Loneliness in Chinese Children Across Contexts

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This study examined loneliness and its associations with social functioning in children across different historical times and contexts in China. We collected data from urban and rural groups of school-age children (N = 2,588; M age = 10 years) using self-reports and peer assessments. The results indicated that children in 2002 and 2005 urban groups had lower scores on loneliness than did children in 1992 and 1998 urban groups, suggesting that as urban China became a more modernized, self-oriented society, children tended to report lower levels of loneliness. Consistent with this trend, urban children reported lower levels of loneliness than did their rural counterparts in recent years. The analysis of associations between social functioning and loneliness revealed that across groups, sociability was negatively associated with loneliness, and aggression was positively associated with loneliness. The association between shyness and loneliness differed among the groups; it was negative in the 1992 urban group, positive in the 2002 and 2005 urban groups, and nonsignificant in the 1998 urban and 2007 rural groups. The different associations suggest that whether shy children feel lonely might depend on context.

Keywords: loneliness, context, social functioning, Chinese children

Loneliness is the subjective experience of dissatisfaction with one’s social-relational life (e.g., Asher & Paquette, 2003). Research findings indicate that loneliness in childhood is associated with unpleasant feelings and perceptions of unfulfilled relational needs, such as lack of companionship, support, and affection (e.g., Coplan, Closson, & Arbeau, 2007). Moreover, feelings of loneliness are stable over time and predict a number of adjustment problems including depression, negative self-regard, suicide, and psychosomatic symptoms (e.g., Jobe-Shields, Cohen, & Parra, 2011; Quarter, Brown, Munn, & Rotenberg, 2010).

Researchers have argued that loneliness is interpersonal in nature and thus likely to be influenced by social context (Anderson, 1999; Medora, Woodward, & Larson, 1987). However, most research on loneliness in children has been conducted in Western societies, with little attention to contextual effects. Consequently, it is largely unknown whether the findings can be generalized to children who live in different societies and, more importantly, how specific circumstances play a role in shaping children’s experience of loneliness. To help fill the gap, we conducted a study of loneliness among groups of children in China with different backgrounds.

Social Change, Urban–Rural Differences, and Children’s Loneliness in China

Maintaining social order and interpersonal harmony has traditionally been a primary concern in Chinese society. One of the major tasks of socialization is to help children develop a sense of belonging and loyalty to the group (Chen, 2010). In Chinese schools, for example, students are often required to participate in group activities. Through these activities, they are encouraged to develop feelings of social connectedness and positive attitudes toward the collective. Over the past two decades, China’s full-scale reforms toward a market economy have led to dramatic social changes, including a decline in government control of social welfare and a rapid rise in competition (W. W. Zhang, 2000). Social-behavioral qualities such as initiative, exploration, and self-expression, which are needed to succeed in the competitive environment, are increasingly appreciated, especially among younger people (Yu, 2002).

Nevertheless, the vast social and economic reforms have been largely limited to urban centers and cities. Families in rural China still live mostly agricultural lives, and rural children do not have as much exposure as urban children do to the massive social transformations (Li, 2006). In many rural areas, behavioral characteristics that have traditionally been endorsed, such as filial piety and
obedience, continue to be strongly emphasized (e.g., Fuligni & Zhang, 2004), which is reflected in childrearing and education (Wang & Huang-Pu, 2007). For example, relative to their urban counterparts, rural parents and teachers are more likely to encourage children to display modesty and self-control and are less likely to encourage children to engage in assertive behavior in social interactions (e.g., Chen & Li, 2012; Shi & Xu, 2008).

The primary purpose of the present study was to examine whether children’s loneliness varied across different time periods and contexts. The study was conducted with elementary school children in three urban cohorts (1992, 1998, and 2002) in Shanghai, an urban group in 2005 in Beijing, and a rural group in 2007 in a northern region of China near Beijing. The time points of 1992, 1998, and 2002/2005 represent different phases of the social transformation in urban China; the 2002 Shanghai and 2005 Beijing groups and the 2007 rural group mainly represent the urban—rural context. China’s comprehensive economic reforms, such as the opening of the stock market, started in all major cities in the early 1990s. Whereas children in the 1992 group likely experienced relatively limited influence of the reforms, children in the 2002 and 2005 urban groups were socialized in a context in which increased competitiveness and assertiveness were required for individual adaptation. Compared with these groups, the 1998 cohort represented an intermediate phase; children in this group might have been exposed to mixed views and lifestyles in family, school, and other settings.

