of social evaluation	
▪ Fearful shyness	Wariness and anxiety toward strangers	Buss, 1986
▪ Self-conscious shyness	Acute self-awareness of oneself as a social object	
▪ *Shyness-sensitivity*	Shy, usually sad, and feelings get hurt easily	Chen et al., 1992
▪ *Regulated shyness*	Modest, self-constraint, and unassuming behaviors	Xu et al., 2007
• Unsociability	A nonfearful preference for solitude	Coplan & Weeks, 2010a
▪ Social disinterest	Low social approach and low social avoidance motivations	Coplan et al., 2004
▪ Preference for solitude	An overt preference for solitude	Coplan & Weeks, 2010a
▪ High solitropic orientation	A high need for solitude	Leary et al., 2003 (adults)
▪ Low sociotropic orientation	A low interest in social contact	
• Social avoidance	Low social approach and high social avoidance motivations	Asendorpf, 1990
○ Active isolation (peer exclusion)	Externally imposed behavioral solitude	Spangler & Gazelle, 2009

Note. Only the constructs relevant to the focus of the paper were presented (for a comprehensive review, see Coplan & Rubin, 2010). The italicized constructs were identified or primarily examined in Chinese culture. Other constructs were primarily examined in Western culture.

Table 2

Demographic Information of the Urban Sample and the Rural Sample

Variables	Statistics	Urban (N = 93)	Rural (N = 136)	Group Differences
Age	*M, SD*	14.05, 0.86	14.39, 0.69	$t(167.13) = -3.09$**
Gender	% Girls	47%	49%	$\chi^2(df=1) = .00$
Ethnicity	% Han	86%	80%	$\chi^2(df=1) = 1.86$
Only child	% Only child	52%	27%	$\chi^2(df=1) = 16.74$***
Household	% Living with both parents	83%	73%	$\chi^2(df=1) = 3.37$
Annual Family Income				$t(181.42) = 3.00$**
	% Less than ￥10,000	15%	21%	
	% ￥10,000 to ￥30,000	38%	51%	
	% ￥30,000 to ￥50,000	33%	18%	
	% More than ￥50,000	13%	6%	
Father's/mother's education				$t(148.88) = 5.18$*** (father) $t(147.76) = 5.82$***(mother)
	% Grade school and below	13%, 9%	23%, 25%	
	% Middle school	39%, 51%	60%, 60%	
	% High school or equivalence	34%, 24%	10%, 7%	
	% College and above	10%, 13%	1%, 1%	
Father's/mother's job[a]				$\chi^2(df=1) = 68.84$*** (father) $\chi^2(df=1) = 48.13$*** (mother)
	% Farmer, part-time worker, unemployed	31%, 52%	78%, 84%	
	% Factory, construction, and other labor worker	47%, 19%	4%, 0%	
	% Low-level professional work, such as barber	7%, 7%	4%, 1%	
	% Mid-level professional work, such as teacher	7%, 13%	1%, 1%	

Note. The missing rates of the demographic variables ranged from 0% (gender) to 11% (mother's job). Group differences were examined with independent samples *t*-tests for continuous and ordered categorical variables, and Pearson Chi-Square tests for non-ordered categorical variables. [a]For Pearson-Chi Square tests, father's job and mother's job were recoded (1 = farmer, part-time worker, unemployed, 0 = other) to prevent small expected count in each cell.

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

Table 3

Descriptive Statistics for the Study Variables

Variables	Total $N = 229$						Urban $N = 93$		Rural $N = 136$		Group difference
	Min	Max	*M*	*SD*	Skewness	Kurtosis	*M*	*SD*	*M*	*SD*	*t*
S Shyness	1.00	4.00	1.62	0.62	1.14	0.96	1.47	0.56	1.71	0.64	-3.04**
S Unsociability	1.00	4.50	1.98	0.87	0.60	-0.47	1.70	0.74	2.16	0.90	-4.03***
P Shyness	–	–	–	–	3.91	15.97	–	–	–	–	–
P Unsociability	–	–	–	–	3.39	12.59	–	–	–	–	–
T Shyness	1.00	5.00	1.95	0.76	1.20	1.88	1.85	0.73	2.01	0.77	-1.60
T Unsociability	1.00	4.33	1.57	0.65	1.45	2.16	1.37	0.47	1.72	0.72	-4.42***
P Peer Acceptance	–	–	–	–	0.22	-0.30	–	–	–	–	–
P Peer Rejection	–	–	–	–	1.79	4.23	–	–	–	–	–
P Peer Exclusion	–	–	–	–	3.49	12.57	–	–	–	–	–
S Positive Friendship	2.24	4.87	3.85	0.60	-0.55	-0.32	3.86	0.62	3.84	0.58	0.23
S Conflict and Betrayal	1.00	4.33	1.96	0.72	0.60	0.01	1.89	0.69	2.02	0.73	-1.34
S School Liking	1.25	5.00	3.49	0.83	-0.09	-0.24	3.43	0.93	3.53	0.76	-0.83
S School Avoidance	1.00	4.25	1.79	0.61	0.81	0.80	1.73	0.65	1.84	0.57	-1.36
T Academic Engagement	1.20	5.00	3.50	0.92	-0.36	-0.52	3.40	0.89	3.57	0.93	-1.37
T Academic Performance	1.00	5.00	3.10	1.00	0.09	-0.65	2.97	0.98	3.18	1.01	-1.54
Academic Achievement	16.33	92.67	65.74	16.33	-0.58	0.00	66.98	19.20	64.93	14.14	0.88

Note. For descriptive analyses, *N*s ranged from 84 to 93 for the urban group and 130-136 for the rural group. Potential range was 1.00 to 5.00 for self- and teacher-reported variables and 0.00 to 100.00 for academic achievement. Descriptive statistics, expect for skewness and kurtosis, were not reported for peer nomination variables because they were standardized within class. Group (i.e., urban-rural) differences were examined with independent samples *t*-tests. When Levene's test for equality of variances was not significant, *t* statistics assuming equal variances were reported; otherwise, *t* statistics not assuming equal variance were reported. S = Self-reported. P = Peer-reported. T = Teacher-reported.

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

Table 4

Correlations of Self-, Peer-, and Teacher-reported Shyness and Unsociability

Variables		Self		Peer		Teacher	
		Shyness	Unsociability	Shyness	Unsociability	Shyness	Unsociability
		Urban (lower triangular) /Rural (upper triangular)					
Self	Shyness		.33***	**.29*** **	.37***	**.19***	.08
	Unsociability	.32**		.07	**.04**	-.04	**-.03**
Peer	Shyness	**.41*** **	.13		.31***	**.11**	.15
	Unsociability	.25*	**.04**	.45***		.10	**.09**
Teacher	Shyness	**.12**	.01	**.04**	.18		.60***
	Unsociability	.14	**-.08**	.11	**.17**	.62***	
		Urban-Rural Combined					
Self	Shyness						
	Unsociability	.36***					
Peer	Shyness	**.33*** **	.09				
	Unsociability	.32***	**.04**	.37***			
Teacher	Shyness	**.18** **	.01	**.08**	.13		
	Unsociability	.14*	**.03**	.13	**.11**	.60***	

Note. For correlation analyses, *N*s ranged from 82 to 93 for urban, 130 to 136 for rural, and 212 to 229 for urban-rural combined. Cross-informant correlations of shyness and of unsociability were bolded.

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

Table 5

Correlations among Social and School-Related Adjustment

Variables	1	2	3	4	5	6	7	8	9	10
Urban (lower triangular) /Rural (upper triangular)										
1. P PA		-.62***	-.36***	.19*	-.20*	.30***	-.14	.34***	.40***	.34**
2. P PR	-.54***		.55***	-.26**	.21*	-.18*	-.02	-.23**	-.31***	-.22*
3. P PE	-.32**	.47***		-.24**	.09	-.08	.06	-.10	-.17	-.16
4. S PF	.26*	-.13	-.23*		-.24**	.36***	-.14	.06	.15	.17
5. S CB	-.01	.09	.22*	-.32**		-.16	.29***	-.14	-.05	.02
6. S SL	.31**	-.22*	-.06	.36***	-.10		-.53***	.09	.14	.16
7. S SA	-.23*	.12	.02	-.19	.17	-.46***		.02	-.06	-.04
8. T AE	.44***	-.36**	-.16	.28**	-.30**	.32**	-.34**		.62***	.50***
9. T AP	.40***	-.36***	-.17	.36***	-.33**	.38***	-.28**	.87***		.81***
10. AA	.31**	-.24*	-.04	.10	-.28**	.34**	-.14	.70***	.72***	
Urban-Rural Combined										
1. P PA										
2. P PR	-.59***									
3. P PE	-.34***	.52***								
4. S PF	.22**	-.20**	-.24***							
5. S CB	-.12	.16*	.14*	-.27***						
6. S SL	.30***	-.20**	-.07	.36***	-.13					
7. S SA	-.18**	.04	-.02	-.16*	.24***	-.49***				
8. T AE	.38***	-.28***	-.12	.15*	-.19**	.20**	-.13			
9. T AP	.40***	-.32***	-.17*	.24***	-.14*	.25***	-.15*	.72***		
10. AA	.32***	-.23**	-.10	.13*	-.12	.25***	-.09	.57***	.75***	

Note. For correlational analyses, *N*s ranged from 87 to 93 for urban, 129 to 136 for rural, and 216 to 229 for urban-rural combined. S = Self-reported. P = Peer-reported. T = Teacher-reported. PA = Peer Acceptance. PR = Peer Rejection. PE = Peer Exclusion. PF = Positive Friendship Quality. CB = Conflict and Betrayal. SL = School Liking. SA = School Avoidance. AE = Academic Engagement. AP = Academic Performance. AA = Academic Achievement from school records.