It has been suggested that in societies and communities where group orientations predominate, children are likely to develop feelings of group belonging and interpersonal connectedness (Medora et al., 1987; Mijuskovic, 1992; Triandis, 1990). In contrast, contexts that emphasize individuality may elicit perceptions and feelings of social isolation. Thus, socialization for individual autonomy and endorsement of personal pursuits, which have become more evident in urban China in recent years, may promote feelings of social alienation and loneliness ( Larson, 1999; Mijuskovic, 1992).

On the other hand, it has been argued that in a society, such as rural China, that values group orientation and connectedness, individuals may not necessarily experience reduced feelings of loneliness (e.g., Chen et al., 2004). According to this argument, the emphasis on interpersonal interdependence and communality may lead to a relatively lower threshold for feelings of loneliness. Individuals in this context may be inclined to develop unfulfilled expectations for social connection and affiliation, which in turn may result in particularly salient negative emotional responses. Thus, the rural, group-oriented context may make children highly sensitive to social difficulties and vulnerable to feelings of loneliness. In contemporary urban society, children may become resilient to social and psychological distress because they are encouraged to develop self-direction and self-confidence, which may help them develop competence in managing adverse socioemotional experiences. There is evidence indicating that urban children have displayed increasingly optimistic attitudes about their lives over the past decades and that urban youth are more self-confident (e.g., “I don’t care what other people think of me. As long as I am happy with myself, that’s all that matters.”) than rural youth in China (Chen & Chen, 2010; Pew Research Center, 2005; Way et al., 2013). Thus, in keeping with the argument made by Chen et al. (2004), we expected to find that, relative to their counterparts in earlier time periods or in rural regions, recent cohorts of children in urban regions would be less likely to report feelings of loneliness and social dissatisfaction.

### Social Functioning and Loneliness

We were interested in how social functioning was associated with loneliness in different contexts. Examining the associations might shed light on loneliness of children with different behavioral characteristics at the individual level and on the context-specific relevance of social functioning to the experience of loneliness. Among the major aspects of social functioning, researchers have been interested in sociability-cooperation, aggression, and shyness (e.g., Masten et al., 1995). In the literature (e.g., Rubin, Bukowski, & Parker, 2006), sociability-cooperation is generally considered an indication of social competence, representing the ability to act effectively and appropriately in various situations. The instrumental and emotional support that sociable-cooperative children obtain in social interactions enhances their feelings of security and helps them cope with psychological difficulties (e.g., Masten, Burt, & Coatsworth, 2006). Thus, we hypothesized that sociable-cooperative behavior would be negatively associated with loneliness across contexts in our study.

Mixed results have been found in Western societies concerning the association between aggression and loneliness; aggressive children, particularly in elementary school ages, reported greater loneliness than did others in some studies (e.g., Cassidy & Asher, 1992; Ladd & Burgess, 1999; Mesman, Bongers, & Koot, 2001) but not in other studies (e.g., Mercer & DeRosier, 2008; Palmen, Vermande, Deković, & van Aken, 2011). It has been argued that some aggressive children may develop biased self-perceptions or obtain social approval from similarly deviant peers (Cairns & Cairns, 1994; Dodge, Coie, & Lynam, 2006). In China, aggressive behavior is strongly prohibited, and many social constraints stem from this prohibition (Chen & French, 2008). From the early years, children are taught to control their frustration, anger, and defiant behaviors. Aggressive behavior, including bullying and cyberbullying, has increased in recent years, and aggressive children might form cliques and social support systems (e.g., Cheng et al., 2010). In general, however, aggressive behavior is still regarded as highly problematic, and aggressive children are likely to be rejected by their peers across different regions and times (e.g., Chen, Cen, Li, & He, 2005; Guo, Wang, & Chang, 2005). Moreover, in Chinese schools, children are required to engage in regular public sessions in which they evaluate themselves in terms of whether their behavior and performance meet the school standards. Peers and teachers then provide feedback on the children’s self-evaluations. This public interactive process makes it difficult for aggressive children to receive social approval or to develop biased or inflated self-perceptions of their competence (e.g., Chen et al., 2004). Thus, we expected that aggressive behavior would be positively associated with loneliness in this study.

Shyness is a major social-behavioral characteristic that is positively associated with loneliness in the literature (Asher & Paquette, 2003). Shyness represents an anxious reactivity to challenging social situations, which is manifested in wary and vigilant behaviors (Rubin, Coplan, & Bowker, 2009). Research findings based on Western children indicate that peers and adults tend to respond to shy–sensitive behavior with negative emotions and
actions (e.g., Coplan, Prakash, O’Neil, & Armer, 2004). When they realize their social difficulties, shy children may develop feelings of loneliness (e.g., Rubin et al., 2009).

In societies or communities where assertiveness and expressiveness are not appreciated, shy behavior may be viewed as less deviant and maladaptive. In traditional Chinese society, shy and restrained behavior is considered an indication of social maturity; shy children are likely to be perceived by others as well behaved, which may help them develop positive feelings about themselves (Chen, 2010). As urban China transforms into a competitive, market-oriented society, however, shy behavior that impedes active social communication and initiative-taking becomes undesirable in adjustment (Chen et al., 2005; Hart et al., 2000). As a result, in recent years shy children may have had more difficulties acquiring social support and may have developed increased feelings of loneliness. Nevertheless, in rural areas of China, where behavioral characteristics such as self-control are still highly endorsed, social evaluations continue to take place largely according to the traditional standards (Ming, 2008). Consequently, shy rural children may still obtain social approval and thus may be less likely than others to report loneliness. Based on these arguments, we expected that shyness would be negatively associated with loneliness in the 1992 urban group but that the association would become increasingly positive in the 1998, 2002, and 2005 urban groups. We also expected that, similar to the association in the 1992 urban group, shyness would be negatively associated with loneliness in the 2007 rural group.

Gender and Grade Differences

In both Chinese and Western societies, girls have been found to be more sociable-cooperative and less aggressive than boys (e.g., Chen, Rubin, & Li, 1995; Dodge et al., 2006). Girls are also more likely than boys to display shy behavior (e.g., Chen et al., 2005). Gender differences are rarely found in childhood loneliness (e.g., Mercer & DeRosier, 2008). When significant differences were found, however, boys tended to report higher levels of loneliness than girls (Chen, Chen, & Kaspar, 2001; Junttila & Vauras, 2009; Vitviet, Brendgen, van Lier, Koot, & Vitaro, 2010). Based on the literature, we expected in this study that boys would have lower scores on sociability-cooperation and shyness and higher scores on aggression and loneliness than would girls. We were also interested in whether there were gender differences in associations between social functioning and loneliness. Some evidence has suggested that aggressive behavior is viewed as more negative and less acceptable in girls than in boys, whereas shyness is viewed as more negative and less acceptable in boys than in girls; this is perhaps due to gender-stereotypical ideologies (e.g., Chen, 2010; Rubin et al., 2009). As a result, aggression may be associated with loneliness more strongly in girls, and shyness may be associated with loneliness more strongly in boys. We examined these possibilities in this study.

Loneliness tends to decline with age from middle childhood to early adolescence, although the trend is generally weak (Mercer & DeRosier, 2008; Palmen et al., 2011; Vitviet et al., 2010). We attempted to further examine age/grade differences in loneliness and expected similar results in this study (the norm-based assessment of social functioning such as peer nominations in this study is concerned with the relative status of children in the class; thus comparison across grades on social functioning is not meaningful). There is virtually no research on age differences in associations between social functioning and loneliness. However, given the arguments that social functioning and interaction become increasingly important for children’s psychological adjustment and that different socioemotional processes are increasingly coherent during development (e.g., Masten et al., 2006), we were interested in whether the associations between social functioning and loneliness were stronger in higher grades.