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

Table 6

Correlations of Shyness and Unsociability with Social and School-Related Adjustment

Variables		P PA	P PR	P PE	S PF	S CB	S SL	S SA	T AE	T AP	AA
						Urban					
Self	Shyness	-.20	.17	.37***	-.32**	.12	-.16	.27*	.00	-.08	.07
	Unsociability	-.03	-.01	.19	-.38***	.26*	-.08	.12	-.07	-.15	.06
Peer	Shyness	-.31**	.41***	.93***	-.20	.16	-.08	.02	-.15	-.14	-.00
	Unsociability	-.32**	.56**	.57***	-.11	-.01	-.19	-.04	-.09	-.16	-.10
Teacher	Shyness	-.07	.18	.08	.05	-.23*	.06	-.03	.10	.17	.22*
	Unsociability	-.03	.21*	.13	.11	-.18	.12	-.01	.15	.20	.17
						Rural					
Self	Shyness	-.14	.12	.29***	-.30***	.25**	-.27**	.31***	-.05	-.07	-.02
	Unsociability	.02	-.02	.04	-.18*	.12	-.12	.25**	.04	.13	.21*
Peer	Shyness	-.26**	.35***	.65***	-.19*	.11	-.18*	.10	-.04	-.02	-.08
	Unsociability	-.32***	.42***	.53***	-.30***	.01	-.24**	.03	-.14	-.23**	-.20*
Teacher	Shyness	-.12	.01	.18*	-.25**	.08	-.13	.11	-.05	-.13	-.22**
	Unsociability	-.16	.09	.16	-.15	.10	-.23**	.13	-.11	-.03	-.10
						Urban-Rural Combined					
Self	Shyness	-.16*	.13*	.31***	-.30***	.22**	-.21**	.30***	-.01	-.05	-.00
	Unsociability	.01	-.01	.09	-.24***	.19**	-.08	.20**	.03	.06	.12
Peer	Shyness	-.28***	.37***	.76***	-.19**	.13	-.14*	.06	-.08	-.07	-.04
	Unsociability	-.32***	.48***	.54***	-.22**	-.00	-.21**	.00	-.12	-.21**	-.15*
Teacher	Shyness	-.10	.08	.14*	-.12	-.02	-.04	.06	.01	-.00	-.03
	Unsociability	-.11	.12	.14*	-.06	-.04	-.08	.10	-.01	.07	-.02

Note. For correlational analyses, *N*s ranged from 81 to 93 for urban, 126 to 136 for rural, and 207 to 229 for urban-rural combined. S = Self-reported. P = Peer-reported. T = Teacher-reported. PA = Peer Acceptance. PR = Peer Rejection. PE = Peer Exclusion. PF = Positive Friendship Quality. CB = Conflict and Betrayal. SL = School Liking. SA = School Avoidance. AE = Academic Engagement. AP = Academic Performance. AA = Academic Achievement from school records.

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

Table 7

Relations of Self-reported Shyness and Unsociability with Social and School-Related Adjustment in Urban and Rural Groups

	Urban *b*		Rural *b*		Group difference $\chi^2(df = 1)$	
	Shyness	Unsociability	Shyness	Unsociability	Shyness	Unsociability
P Peer Acceptance	-0.31	0.03	-0.23	0.13	0.12	0.35
P Peer Rejection	0.37	-0.11	0.21	-0.08	0.15	0.04
P Peer Exclusion	0.62*	0.10	0.47*	-0.06	0.19	0.61
S Positive Friendship	-0.33***	-0.21*	-0.26**	-0.07	0.32	1.71
S Conflict and Betrayal	0.07	0.22*	0.28*	0.01	1.65	2.27
S School Liking	-0.32*	-0.03	-0.35**	-0.01	0.02	0.03
S School Avoidance	0.29**	0.04	0.25***	0.10	0.11	0.16
T Academic Engagement	0.03	-0.07	-0.03	0.11	0.11	1.39
T Academic Performance	-0.05	-0.17	-0.18	0.18	0.43	4.27*
Academic Achievement	4.02	-1.23	-2.88[a]	3.14*	4.76*	2.71

Note. Sample sizes were 93 for the urban group and 136 for the rural group. "*b*" represents unstandardized path coefficient. "$\chi^2(df = 1)$" represents Wald chi-square statistic with 1 degree of freedom. Covariates were gender (0 = girl, 1 = boy), age, only child (0 = have siblings, 1 = only child), family socioeconomic status, living with both parents (0 = living with one parents or other relatives, 1 = living with both parents). [a]The estimate of self-reported shyness on academic achievement in the rural group was -3.17, $p < .05$, when clustering effects was taken into account with dummy variables.

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

Table 8

Relations of Peer-reported Shyness and Unsociability with Social and School-Related Adjustment in Urban and Rural Groups

	Urban *b*		Rural *b*		Group difference $\chi^2(df = 1)$	
	Shyness	Unsociability	Shyness	Unsociability	Shyness	Unsociability
P Peer Acceptance	-0.22*	-0.23**	-0.14	-0.28***	0.32	0.20
P Peer Rejection	0.22*	0.47**	0.22*	0.35***	0.00	0.46
P Peer Exclusion	0.87***	0.18*	0.52***	0.36***	6.12*	2.24
S Positive Friendship	-0.14**	-0.00	-0.04	-0.16**	2.10	5.47*
S Conflict and Betrayal	0.16**	-0.08*	0.07	-0.02	0.96	0.58
S School Liking	0.01	-0.17*	-0.07	-0.16*	0.78	0.01
S School Avoidance	0.02	-0.04	0.06	0.00	0.26	0.19
T Academic Engagement	-0.12	-0.02	0.03	-0.16*[a]	1.71	1.88
T Academic Performance	-0.06	-0.10	0.11	-0.25***	2.25	3.02
Academic Achievement	-0.64	-1.55	0.03	-2.28**	0.09	0.18

Note. Sample sizes were 93 for the urban group and 136 for the rural group. "*b*" represents unstandardized path coefficient. "$\chi^2(df = 1)$" represents Wald chi-square statistic with 1 degree of freedom. Covariates were gender (0 = girl, 1 = boy), age, only child (0 = have siblings, 1 = only child), family socioeconomic status, living with both parents (0 = living with one parents or other relatives, 1 = living with both parents). [a]The estimate of peer-reported unsociability on academic engagement in the rural group was -0.13, $p = .07$, when clustering effects was taken into account with dummy variables.

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

Table 9

Relations of Self-reported Shyness and Unsociability with Social and School-Related Adjustment in the Combined Sample

	Combined sample *b*		Girls *b*		Boys *b*		Gender difference $\chi^2(df = 1)$	
	Shyness	Unsociability	Shyness	Unsociability	Shyness	Unsociability	Shyness	Unsociability
P Peer Acceptance	-0.23*	0.10	-0.25*	0.25**	-0.16	-0.11	0.15	4.94*
P Peer Rejection	0.24	-0.09	0.08	-0.18*	0.38	0.02	0.82	1.87
P Peer Exclusion	0.50**	-0.03	0.26	-0.07*	0.72**	0.00	2.63	0.20
S Positive Friendship	-0.26***	-0.11*	-0.26**	-0.05	-0.24*	-0.20*	0.02	2.09
S Conflict and Betrayal	0.19*	0.08	0.19	0.04	0.18	0.12	0.02	0.45
S School Liking	-0.30**	0.03	-0.26*	0.03	-0.33**	0.03	0.17	0.00
S School Avoidance	0.27***	0.07	0.26**	0.01	0.25**	0.17	0.01	2.24
T Academic Engagement	-0.03	0.08	-0.12	0.13	0.10	0.00	1.30	0.50
T Academic Performance	-0.13	-0.13	-0.21	0.21*	0.01	0.01	1.00	1.04
Academic Achievement	-0.10	3.04*[a]	1.61	3.55*	-0.94	2.25	0.58	0.21

Note. Sample sizes were 229 for the combined sample, 110 for girls, and 119 for boys. "*b*" represents unstandardized path coefficient. "$\chi^2(df = 1)$" represents Wald chi-square statistic with 1 degree of freedom. Covariates were age, only child (0 = have siblings, 1 = only child), family socioeconomic status, living with both parents (0 = living with one parents or other relatives, 1 = living with both parents). In the combined sample, gender (0 = girl, 1 = boy) also was included as a covariate. [a]The estimate of self-reported unsociability on academic achievement in the combined sample was 2.00, $p = .11$, when clustering effects was taken into account with dummy variables.