Method

Participants

A total of 2,588 children (1,320 boys and 1,268 girls) in Grades 3 to 5 in China participated in the study. In the sample, there were 237 children (124 boys) in the 1992 Shanghai group, 399 children (196 boys) in the 1998 Shanghai group, 253 children (130 boys) in the 2002 Shanghai group, 879 children (431 boys) in the 2005 Beijing group, and 820 children (439 boys) in the 2007 rural group. The mean ages of the children were 9 years 4 months ($SD = 7$ months), 10 years 4 months ($SD = 8$ months), and 11 years 6 months ($SD = 10$ months) for Grades 3, 4, and 5, respectively. The mean ages were 10 years 2 months ($SD = 8$ months), 10 years 3 months ($SD = 7$ months), and 10 years 5 months ($SD = 9$ months) for the 1992, 1998, and 2002 Shanghai groups, respectively; 10 year, 3 months ($SD = 8$ months) for the 2005 Beijing group; and 10 years, 1 month ($SD = 9$ months) for the 2007 rural group. The participants were students in ordinary public elementary schools. Unlike a small number of “key” schools in the country, in which students were selected from different areas based on their school performance, students in ordinary schools came from the residential areas near the schools. The schools were randomly selected from multiple locations in each region. Class sizes were approximately 40 in all the schools. The core curriculum, which consisted of Chinese, mathematics, and physical education, was stipulated by the Ministry of Education in China. School structure and organization were similar across schools. One teacher was designated to be in charge of a class. This head teacher often taught one major course and took care of the daily activities of the class. The schedule of courses and other activities was typically identical for students in the same class. Students spent roughly the same amount of time in the classroom.

Almost all of the children were of Han nationality, which is the predominant ethnic group (over 90% of the population) in China. All children were official residents of the region. In the groups, 96%–98% of the children were from intact families, and others were living with one parent because of parental divorce, death, or other reasons. Of the children, 91%–93% in the urban groups and 39% in the rural group were only children; the others had one or more siblings. China instituted a one-child-per-family policy in the late 1970s, but the policy has been less successful in rural areas than in urban areas. Preliminary analyses indicated that sibling status and other demographic variables had no significant effects on the variables or the associations in this study, which is consistent with the results of previous studies (e.g., Chen et al., 2004; Chen, Rubin, & Li, 1994). The demographic data for these samples were similar to those reported by the China State Statistics Bureau.
concerning urban and rural populations in China in the past (e.g., China State Statistics Bureau, 1993, 2006).

Procedure

We group-administered a peer assessment measure of social functioning. In addition, we asked the participants to complete a measure of loneliness. The same procedure was used in all the groups. The data collection at each time was conducted near the end of the second term of the school year. All students were invited to participate in the study. The participation rate was approximately 95% in each group. Written consent was obtained from all participants and their parents. The members of our research team carefully examined the procedure and items in each measure using a variety of strategies (e.g., repeated discussion in our research group, interviews with children, psychometric analysis) to ensure that they were appropriate for Chinese children. Extensive explanations of the procedure were provided during administration. No evidence was found that children had difficulties understanding the procedure or the items in the measures.

Measures

Loneliness. Children’s loneliness and social dissatisfaction were assessed by a self-report measure adapted from Asher, Hymel, and Renshaw (1984). Children were asked to respond to 16 self-statements (e.g., “I have nobody to talk to,” “I feel lonely,” “I don’t have anybody to play with at school”) using a 5-point scale ranging from 1 (not at all true) to 5 (always true). The total scores of their responses were calculated, with higher scores indicating greater loneliness. The measure has been used with Chinese children in previous studies and has been proved reliable and valid (e.g., Chen et al., 2001, 2004). Internal reliabilities were .84–.91 in the groups in this study. Test–retest reliability (interval of 2 weeks) based on a separate sample of Chinese children (N = 132) was .80.

Peer assessments of social functioning. We conducted peer assessments of social functioning using a measure based on the Revised Class Play (RCP; Chen, Rubin, & Sun, 1992; Masten, Morison, & Pellegrini, 1985). This technique has been found to be particularly useful in assessing children’s social functioning in different contexts because it taps insiders’ perspectives. Consistent with the procedure outlined by Masten et al. (1985), during administration, the research assistant read each of the behavioral descriptors, and children were asked to nominate up to three classmates from their own class who could best play the role if they were to direct a class play. Subsequently, nominations received from all classmates were used to compute each item score for each child. The item scores were standardized within the class to adjust for differences in the number of nominators.

The RCP measure consists of 30 items in broad areas of sociability, aggression, and shyness. Factor analysis of the data in the Chinese samples indicated that the factor structure was similar to that in Masten et al.’s (1985) study except for the isolation items (e.g., “often left out,” “has trouble making friends”). These items did not load on the original shyness factor and thus were not included in the calculation of the final variables. Consequently, the three variables formed by the items were sociability-cooperation, aggression-disruption, and shyness-sensitivity. Sociability-cooperation included items tapping into several aspects of social competence (e.g., “helps others when they need it,” “likes to play with others”). Items in aggression-disruption were concerned with overt physical and verbal aggressive behaviors (e.g., “gets into a lot of fights,” “picks on other kids”). Shyness-sensitivity consisted of items assessing shy-anxious behavior in a social context (e.g., “very shy,” “feelings get hurt easily”); the constellation of the items indicates social wariness and sensitivity from the perspective of peers (Masten et al., 1985; for further details about the measure in Chinese children, see Chen et al., 1992). Internal reliabilities for the groups were .90–.97 for sociability; .90–.93 for aggression; and .67–.74 for shyness, which were similar to those in previous studies (e.g., Chen et al., 2004; Masten et al., 1985). Test–retest reliabilities (interval of 2 weeks) based on a separate sample of Chinese children (N = 132) were .85, .97, and .84 for sociability-cooperation, aggression-disruption, and shyness-sensitivity, respectively. Among the variables, sociability-cooperation was positively correlated with shyness-sensitivity in the 1992 and 1998 Shanghai groups, the 2005 Beijing group, and the 2007 rural group (r = .26, .18, .11, and .27, respectively, p < .001).

Results

Group Comparisons

A multivariate analysis of variance was conducted to examine the overall effects of the group, child gender, and grade and their interactions on sociability, aggression, shyness, and loneliness. Significant main effects of group, Wilks = .98, F(16, 7836) = 3.67, p < .001, and gender, Wilks = .84, F(4, 2565) = 125.99, p < .001, were found. No significant effects of grade or interactions were found.

We conducted follow-up analyses to examine the group and gender differences. The analyses revealed significant group differences on loneliness, F(4, 2568) = 12.77, p < .001, η² = .02, and gender differences on all variables, F(1, 2568) = 42.20–195.07, p < .001, η² = .02–.07. Further analyses using Tukey’s HSD indicated that, consistent with the hypotheses, the 1992 Shanghai, 1998 Shanghai, and 2007 rural groups had higher scores on loneliness than did the 2002 Shanghai and 2005 Beijing groups. There were no significant differences among the 1992 Shanghai, 1998 Shanghai, and 2007 rural groups or between the 2002 Shanghai and 2005 Beijing groups. Means of loneliness for the groups are depicted in Figure 1. Consistent with our hypotheses about gender differences, boys had significantly lower scores than did girls on sociability and shyness and higher scores than did girls on aggression and loneliness. Means and standard deviations of the variables for boys and girls in each group are presented in Table 1.

Associations Between Social Functioning and Loneliness

Group differences in the associations between social functioning and loneliness were examined through the multigroup invariance test using LISREL 8.80. This analysis involves comparing nested models with and without specific associations constrained equal across the groups (e.g., Jöreskog, 1971). A significant χ² value resulting from the constraint would indicate that the association is different across the groups. The analysis is typically conducted in two steps. First, to examine whether there is a group difference in
the general pattern of associations between social functioning and loneliness, an invariance test is conducted on the overall model in which all social functioning variables are associated with loneliness. If a significant group difference on the overall model is found, follow-up analyses are conducted to test group invariance in specific associations. This approach helps control for Type I errors.

Our analysis revealed a significant difference between the original unconstrained model and the constrained model with all the associations set equal across the groups, \( \chi^2(12) = 22.81, p < .05 \), indicating that there were significant group differences in the overall associations between social functioning variables and loneliness. To detect sources of the group differences, we conducted follow-up multigroup invariance tests constraining individual associations between each social functioning variable and loneliness. The analyses revealed significant differences among the groups in the associations between shyness and loneliness, but not in the associations between sociability and loneliness or between aggression and loneliness. The results of the tests and the effects of social functioning in predicting loneliness are presented in Table 2. Shyness was negatively associated with loneliness in the 1992 Shanghai group, but positively associated with loneliness in the 2002 Shanghai group and the 2005 Beijing group. The association was not significant in the 1998 Shanghai group or the 2007 rural group. The association was significantly different between the 1992 Shanghai group and all other groups except the 1998 Shanghai group. Across the groups, sociability was negatively associated with loneliness, and aggression was positively associated with loneliness. Thus, largely consistent with our hypotheses, the results indicated that shy children were less likely than others to report loneliness in the 1992 Shanghai group but were more likely than others to report loneliness in the 2002 Shanghai group and the 2005 Beijing group. The results also indicated that, in general, sociable children were less likely than others to report loneliness, whereas aggressive children were more likely than others to report loneliness. Finally, we tested the moderating effects of child gender and grade on the associations between social functioning and loneliness. No significant effects were found, suggesting that the associations were consistent across gender and grades.