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

Table 10

Relations of Peer-reported Shyness and Unsociability with Social and School-Related Adjustment in the Combined Sample

	Combined sample *b*		Girls *b*		Boys *b*		Gender difference $\chi^2(df = 1)$	
	Shyness	Unsociability	Shyness	Unsociability	Shyness	Unsociability	Shyness	Unsociability
P Peer Acceptance	-0.18*	-0.26***	-0.18*	-0.21**	-0.12	-0.31***	0.15	1.12
P Peer Rejection	0.23**	0.39***	0.15*	0.28***	0.32*	0.46***	1.25	1.71
P Peer Exclusion	0.66***	0.30***	0.62***	0.28*	0.68***	0.31***	0.14	0.06
S Positive Friendship	-0.08*	-0.10*	-0.08*	-0.10*	-0.07	-0.15**	0.04	1.47
S Conflict and Betrayal	0.10	-0.04	0.02	-0.12	0.19**	-0.01	3.15	1.59
S School Liking	-0.04	-0.16**	-0.02	-0.13	-0.05	-0.18**	0.10	0.27
S School Avoidance	0.03	-0.02	0.02	-0.09	0.05	0.04	0.13	2.49
T Academic Engagement	-0.05	-0.09	-0.07	-0.14	-0.02	-0.06	0.12	0.44
T Academic Performance	0.02	-0.19***	0.05	-0.26***	0.04	-0.12	0.49	2.36
Academic Achievement	0.58	-2.17*	0.74	-4.61***	0.61	-0.08	0.59	11.21***

Note. Sample sizes were 229 for the combined sample, 110 for girls, and 119 for boys. "*b*" represents unstandardized path coefficient. "$\chi^2(df = 1)$" represents Wald chi-square statistic with 1 degree of freedom. Covariates were age, only child (0 = have siblings, 1 = only child), family socioeconomic status, living with both parents (0 = living with one parents or other relatives, 1 = living with both parents). In the combined sample, gender (0 = girl, 1 = boy) also was included as a covariate.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 11

Summary of Hypotheses and Results in the Combined Sample Regarding Associations of Shyness with Adjustment

Variables	Hypotheses		Results		Consistent with hypotheses?	
	Urban	Rural	Self-report	Peer-report	Self-report vs. urban hypotheses	Peer-report vs. urban hypotheses
Peer Acceptance	Low	High	Low	Low	Yes	Yes
Peer Rejection	High	n.s.	n.s.	High		Yes
Peer Exclusion	High	n.s.	High	High	Yes	Yes
Positive Friendship	Low	Low	Low	Low	Yes	Yes
Conflict & Betrayal	High	High	High	n.s.	Yes	
School Liking	Low	High	Low	n.s.	Yes	
School Avoidance	High	Low	High	n.s.	Yes	
Academic Engagement	Low	High	n.s.	n.s.		
Academic Performance	Low/n.s.	High	n.s.	n.s.	Yes (partly)	Yes (partly)
Academic Achievement	Low/n.s.	High	n.s.	n.s.	Yes (partly)	Yes (partly)

Notes. Urban = hypotheses for the urban group; Rural = hypotheses for the rural group; Self-report = results in the combined sample based on self-reported shyness. Peer-report = results in the combined sample based on peer-reported shyness. Low = significant and negative association; High = significant and positive associations; n.s. = nonsignificant association. Yes = the result was consistent with the hypothesis; Yes (partly) = the result was partly consistent with the hypotheses.

Table 12

Summary of Hypotheses and Results in the Combined Sample Regarding Associations of Unsociability with Adjustment

Variables	Hypotheses	Results		Consistent with hypotheses?	
	Urban/Rural	Self-report	Peer-report	Self-report vs. hypotheses	Peer-report vs. hypotheses
Peer Acceptance	Low	n.s.	Low		Yes
Peer Rejection	High	n.s.	High		Yes
Peer Exclusion	High	n.s.	High		Yes
Positive Friendship	n.s.	Low	Low	No	No
Conflict & Betrayal	n.s.	n.s.	n.s.	Yes	Yes
School Liking	Low	n.s.	Low		Yes
School Avoidance	High	n.s.	n.s.		
Academic Engagement	Low	n.s.	n.s.		
Academic Performance	Low/n.s.	n.s.	Low	Yes (partly)	Yes
Academic Achievement	Low/n.s.	High	Low	No	Yes

Notes. Urban/Rural = hypotheses for the urban and rural groups; Self-report = results in the combined sample based on self-reported unsociability. Peer-report = results in the combined sample based on peer-reported unsociability. Low = significant and negative association; High = significant and positive associations; n.s. = nonsignificant association. Yes = the result was consistent with the hypothesis; Yes (partly) = the result was partly consistent with the hypotheses. No = the result was contrary to the hypotheses (hypothesized to be nonsignificant or significant but in the opposite direction).

APPENDIX B

FIGURES

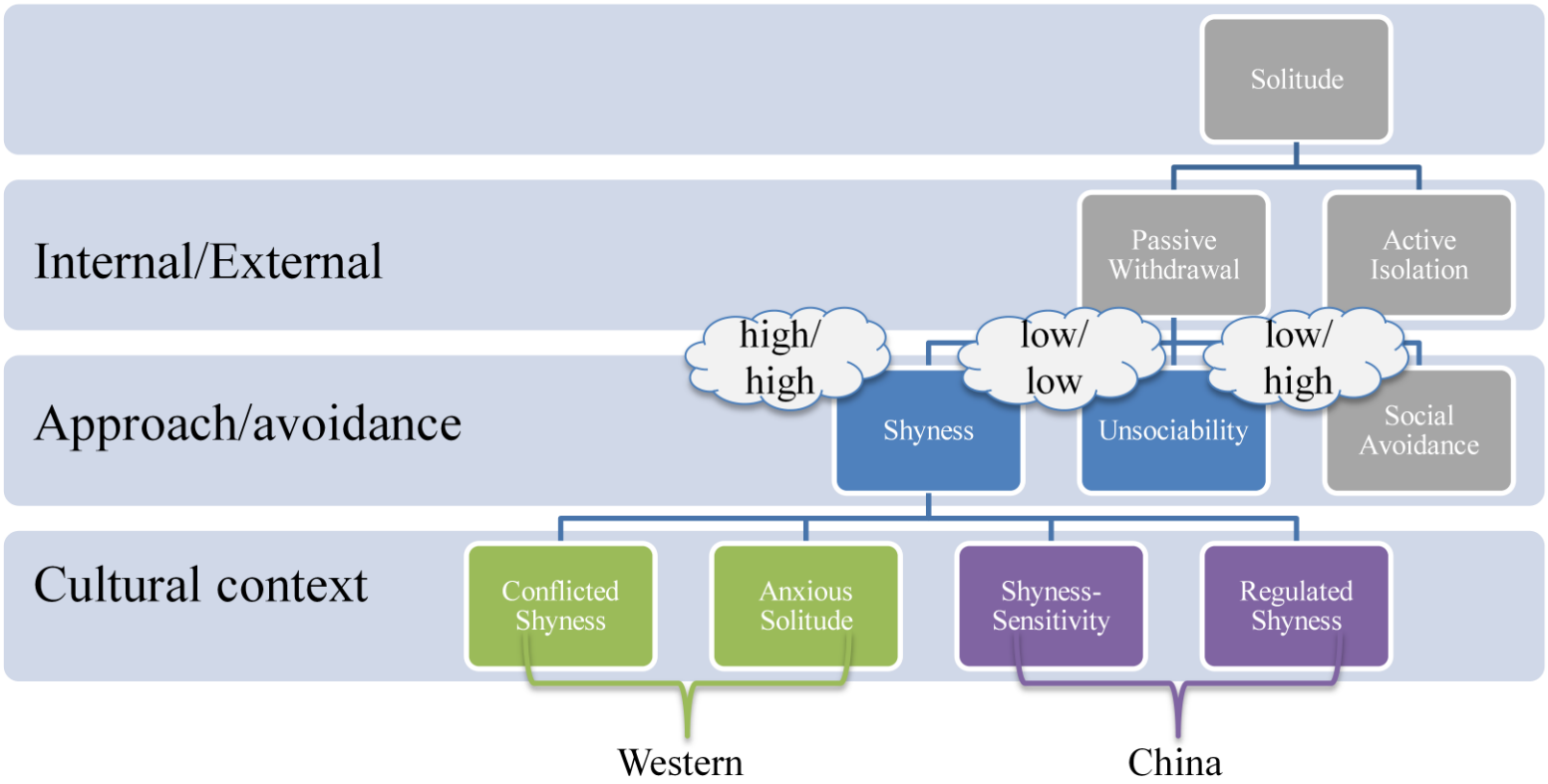

Figure 1. Relations among key constructs related to shyness and unsociability.