![Figure 1](image-url) Means and standard error (error bars) of loneliness of children in different groups (groups that do not share the same letter above the error bars are significantly different). See the online article for a color version of this figure.

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<td>Sociability</td>
<td>-1.04 (1.76)</td>
<td>0.73 (1.76)</td>
<td>-1.94 (1.91)</td>
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<td>Aggression</td>
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<td>2.29 (1.14)</td>
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<td>Shyness</td>
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<td>Loneliness</td>
<td>34.91 (11.50)</td>
<td>30.49 (10.80)</td>
<td>33.78 (11.45)</td>
<td>30.17 (9.41)</td>
<td>28.89 (10.10)</td>
<td>26.64 (9.09)</td>
<td>30.18 (12.40)</td>
<td>26.42 (9.67)</td>
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Note. SH = Shanghai; BJ = Beijing.
Effects of Sociability, Aggression, and Shyness in Predicting Loneliness

Over the past two decades, the social and economic reforms in urban China have produced an increasingly competitive environment. Families, schools, and other socialization agents have made a great effort to help children develop social skills and qualities, such as self-direction and self-confidence, which are required for success in the environment (Ming, 2008). Because the massive social change has not reached rural areas, relative to their urban counterparts, rural children are socialized in manners that are more influenced by traditional, group-oriented values (Shi & Xu, 2008). For example, in rural areas, social-behavioral characteristics such as rule-abiding and self-control continue to be encouraged, which may be socially adaptive in the contexts (Chen & Chen, 2010).

We found that children in the 1992 and 1998 Shanghai groups had higher scores on loneliness than the 2002 Shanghai and 2005 Beijing groups. Moreover, relative to their urban counterparts in 2002 and 2005, rural children in 2007 reported higher levels of loneliness. Thus, as urban China went through the dramatic social change to become a more modernized, self-oriented society, children tended to report lower levels of loneliness. The implications of the social change for children’s psychological adjustment are likely to be related to the encouragement of independence and assertiveness during socialization in the society.

Over the past two decades, the social and economic reforms in urban China have produced an increasingly competitive environment. Families, schools, and other socialization agents have made a great effort to help children develop social skills and qualities, such as self-direction and self-confidence, which are required for success in the environment (Ming, 2008). Because the massive social change has not reached rural areas, relative to their urban counterparts, rural children are socialized in manners that are more influenced by traditional, group-oriented values (Shi & Xu, 2008). For example, in rural areas, social-behavioral characteristics such as rule-abiding and self-control continue to be encouraged, which may be socially adaptive in the contexts (Chen & Chen, 2010).

According to Chen et al. (2004), in a society or community where group affiliation and integration are encouraged, even if the social context can protect children from being alone, it may not protect children from feeling lonely. The values of interpersonal interdependence and communality may trigger and reinforce individual emotional reactions to unfulfilled expectations for social affiliation and reduce the threshold for feelings of loneliness. Children in the 1992 and 1998 Shanghai groups and the 2007 rural group had experienced socialization and social interaction in this context and thus might be relatively more susceptible to social and psychological distress. In contrast, the emphasis on self-confidence and independence in urban China in recent years might enhance the resilience of children to adverse socioemotional experiences in the 2002 Shanghai and 2005 Beijing groups. Moreover, urban youth have displayed increasingly positive attitudes about their life circumstances over the years (Chen, Bian, Xin, Wang, & Silbereisen, 2010), likely due to the fact that the social change has brought more opportunities for individuals to pursue their own interests and personal goals. The general positive attitudes, in combination with their elevated self-confidence (e.g., Shi & Xu, 2008), may weaken the feelings of loneliness and social dissatisfaction. Regardless of the underlying processes, our results indicate that children tend to report lower levels of loneliness in a
more urbanized context in China, which represents an important new contribution to the literature.

As an aspect of the social change, the use of high-technology products, such as the Internet, cell phones, and other mobile devices, has become increasingly common among urban youth in China (Yi & Yu, 2003). However, researchers have found that the use of the Internet and cell phones in communication tends to be associated with low levels of interpersonal closeness and intimacy (e.g., Katz, 2007). Although some recent findings indicate that the use of mobile communication may help maintain contact with people already in one’s social circle (see Katz, 2007), children in this study were elementary school students who did not have much access to mobile devices during the time periods covered in the study (e.g., Aviles, 2009; Yang, 2008). Thus, it seems unlikely that the use of Internet or mobile communication was a major factor in the formation of the group differences in loneliness. Another aspect of the social change in China is the increased income gap between urban and rural families (e.g., China State Statistics Bureau, 2006). It has been reported in Western countries that parents in low-income families are more likely than others to socialize obedience and self-control (e.g., Parke & Buriel, 2006). However, research in China has indicated that, in general, there are no evident and consistent associations between family income and parental socialization practices or children’s behaviors and adjustment, such as self-control and control-based shy behavior (e.g., Chen et al., 2003; Chen & French, 2008; Chen & Li, 2012; Chen, Wang, & Wang, 2009). Nevertheless, given the ongoing rapid social change in China, the issue warrants further investigation.

Although gender was not a primary focus of this study, it is interesting that gender differences in social functioning and loneliness emerged. Our findings that boys had higher scores on aggression and lower scores on sociability-cooperation and shyness than girls are consistent with what has been found in previous studies (e.g., Chen et al., 1995; Dodge et al., 2006; Eisenberg, Fabes, & Spinrad, 2006). The higher loneliness scores of boys have also been reported in previous studies (e.g., Chen et al., 2001). The results may be due to the fact that boys have more problems than girls in social and school adjustment and that these problems are associated with loneliness (Chen et al., 2001).

**Associations Between Social Functioning and Loneliness Across Contexts**

Our multigroup invariance analyses revealed that the association between shyness and loneliness differed across groups. Specifically, shyness was negatively associated with loneliness in the 1992 Shanghai group but positively associated with loneliness in the 2002 Shanghai group and the 2005 Beijing group. Shyness was not associated with loneliness in the 1998 Shanghai group or the 2007 rural group. The results suggest that whether shy children feel lonely depends, in part, on context. As indicated earlier, shy behavior in Chinese children has traditionally been valued and encouraged (Liang, 1987). In this context, shy children may obtain social approval and support, which help them cope with feelings of loneliness. As urban China changes toward a competitive, market-oriented society, shy behavior may no longer be regarded as desirable and adaptive. As a result, shy children may develop negative attitudes toward their social environments and experience increased loneliness.

The nonsignificant association between shyness and loneliness in the 2007 rural group suggests that shy behavior in rural children in recent years might not be as valued as it was in urban children in 1992. The results are important when they are considered in the larger social-historical context because they may indicate particular experiences of children in today’s rural China. Although social change has not occurred as evidently and extensively in rural areas as in urban areas, rural children may not be completely separated from urban society (e.g., J. Zhang, 2008). In recent years, the Chinese government has allowed for domestic movement of individuals and has encouraged activities such as trade between rural and urban areas. As such, rural children and families may have opportunities to interact with urban residents. Moreover, rural children’s growing access to television and other forms of mass media may affect their attitudes about shy behavior. It will be interesting to investigate whether shyness becomes more positively associated with loneliness as rural communities increasingly modernize—a pattern that has emerged in urban areas over the past decade.

Our results indicate that, across the groups, sociability was negatively associated with loneliness, and aggression was positively associated with loneliness. The results support the argument that sociability is an important behavioral characteristic that is conducive to psychological wellbeing (Masten et al., 2006; Rubin et al., 2006). Sociable children are likely to behave effectively in various social situations and be competent in handling social and psychological problems. The positive association between aggression and loneliness appears to be a distinct phenomenon in Chinese children. Findings from a number of studies have indicated that aggressive children in Western societies do not report negative feelings about their social world (e.g., Asher, Parkhurst, Hymel, & Williams, 1990; Mercer & Deroulier, 2008; Palmen et al., 2011), perhaps due to their inflated self-perceptions and the social approval that they receive from similarly deviant peers (Asher et al., 1990). In China, however, because of the strong prohibition against aggressive behavior and the public evaluation process in school, aggressive children frequently and regularly receive negative feedback about their behavior from peers and adults, which makes it difficult for aggressive children to receive social approval and to develop biased self-images. Thus, it is unsurprising that these children are more likely than others in China to develop loneliness.