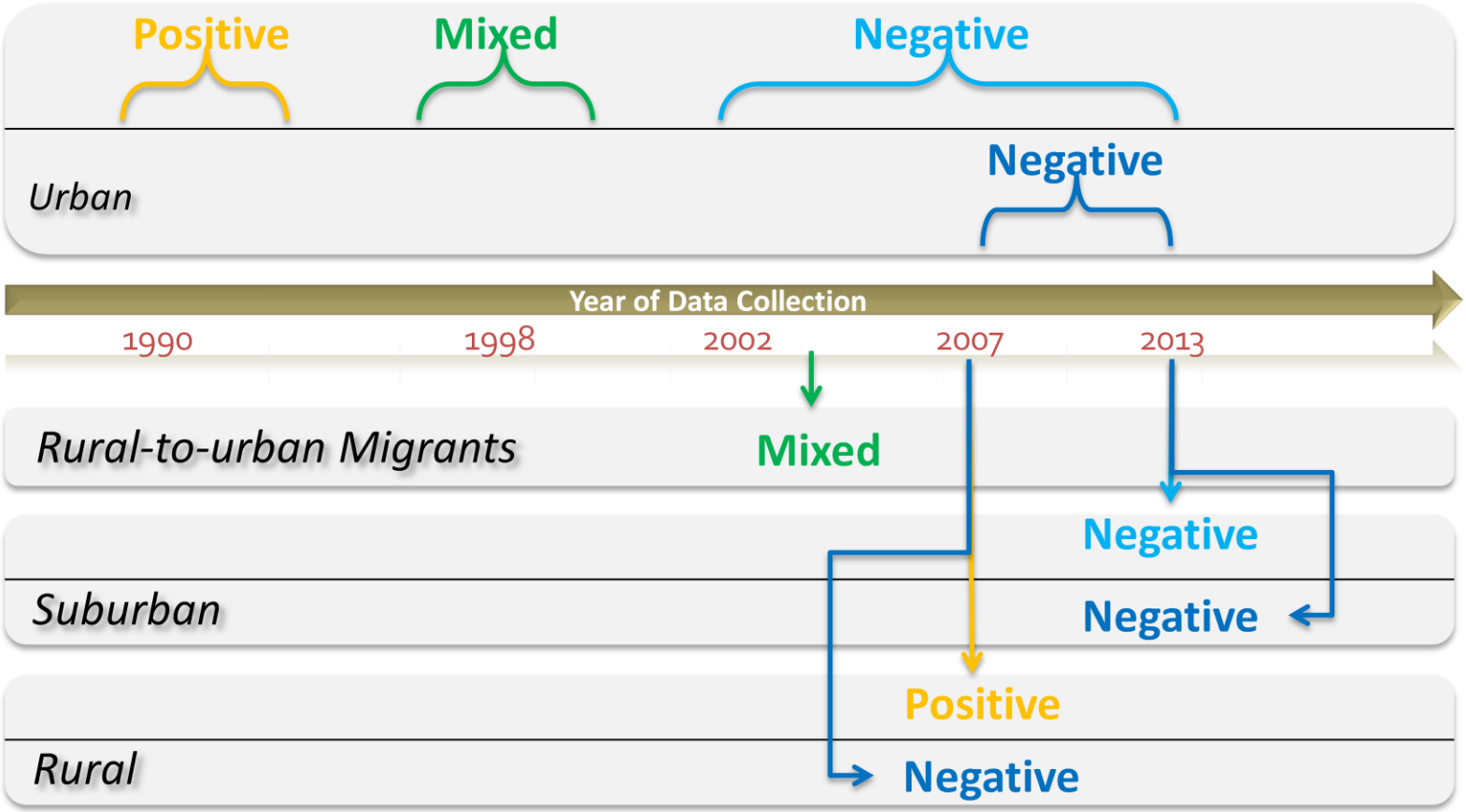

Figure 2. Summary of empirical findings on adjustment correlates of shyness-sensitivity and unsociability in China across time and social contexts. In each social context, findings for shyness-sensitivity were presented above the line, and findings for unsociability were presented below the line. In rural-to-urban migrant context, only shyness-sensitivity was examined. Adjustment includes peer relationships, school competence, academic achievement, and psychological problems. Positive = associated with positive adjustment. Mixed = associated with mixed (both positive and negative) adjustment. Negative = associated with negative adjustment.

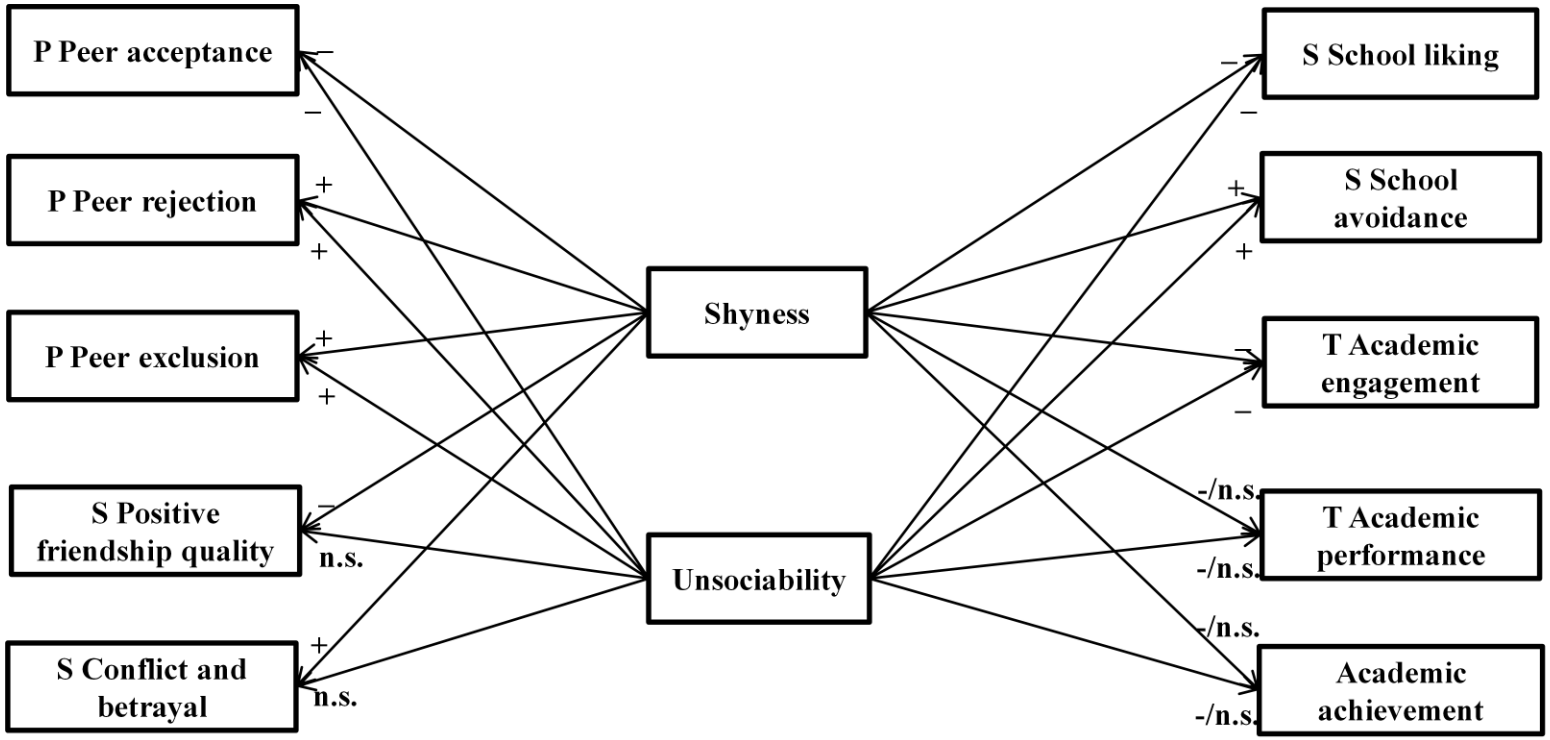

Figure 3. **Hypothesized path diagram for the urban sample. S = Self-reported. P = Peer-reported. T = Teacher-reported.**

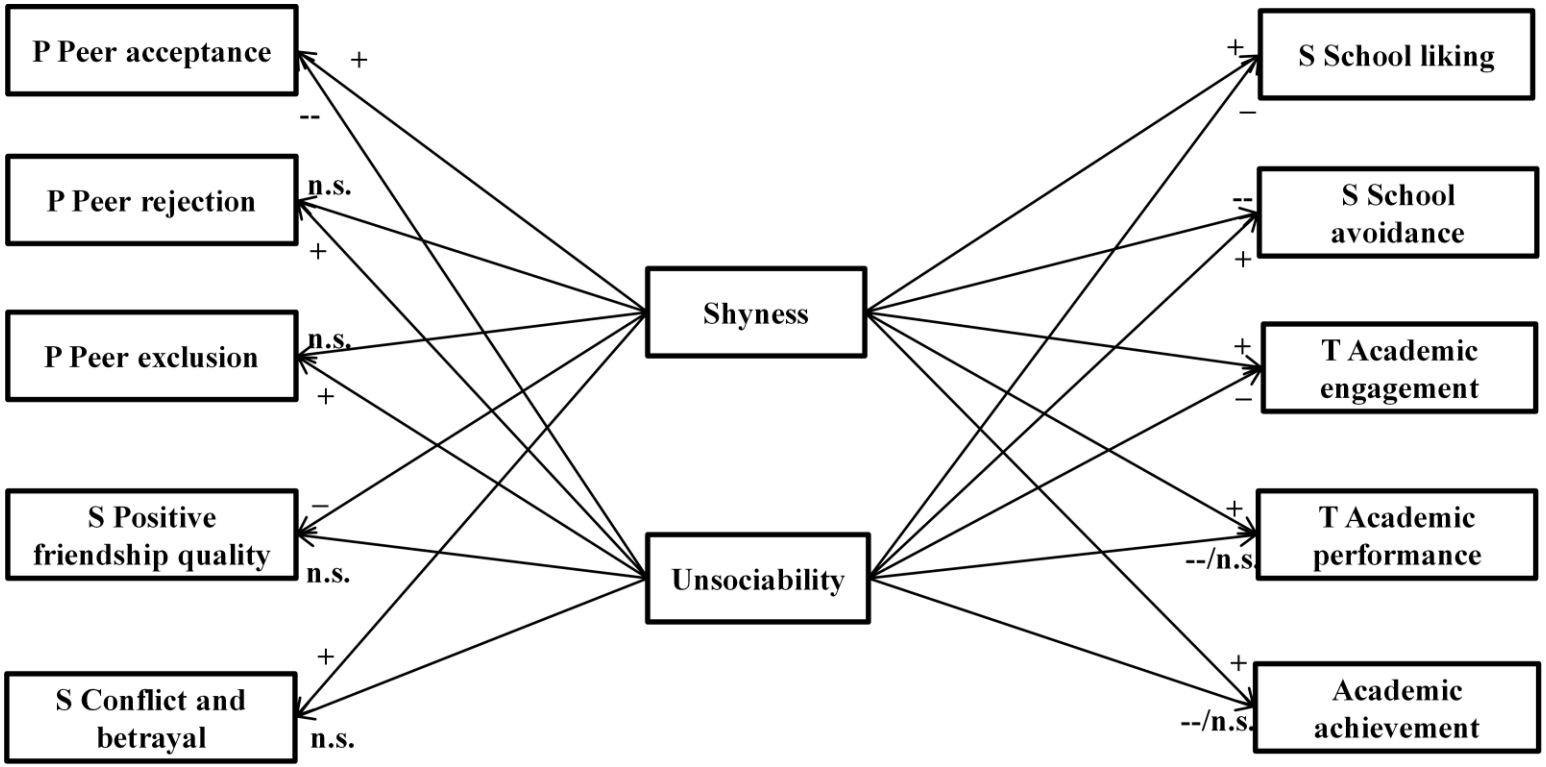

Figure 4. **Hypothesized path diagram for the rural sample. S = Self-reported. P = Peer-reported. T = Teacher-reported.**

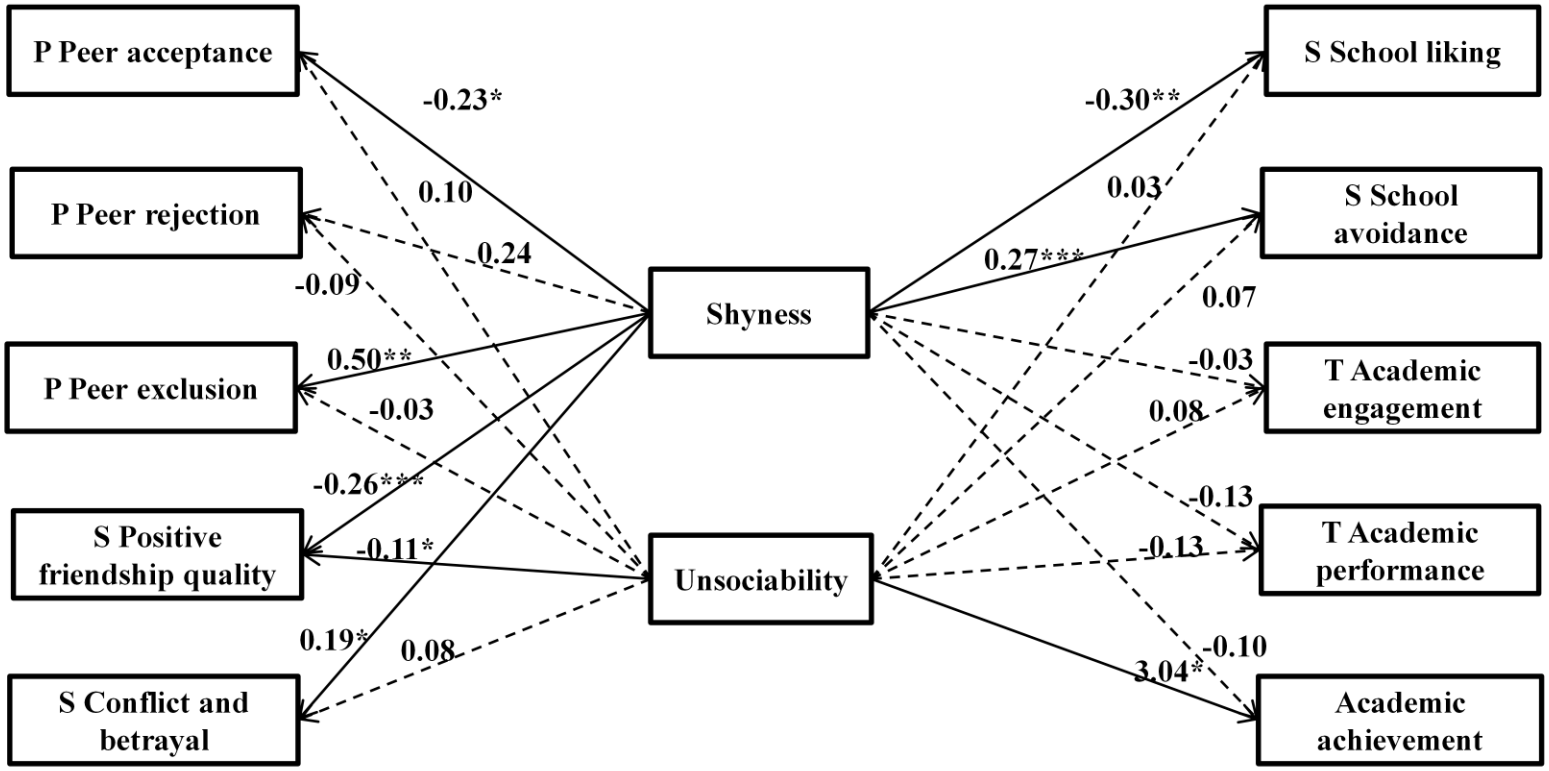

Figure 5. **Path diagram of self-reported shyness and unsociability and adjustment variables in the combined sample. Unstandardized path coefficients and associated significance levels are presented. Solid lines present significant paths, and dashed lines represent nonsignificant paths. S = Self-reported. P = Peer-reported. T = Teacher-reported.**

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

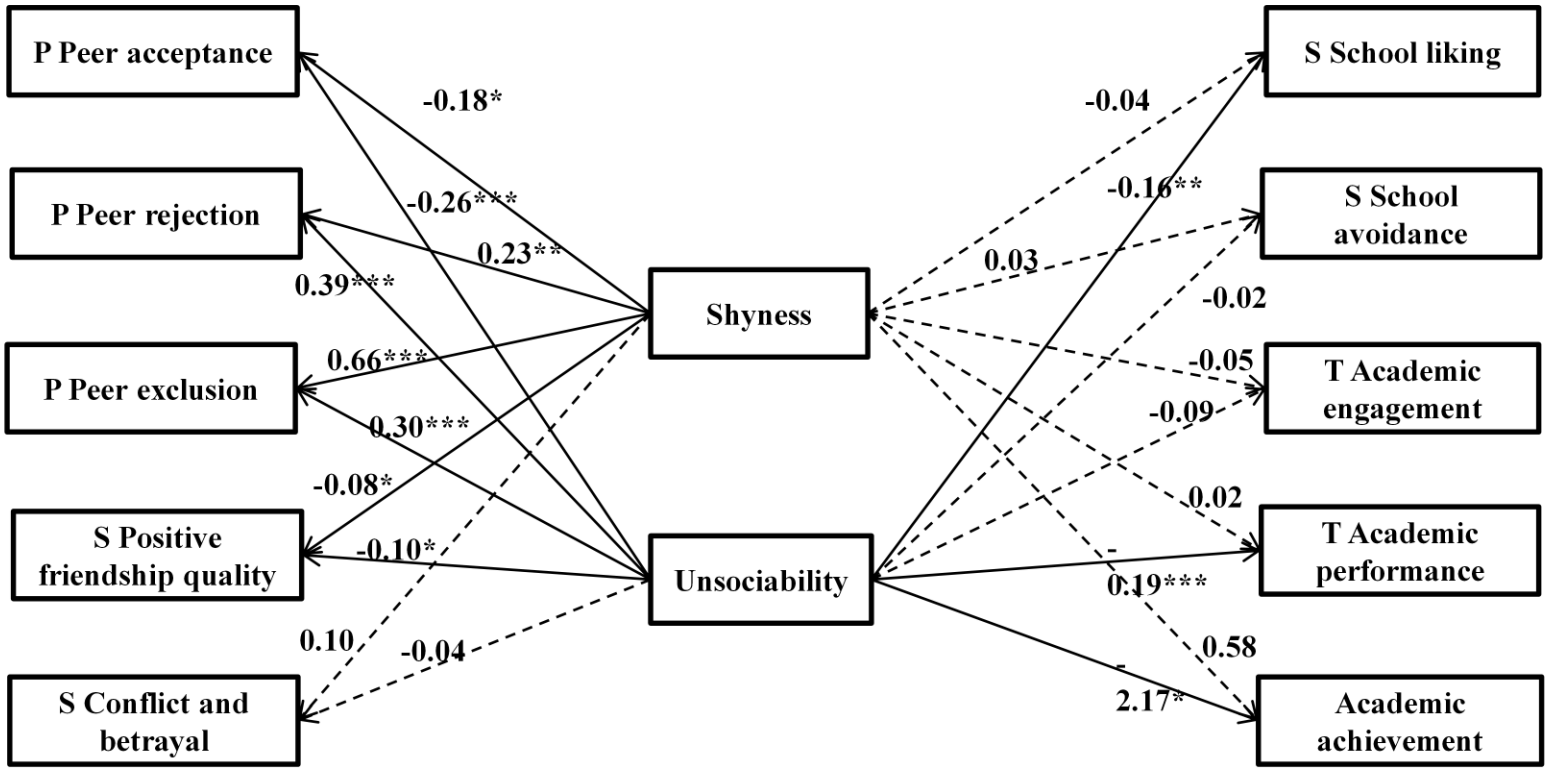

Figure 6. **Path diagram of peer-reported shyness and unsociability and adjustment variables in the combined sample. Unstandardized path coefficients and associated significance levels are presented. Solid lines present significant paths, and dashed lines represent nonsignificant paths. S = Self-reported. P = Peer-reported. T = Teacher-reported.**

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

APPENDIX C

SUMMARY OF RESULTS FOR RURAL SIXTH GRADERS

The decision to drop sixth graders from the present study was made for the following reasons. First, no sixth graders were recruited from the urban area due to the budget limitation, and thus rural sixth graders could not be compared with their urban counterparts. Second, a few differences were observed on the means of, and relations among, the study variables, between rural sixth graders and rural seventh and eighth graders (details were described below). Inclusion of rural sixth graders in the rural group is likely to confound potential urban-rural differences with grade differences.

Descriptive statistics of rural sixth graders and rural seventh-to-eighth graders are presented in Table A1. On average, rural sixth graders had significantly lower scores on self-reported shyness and unsociability, teacher-reported shyness and unsociability, positive friendship quality, conflict and betrayal, school avoidance, and significantly higher scores on school liking and academic achievement, than rural seventh-to-eighth graders. Rural sixth graders did not differ from rural seventh-to-eighth graders on teacher-reported academic engagement or academic performance (no mean-level comparison on standardized peer nomination variables).