**Limitations, Future Directions, and Conclusions**

There were several limitations and weaknesses in this study. First, we focused on loneliness in children with different backgrounds without tapping into the processes by which context is involved in shaping children’s experience of loneliness. Based on the literature and the previous findings (e.g., Chen & Chen, 2010; W. Zhang & Fuligni, 2006), for example, we argued that group differences in loneliness might be related to macro-level context such as independent versus interdependent orientations and encouragement of assertiveness and self-direction. However, we did not measure these cultural orientations in the study. There is a large body of literature on the assessments of independence and interdependence (e.g., Singelis, 1994). Future research should draw on this literature and examine how cultural orientations are associated with individual behaviors and psychological experi-
ences in urban and rural children. At the same time, researchers should investigate various situational and personal factors (e.g., policy, school practices; Silbereisen & Chen, 2010) that may be involved in the processes.

Second, we examined the within-group associations mainly to understand the social-behavioral characteristics of children in each group who reported loneliness. The data were correlational, and the results should be interpreted with caution in terms of causality. It will be important to conduct longitudinal research, which may help clarify directionality in the associations.

Third, no significant gender differences were found in the associations between social functioning and loneliness. Given the argument that aggressive behavior may be viewed as more negative in girls and that shyness may be viewed as more negative in boys (e.g., Coplan et al., 2007), gender-specific significance of social behaviors for psychological adjustment should be examined further. In addition, we did not find grade differences in loneliness or its associations with social functioning. Further research is clearly needed on this issue. For example, our sample consisted of children in third to fifth grades. It will be important to examine loneliness and social functioning among children of wider age ranges in childhood and adolescence.

Fourth, the data for this study were drawn mostly from our existing projects, with the three groups (1992, 1998, and 2002) in Shanghai representing historical times and with the groups across regions (the 2002 Shanghai and 2005 Beijing groups and the 2007 rural group) representing urban–rural context. The results concerning the 2002 Shanghai and 2005 Beijing groups indicated that children in the two cities during this period had similar social and psychological experiences. Although the data for the 2007 rural group were collected several years later than that for the urban groups, the rural children still had higher scores on loneliness than the urban children. Given the trend of social change in urban and rural regions of China (e.g., Ming, 2008) and urbanization effects on children’s loneliness (e.g., children in more recent cohorts report lower loneliness), it seems reasonable to expect that the patterns of results in rural children in 2002/2005 or urban children in 2007 would be consistent with what we found in this study (i.e., rural children in an earlier cohort would report equal or higher loneliness, and urban children in a later cohort would report equal or lower loneliness). In other words, rural–urban differences at the same point in time would be similar to, or more salient than, those found in this study. Nevertheless, a more rigorous design that includes groups in the same year across regions would allow for a more accurate examination of contextual effects.

A related limitation of the study is that the samples were from existing projects conducted in Beijing, Shanghai, and a rural region of China: the cities and the rural region were largely selected out of convenience. Due to the influence of the social-political-legal system and historical circumstances (e.g., the dual rural–urban social structure based on the household registration system; Chen & Li, 2012; Wang, 2005), cultural background, family organization, and individual lifestyles are relatively homogeneous among urban regions and among rural regions in China (e.g., Chen & Li, 2012; Ho, 1986). Nevertheless, there are differences in social and economic development across different urban or rural regions. For example, social-cultural changes have been occurring faster in rural regions that are near large cities than in those that are more isolated. The rural children in this study were from only one region (the rural region was near Beijing; results concerning rural–urban differences might have been more evident if we had studied rural children in more remote regions). Thus, one needs to be careful in generalizing our results to larger populations of children in the country. More importantly, future research should sample a broader range of communities, especially rural communities.

In short, the results of the present study suggest that as Chinese society becomes more modernized and self-oriented, children tend to report lower levels of loneliness. Consistent with this trend, urban children experience less loneliness than their rural counterparts. At the individual level, whereas sociability is negatively associated with loneliness and aggression is positively associated with loneliness, the association between shyness and loneliness becomes increasingly positive as shy behavior is regarded as more maladaptive in society. These results indicate that specific contexts may play a significant role in affecting the display and nature of children’s psychological functioning.

**References**


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