Cross-informant correlations of shyness and unsociability of rural sixth graders and rural seventh-to-eighth graders are presented in Table A2. According to Fisher's r-to-z tests, the correlation between shyness and unsociability was significantly higher in rural sixth graders than in rural seventh-to-eighth graders, within peers' reports, $z = 5.13$, $p < .001$, and within teachers' reports, $z = 2.35$, $p < .05$. The correlation between self-reported shyness and unsociability also was higher in rural sixth graders, but the difference was not significant, $z = 1.09$, $p = .27$. Moreover, cross-informant correlations of shyness and of unsociability demonstrated different patterns in rural sixth graders and rural seventh-

to-eighth graders. Specifically, in rural sixth graders, peer-reported shyness was significantly and almost equally correlated with both self-reported shyness and unsociability, whereas in rural seventh-to-eighth graders, peer-reported shyness was only correlated with self-reported shyness, but not self-reported unsociability. In rural sixth graders, peer-reported unsociability was significantly correlated with self-reported unsociability (but not shyness), whereas in rural seventh-to-eighth graders, peer-reported unsociability was significantly correlated with self-reported shyness (but not unsociability). Between self- and teacher-reports, teacher-reported shyness was significantly correlated with self-reported shyness in rural seventh-to-eighth graders, but not in rural sixth graders, and teacher-reported unsociability was significantly correlated with self-reported shyness in rural sixth graders, but not in rural seventh-to-eighth graders. Between peers' and teachers' reports, teacher-reported shyness and unsociability were significantly correlated with both peer-reported shyness and unsociability in rural sixth graders, but not in rural seventh-to-eighth graders.

Correlations among social and school-related adjustment of rural sixth graders and rural seventh-to-eighth graders are presented in Table A3. The pattern of correlations was similar in rural sixth graders and rural seventh-to-eighth graders, but more significant correlations emerged in rural seventh-to-eighth graders (likely due to larger sample size).

Correlations of shyness and unsociability with adjustment of rural sixth graders and rural seventh-to-eighth graders are presented in Table A4. The pattern of correlations between self-reported shyness and adjustment variables was similar in rural sixth graders and rural seventh-to-eighth graders (again, more significant correlations in the older group likely due to larger sample size). The pattern of correlations between self-reported

unsociability and friendship quality and school attitudes was similar across the groups. However, self-reported unsociability was more strongly (versus very weakly) correlated with peer acceptance, peer rejection, and peer exclusion, and negatively (versus positively) correlated with academic performance and academic achievement, in rural sixth graders, compared to that in rural seventh-to-eighth graders. The pattern of correlations between peer-reported shyness and unsociability and adjustment variables was similar across groups, but the correlations seemed to be stronger for peer-reported shyness than unsociability in rural sixth graders and stronger for peer-reported unsociability than shyness in rural seventh-to-eighth graders. This is likely because peer-reported unsociability was correlated with self-reported unsociability (rather than shyness) in rural sixth graders, and with self-reported shyness (rather than unsociability) in rural seventh-to-eighth graders. The pattern of correlations between teacher-reported shyness and unsociability and adjustment variables was similar across groups, but the more correlations were significant in rural sixth graders, likely due to greater consistency with others' reports (especially peers) in rural sixth graders.

Finally, unique relations of self- (see Table A5) and peer-reported (see Table A6) shyness and unsociability with adjustment variables were estimated in path models. Unstandardized path coefficients were compared with Wald chi-square tests between rural sixth graders and rural seventh-to-eighth graders. For self-reported shyness and unsociability, most of the relations were not different across the two groups (only 1 out of 20 path coefficients was significantly different). However, for peer-reported shyness and unsociability, about half of the relations were different across the two groups (4 out of 10 for shyness and 6 of 10 for unsociability).

Table A1

Descriptive Statistics and Mean-Level Group Difference in Rural Sixth versus Seventh-to-eighth Grade

Variables	Rural Grade 6						Rural Grade 7-8		Grade Difference
	Min	Max	Skewness	Kurtosis	*M*	*SD*	*M*	*SD*	*t*
S Shyness	1.00	3.75	1.50	2.53	1.46	0.56	1.71	0.64	3.11**
S Unsociability	1.00	5.00	1.37	2.95	1.73	0.77	2.16	0.90	3.72***
P Shyness	–	–	3.54	12.48	–	–	–	–	–
P Unsociability	–	–	3.85	15.12	–	–	–	–	–
T Shyness	1.00	3.67	0.90	0.26	1.69	0.71	2.01	0.77	3.17**
T Unsociability	1.00	4.33	2.19	4.43	1.44	0.76	1.72	0.72	2.71**
P Peer Acceptance	–	–	-0.49	0.69	–	–	–	–	–
P Peer Rejection	–	–	1.34	1.35	–	–	–	–	–
P Peer Exclusion	–	–	3.14	9.70	–	–	–	–	–
S Positive Friendship	1.85	4.86	-0.23	0.12	3.57	0.64	3.84	0.58	3.26**
S Conflict and Betrayal	1.00	3.00	0.58	-0.58	1.70	0.50	2.02	0.73	3.87***
S School Liking	2.00	5.00	-0.15	-0.87	3.80	0.80	3.53	0.76	-2.54*
S School Avoidance	1.00	3.50	1.52	2.80	1.51	0.51	1.84	0.57	4.48***
T Academic Engagement	1.40	5.00	-0.68	0.82	3.76	0.73	3.57	0.93	-1.65
T Academic Performance	1.00	5.00	0.17	-0.37	3.12	0.96	3.18	1.01	0.49
Academic Achievement	44.17	92.67	-0.69	0.54	74.53	10.03	64.93	14.14	-6.01***

Note. For descriptive analyses, *N*s ranged from 85-93 for rural grade 6. For the independent *t*-tests, *t* statistics assuming equal variances was reported when Levene's test for equality of variances was not significant; otherwise, *t* statistics not assuming equal variance was reported.

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

Table A2

Correlations of Self-, Peer-, and Teacher-reported Shyness and Unsociability in Rural Sixth Grade

Variables		Self		Peer		Teacher	
		Shyness	Unsociability	Shyness	Unsociability	Shyness	Unsociability
				Rural Grade 6			
Self	Shyness						
	Unsociability	.46***					
Peer	Shyness	**.25***	.28**				
	Unsociability	.03	**.33****	.77***			
Teacher	Shyness	**.08**	-.04	**.51*****	.31**		
	Unsociability	.23*	**.03**	.70***	**.38****	.77***	
				Rural Grade 7-8			
Self	Shyness						
	Unsociability	.33***					
Peer	Shyness	**.29*****	.07				
	Unsociability	.37***	**.04**	.31***			
Teacher	Shyness	**.19***	-.04	**.11**	.10		
	Unsociability	.08	**-.03**	.15	**.09**	.60***	

Note. For correlational analyses, *N*s ranged from 81 to 93 for rural grade 6 and 130 to 136 for rural grade 7-8. Cross-informant correlations of shyness and unsociability were bolded. In one class, there was zero variance of peer-reported unsociability, and in another class, there was zero variance of teacher-reported unsociability.

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

Table A3

Correlations among Social and School-Related Adjustment in Rural Sixth Grade

Variables	1	2	3	4	5	6	7	8	9
					Rural Grade 6				
1. P PA									
2. P PR	-.70***								
3. P PE	-.58***	.56***							
4. S PF	.19	-.17	-.12						
5. S CB	-.21	.17	.13	-.20					
6. S SL	.22*	-.22*	-.14	.33**	-.20				
7. S SA	-.12	-.15	-.02	-.04	.23*	-.50***			
8. T AE	.37***	-.48***	-.21	.30**	-.29*	.24*	-.17		
9. T AP	.42***	-.45***	-.21	.29**	-.25*	.28**	-.16	.69***	
10. AA	.39***	-.41***	-.29**	.30**	.25*	.34***	-.29**	.48***	.63***
					Rural Grade 7-8				
1. P PA									
2. P PR	-.62***								
3. P PE	-.36***	.55***							
4. S PF	.19*	-.26**	-.24**						
5. S CB	-.20*	.21*	.09	-.24**					
6. S SL	.30***	-.18*	-.08	.36***	-.16				
7. S SA	-.14	-.02	.06	-.14	.29***	-.53***			
8. T AE	.34***	-.23**	-.10	.06	-.14	.09	.02		
9. T AP	.40***	-.31***	-.17	.15	-.05	.14	-.06	.62***	
10. AA	.34**	-.22*	-.16	.17	.02	.16	-.04	.50***	.81***

Note. For correlational analyses, *N*s ranged from 81 to 93 for rural grade 6 and 129 to 136 for rural grade 7-8. S = Self-reported. P = Peer-reported. T = Teacher-reported. PA = Peer Acceptance. PR = Peer Rejection. PE = Peer Exclusion. PF = Positive Friendship Quality. CB = Conflict and Betrayal. SL = School Liking. SA = School Avoidance. AE = Academic Engagement. AP = Academic Performance. AA = Academic Achievement from school records.

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

Table A4

Correlations of Shyness and Unsociability with Social and School-Related Adjustment in Rural Sixth versus Seventh-to-eighth Grade

Variables		P PA	P PR	P PE	S PF	S CB	S SL	S SA	T AE	T AP	AA
						Rural Grade 6					
Self	Shyness	-.19	.26*	.24*	-.03	.08	-.33**	.49***	-.08	-.22*	-.29**
	Unsociability	-.18	.18	.28**	-.03	.20	-.17	.39***	.08	-.08	-.17
Peer	Shyness	-.51***	.46***	.94***	-.13	.11	-.21*	.03	-.18	-.18	-.29**
	Unsociability	-.32**	.30**	.75***	-.08	.14	-.04	-.02	-.07	-.06	-.18
Teacher	Shyness	-.37***	.22*	.44***	-.17	.00	-.13	.07	-.21	-.18	-.26*
	Unsociability	-.41***	.41**	.62***	-.23*	.02	-.22*	.14	-.44***	-.32**	-.28**
						Rural Grade 7-8					
Self	Shyness	-.14	.12	.29***	-.30***	.25**	-.27**	.31***	-.05	-.07	-.02
	Unsociability	.02	-.02	.04	-.18*	.12	-.12	.25**	.04	.13	.21*
Peer	Shyness	-.26**	.35***	.65***	-.19*	.11	-.18*	.10	-.04	-.02	-.08
	Unsociability	-.32***	.42***	.53***	-.30***	.01	-.24**	.03	-.14	-.23**	-.20*
Teacher	Shyness	-.12	.01	.18*	-.25**	.08	-.13	.11	-.05	-.13	-.22**
	Unsociability	-.16	.09	.16	-.15	.10	-.23**	.13	-.11	-.03	-.10

Note. For correlational analyses, *N*s ranged from 79 to 93 for rural grade 6 and 126 to 136 for rural grade 7-8. S = Self-reported. P = Peer-reported. T = Teacher-reported. PA = Peer Acceptance. PR = Peer Rejection. PE = Peer Exclusion. PF = Positive Friendship Quality. CB = Conflict and Betrayal. SL = School Liking. SA = School Avoidance. AE = Academic Engagement. AP = Academic Performance. AA = Academic Achievement from school records.

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

Table A5

Relations of Self-reported Shyness and Unsociability with Social and School-Related Adjustment in Rural Sixth versus Seventh-to-eighth Grade

	Rural Grade 6 *b*		Rural Grade 7-8 *b*		Grade Difference $\chi^2(df = 1)$	
	SH	US	SH	US	SH	US
P Peer Acceptance	-0.16	-0.14	-0.23	0.13	0.05	2.26
P Peer Rejection	0.41	0.10	0.21	-0.08	0.50	1.25
P Peer Exclusion	0.23	0.23	0.47*	-0.06	0.45	1.60
S Positive Friendship	-0.02	-0.08	-0.26**	-0.07	2.25	0.01
S Conflict and Betrayal	-0.01	0.14	0.28*	0.01	2.99	1.34
S School Liking	-0.35	-0.06	-0.35**	-0.01	0.00	0.13
S School Avoidance	0.33**	0.13	0.25***	0.10	0.28	0.10
T Academic Engagement	-0.08	-0.01	-0.03	0.11	0.04	0.66
T Academic Performance	-0.21	-0.20	-0.18	0.18	0.01	4.88*
Academic Achievement	-4.33	-0.76	-2.88	3.14*	0.21	3.34

Note. Sample sizes were 93 for rural grade 6 and 136 for rural grade 7-8. "*b*" represents unstandardized path coefficient. "$\chi^2(df = 1)$" represents Wald chi-square statistic with 1 degree of freedom. Covariates were gender (0 = girl, 1 = boy), age, only child (0 = have siblings, 1 = only child), family socioeconomic status, living with both parents (0 = living with one parents or other relatives, 1 = living with both parents).

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

Table A6

Relations of Peer-reported Shyness and Unsociability with Social and School-Related Adjustment in Rural Sixth versus Seventh-to-eighth Grade

	Rural Grade 6 *b*		Rural Grade 7-8 *b*		Grade Difference $\chi^2(df = 1)$	
	SH	US	SH	US	SH	US
P Peer Acceptance	-0.65***	0.20	-0.14	-0.28***	13.88***	10.56**
P Peer Rejection	0.64***	-0.21	0.22*	0.35***	8.06**	7.31**
P Peer Exclusion	0.88***	0.10	0.52***	0.36***	5.36*	2.82
S Positive Friendship	-0.20*	0.09	-0.04	-0.16**	2.53	5.07*
S Conflict and Betrayal	0.04	0.06	0.07	-0.02	0.05	0.55
S School Liking	-0.33	0.27	-0.07	-0.16*	1.73	4.83*
S School Avoidance	-0.02	-0.03	0.06	0.00	0.30	0.06
T Academic Engagement	-0.28*	0.14	0.03	-0.16*	4.28*	3.96*
T Academic Performance	-0.32	0.18	0.11	-0.25***	3.82	4.25*
Academic Achievement	-3.37	0.99	0.03	-2.28**	2.54	2.59

Note. Sample sizes were 93 for rural grade 6 and 136 for rural grade 7-8. "*b*" represents unstandardized path coefficient. "$\chi^2(df = 1)$" represents Wald chi-square statistic with 1 degree of freedom. Covariates were gender (0 = girl, 1 = boy), age, only child (0 = have siblings, 1 = only child), family socioeconomic status, living with both parents (0 = living with one parents or other relatives, 1 = living with both parents).

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

APPENDIX D

HUMAN SUBJECTS IRB APPROVAL DOCUMENTS

ASU Knowledge Enterprise Development

Office of Research Integrity and Assurance

To:	Natalie Eggum Social Sci
From:	Mark Roosa, Chair Soc Beh IRB
Date:	05/10/2013
Committee Action:	**Expedited Approval**
Approval Date:	05/10/2013
Review Type:	Expedited F7
IRB Protocol #:	1305009163
Study Title:	Social withdrawal, Peer relationships, and Academic Achievement
Expiration Date:	05/09/2014

The above-referenced protocol was approved following expedited review by the Institutional Review Board.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date. You may not continue any research activity beyond the expiration date without approval by the Institutional Review Board.

Adverse Reactions: If any untoward incidents or severe reactions should develop as a result of this study, you are required to notify the Soc Beh IRB immediately. If necessary a member of the IRB will be assigned to look into the matter. If the problem is serious, approval may be withdrawn pending IRB review.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, or the investigators, please communicate your requested changes to the Soc Beh IRB. The new procedure is not to be initiated until the IRB approval has been given.

Please retain a copy of this letter with your approved protocol.

ASU Knowledge Enterprise Development

APPROVAL:CONTINUATION

Natalie Wilkens
Social and Family Dynamics, T. Denny Sanford School of (SSFD)
480/727-6899
Natalie.Wilkens@asu.edu

Dear Natalie Wilkens:

On 4/9/2014 the ASU IRB reviewed the following protocol:

Type of Review:	Continuing Review
Title:	Social withdrawal, Peer relationships, and Academic Achievement
Investigator:	Natalie Wilkens
IRB ID:	1305009163
Category of review:	(7)(b) Social science methods, (7)(a) Behavioral research
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	None

The IRB approved the protocol from 4/9/2014 to 5/8/2015 inclusive. Three weeks before 5/8/2015 you are to submit a completed "FORM: Continuing Review (HRP-212)" and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 5/8/2015 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

ASU Knowledge Enterprise Development

APPROVAL:CONTINUATION

Natalie Wilkens
Social and Family Dynamics, T. Denny Sanford School of (SSFD)
480/727-6899
Natalie.Wilkens@asu.edu

Dear Natalie Wilkens:

On 5/8/2015 the ASU IRB reviewed the following protocol:

Type of Review:	Continuing Review
Title:	Social withdrawal, Peer relationships, and Academic Achievement
Investigator:	Natalie Wilkens
IRB ID:	1305009163
Category of review:	(7)(b) Social science methods, (7)(a) Behavioral research
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	

The IRB approved the protocol from 5/8/2015 to 5/7/2016 inclusive. Three weeks before 5/7/2016 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 5/7/2016 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

ASU Knowledge Enterprise Development

APPROVAL:CONTINUATION

Natalie Wilkens
Social and Family Dynamics, T. Denny Sanford School of (SSFD)
480/727-6899
Natalie.Wilkens@asu.edu

Dear Natalie Wilkens:

On 4/6/2016 the ASU IRB reviewed the following protocol:

Type of Review:	Continuing Review
Title:	Social withdrawal, Peer relationships, and Academic Achievement
Investigator:	Natalie Wilkens
IRB ID:	1305009163
Category of review:	(7)(b) Social science methods, (7)(a) Behavioral research
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	

The IRB approved the protocol from 4/6/2016 to 5/6/2017 inclusive. Three weeks before 5/6/2017 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 5/6/2017 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

APPENDIX E

MEASURES

Self-Reported Shyness and Unsociability

Items were adapted from the Pathways Project (Ladd, 2002).

Rating scale:
1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Often*, 5 = *Always*
1 =从未, 2 =*很少*, 3 =*有时*, 4 =*经常*, 5 =*总是*

Shyness items:
1. I feel that I'm not myself around other kids.
2. I am more shy and quiet than the other kids and I talk less than they do.
3. I am afraid I will embarrass myself around other kids.
4. Sometimes I want to play with other kids but I am nervous to.

1. 和其他孩子在一起时，我觉得很不自在。
2. 我比其他孩子更害羞和安静。我比他们更少讲话。
3. 我担心和其他孩子在一起我会让自己尴尬。
4. 有时候我想和别的孩子一起玩，但是又很紧张不敢。

Unsociability items:
1. I'm interested in what I am doing. I like playing alone.
2. Sometimes I enjoy playing alone.

1. 我对自己做的事情很感兴趣。我喜欢一个人玩。
2. 有时候我很喜欢一个人玩。

Peer-Reported Shyness, Unsociability, and Exclusion

Items were adapted from Ladd et al., 2011.

Rating scale:
1 = *Yes*, 0 = *No*
1 = *是*, 0 = *否*

The Gateway item:
Who in your class plays by themselves *more often* than other children?
你们班里有谁比其他孩子更经常一个人玩?
Child ID: _____

Shyness item:
a. Does this kid want to play with other kids but does not because he or she is too shy or afraid?
a. 这个孩子想和其他孩子玩，但是因为太害羞或者害怕而不和其他孩子玩么？

Unsociability item:
b. Does this child *want* to play alone instead of playing with other kids? (*unsociability*)
b. 这个孩子想一个人玩，不想和其他孩子一起玩么？

Exclusion item:
c. Does this kid play by themselves because other kids do not want to play with him or her? (*exclusion*)
c. 这个孩子一个人玩，是因为其他孩子不想和他/她一起玩么？

Teacher-Reported Shyness and Unsociability

Items were adapted from the Pathways Project (Ladd, 2002; see also Ladd et al., 2011).

Rating scale:
1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Often*, 5 = *Always*
1 =从未, 2 =*很少*, 3 =*有时*, 4 =*经常*, 5 =*总是*

Shyness items:
1. This child is self-conscious or easily embarrassed.
2. This child is too fearful or anxious.
3. This child tends to be fearful or afraid of new things.

1. 这个孩子自我意识很强或容易感到尴尬。
2. 这个孩子很容易害怕或者紧张。
3. 这个孩子倾向于害怕或者紧张新的东西或事情。

Unsociability items:
1. This child prefers to play alone.
2. This child likes to be alone.
3. This child would rather be alone than with others.

1. 这个孩子宁愿一个人玩。
2. 这个孩子喜欢一个人呆着。
3. 这个孩子宁愿一个人呆着，不愿和别人一起。

Peer-Reported Peer Acceptance and Rejection

Sociometric peer nomination procedures were used (e.g., Chen et al., 1999). Students were asked to write down IDs (roster provided) that fit the following questions.

Rating scale:
N/A

Peer acceptance item:
Who in your class do you like to play with the most?
在你们班里，你最喜欢和谁一起玩？

Peer rejection item:
Who in your class do you like to play with the least?
在你们班里，你最不喜欢和谁一起玩？

Self-Reported Friendship Quality

Items were adapted from the Friendship Quality Questionnaire-Revised (Parker & Asher, 1993). Based on factor analyses, 4 items were dropped and two subscales were identified from the remaining 36 items.

Rating scale:
1 = *Not at all true*, 2 = *A little true*, 3 = *Somewhat true*, 4 = *Pretty true*, 5 = *Really true*
1 =完全不符合, 2 =*不太符合*, 3 =*有点符合*, 4 =*比较符合*, 5 =*非常符合*

Positive friendship quality items:
1. My friend tells me I am good at things.
2. My friend sticks up for me if others talk behind my back
3. We make each other feel important and special.
4. We always pick each other as partners for things
5. My friend says "I'm sorry" if [he/she] hurts my feelings
6. We talk about how to get over being mad at each other.
7. My friend would like me even if others didn't
8. My friend tells me I am pretty smart
9. We always tell each other our problems
10. My friend makes me feel good about my ideas
11. I talk to my friend when I'm mad about something that happened to me
12. We help each other with chores a lot
13. We do special favors for each other
14. We do fun things together a lot
15. I can count on my friend to keep promises
16. We go to each other's houses
17. We always play together at recess
18. My friend gives me advice with figuring things out
19. We make up easily when we have a fight
20. We share things with each other
21. We talk about how to make ourselves feel better if we are mad at each other
22. My friend does not tell others my secrets
23. We come up with good ideas on ways to do things
24. We loan each other things all the time
25. My friend helps me so I can get done quicker
26. We get over our arguments really quickly
27. We count on each other for good ideas on how to get things done
28. We tell each other private things
29. We tell each other secrets
30. My friend cares about my feelings

1. 我的朋友跟我说我很擅长一些事情。
2. 如果比人背后说我的坏话，我的朋友会维护我。

3. 我们让对方觉得自己是重要而特别的。
4. 我们总是选择对方作为伙伴。
5. 如果我的朋友伤害了我的感情，他/她会跟我说“对不起”。
6. 我们会谈论怎样结束互相生气的状态。
7. 即使别人都不喜欢我，我的朋友会喜欢我。
8. 我的朋友跟我说我很聪明。
9. 我们总是跟对方讲我们的问题。
10. 我的朋友让我觉得我的主意很好。
11. 当发生一些事情让我生气的时候，我会跟我的朋友讲。
12. 我们在琐事上经常互相帮助。
13. 我们给对方特别的帮助。
14. 我们经常一起做一些好玩的事情。
15. 我可以指望我的朋友遵守承诺。
16. 我们去对方的家里。
17. 课间休息时，我们总是在一起玩。
18. 我的朋友给我建议帮我把事情搞清楚。
19. 我们吵架的时候很容易和好。
20. 我们互相分享东西。
21. 当我们跟对方生气的时候，我们谈论怎样让我们自己心情变好。
22. 我的朋友不告诉别人我的秘密。
23. 我们想出做事情的好主意。
24. 我们总是互相借东西。
25. 我的朋友帮我更快做完事情。
26. 我们很快结束争吵。
27. 我们依靠对方想出做事情的好主意。
28. 我们互相说一些私人的事情。
29. 我们告诉对方秘密。
30. 我的朋友关心我的感觉。

Conflict and betrayal items:
1. We get mad a lot.
2. My friend sometimes says mean things about me to other kids
3. We argue a lot
4. We fight a lot
5. We bug each other a lot
6. My friend doesn't listen to me

1. 我们经常生气。
2. 我的朋友有时候会跟别的孩子说我的坏话。
3. 我们经常争吵。
4. 我们经常吵架。

5. 我们经常烦扰对方。
6. 我的朋友不听我的话。

Dropped items:
1. We always sit together at lunch.
2. My friend has good ideas about games to play.
3. We talk about things that make us sad.
4. We help each other with schoolwork a lot.

1. 我们午饭时总是坐在一起。
2. 我的朋友对玩什么游戏有好主意。
3. 我们谈论让我们难过的事情。
4. 我们在家庭作业上经常互相帮助。

Self-Reported School Liking and Avoidance

Items were adapted from the School Liking and Avoidance Questionnaire (Ladd & Price, 1987). Based on factor analyses, 1 item was dropped and two subscales were identified from the remaining 8 items (different structure from the original scale).

Rating scale:
1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Often*, 5 = *Always*
1 =从未, 2 =*很少*, 3 =*有时*, 4 =*经常*, 5 =*总是*

School liking items:
1. Is school fun?
2. Are you happy when you're at school?
3. Do you like being in school?
4. When you get up in the morning, do you feel happy about going to school?

1. 学校好玩么？
2. 你在学校的时候开心么？
3. 你喜欢在学校呆着么？
4. 早晨起床的时候，想到要去学校，你觉得开心么？

School avoidance items:
1. Does school make you feel like crying?
2. Do you hate school?
3. Do you wish you could stay home from school?
4. Do you ask your mommy or daddy to let you stay home from school?

1. 学校经常让你感觉想哭么？
2. 你讨厌学校么？
3. 你希望呆在家里不去学校么？
4. 你请求你爸爸或者妈妈让你留在家里不去学校么？

Dropped item:
1. Do you feel happier when it's time to go home from school?

1. 放学回家的时候，你觉得更开心么？

Teacher-Reported Academic Engagement

Items were adapted from the Behavioral Academic Engagement Scale (Hughes & Coplan, 2010).

Rating scale:
1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Often*, 5 = *Always*
1 =从未, 2 =*很少*, 3 =*有时*, 4 =*经常*, 5 =*总是*

Academic engagement items:
1. This child completes assignments in a timely manner.
2. This child comes to school with appropriate materials.
3. This child contributes positively to class.
4. This child stays focused on tasks.
5. This child has materials ready in a timely manner (e.g., books open).
6. This child shows an interest in learning.
7. This child works well in groups.
8. This child raises his/her hand in class.
9. This child listens attentively.
10. This child tries to answer questions when called upon.

1. 这个孩子按时完成作业。
2. 这个孩子上学时带合适的学习材料。
3. 这个孩子对班级有积极贡献。
4. 这个孩子专注于任务。
5. 这个孩子及时准备好学习材料（例如：打开书）
6. 这个孩子表现出对学习的兴趣。
7. 这个孩子在小组里表现很好。
8. 这个孩子在课堂上举手。
9. 这个孩子专心听讲。
10. 当被叫到的时候，这个孩子努力回答问题。

Teacher-Reported Academic Performance

Items were created by the author.

Rating scale:
1 = *Very poor*, 2 = *Poor*, 3 = *Moderate*, 4 = *Good*, 5 = *Very good*
1 = 很差, 2 = *差*, 3 = *中等*, 4 = *好*, 5 = *很好*

Academic performance items:
What is this child's current academic performance? Please circle the number that best describe the child.
a. Mathematics
b. Chinese
c. English

这个孩子现在的学业表现怎样？请圈出最符合这个孩子的数字。
a. 数学
b. 语文
c. 英语

BIOGRAPHICAL SKETCH

Linlin Zhang was born in Liaoning, People's Republic of China, on February 10, 1987. She attended primary, middle, and high schools in Lingyuan, where she grew up. In 2004, she started college at Tsinghua University, majoring in Mathematics, and earned her bachelor's degree (B.S.) in 2008. During the undergraduate years, she developed an interest in studying child development while working as a volunteer in organizations helping rural migrant children and children with disabilities. Upon graduation, she entered the master's program in Development Psychology at Peking University, and earned her master's degree (M.S.) in 2011 under the mentorship of Dr. Li Wang. In the master's program, she narrowed down research interest in children's socioemotional development, and gained valuable research experiences on data collection and data management. She joined the doctoral program in Family and Human Development at Arizona State University in 2011, where she worked with her adviser, Dr. Natalie Wilkens, conducting and publishing research on shyness and social withdrawal in various cultural contexts. She was also trained in Measurement and Statistical Analysis specialization. She earned her doctoral degree (Ph.D.) in 2016.