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MOTHER–CHILD ATTACHMENT AND SOCIAL WITHDRAWAL IN URBAN CHINESE CHILDREN

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We examined the association between mother–child attachment and social withdrawal in Chinese urban children. Participants in the 1.5-year longitudinal study were 142 Chinese children (74 boys, 68 girls), who were initially aged between 6 and 10 years. Self-reported mother–child attachment style was measured at Time 1 and Time 2. Two subtypes of social withdrawal (i.e., shyness and unsociability) were measured by self-rating and peer nomination at Time 2. Regression analysis showed that attachment style predicted a different subtype of social withdrawal. Early secure and ambivalent attachment were associated negatively and positively, respectively, with self-reported shyness. Current (Time 2) avoidant attachment was positively associated with both self-reported and peer-rated unsociability, whereas current ambivalent attachment was negatively associated with self-reported unsociability. The findings underscore a specific connection between attachment style and social withdrawal subtype.

Keywords: mother–child attachment, shyness, unsociability, Chinese urban children, middle childhood.

In studies conducted with children growing up in North American, European (Asendorpf, 1990; Coplan, Prakash, O'Neil, & Armer, 2004), and Chinese

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societies (B.-B. Chen & Santo, 2015; X. Chen, Wang, & Cao, 2011), researchers have identified shyness and unsociability as two subtypes of social withdrawal. Subsequent researchers have sought to identify socialization factors that may influence the development of social withdrawal in a child, and have increasingly focused on parent–child attachment (Rubin, Coplan, & Bowker, 2009). However, there are few extant empirical studies in which there is a specific and systematic examination of how these two subtypes of social withdrawal are linked to attachment styles during childhood and beyond (B.-B. Chen, 2015; Hastings, Nuselovici, Rubin, & Cheah, 2010). Thus, in this study, we examined the effects of attachment style in shaping the withdrawal behavior of Chinese children during the developmental stage of middle childhood over a period of 1.5 years.

Literature Review and Hypotheses Development

Shyness and Unsociability in Childhood

Shyness and unsociability are regarded as different constructs of social withdrawal because they represent different psychological meanings in social interaction contexts (Coplan & Armer, 2007). *Shyness* is defined as a form of withdrawal behavior, with a combination of high approach and high avoidance motivation (Asendorpf, 1990). Shy children have the desire to engage in peer interaction, but feel fearful and anxious, and lack self-confidence in social situations in which they believe they will be evaluated. Previous results from both Western (e.g., Coplan et al., 2004), and urban Chinese (e.g., B.-B. Chen & Santo, 2015; X. Chen, Cen, Li, & He, 2005; Xu & Farver, 2009) societies have shown that shyness is related to social adjustment difficulties, for example, peer rejection, poor academic outcome, and depression.

Unsociability is another form of withdrawal behavior that reflects a combination of low approach and low avoidance motivation (Asendorpf, 1990). An unsociable child tends to have less interest than his or her peers do in peer interaction (Coplan et al., 2004). Scholars have consistently shown that unsociable children are more likely than other children are to have adjustment problems in both Western (Coplan & Weeks, 2010) and urban Chinese (B.-B. Chen & Santo, 2015; X. Chen et al., 2011; Liu et al., 2014) societies.

Attachment and Social Withdrawal

Bowlby's (1969/1982) *attachment theory* is an important basis for testing the influence of an early close bond between child and the primary caregiver (typically the parent or parents) on the child's subsequent socioemotional development (Ainsworth, Blehar, Waters, & Wall, 1978). In this theory, it is proposed that *secure attachment*, reflecting a perception and expectation of relationships as mutual and supportive, may lay the foundation for children's

willingness to engage in, and explore, the social environment in an open manner (Bowlby, 1969/1982). That is, securely attached children may feel free, confident, and trustful in interaction with others. In contrast, insecurely attached children, who have failed to establish a secure relationship with their caregiver, may feel mistrust, anger, anxiety, and/or fear in social contexts. As a consequence, they exhibit behavior indicating social difficulties in interaction with others. Therefore, children's *insecure attachment* relationship with their caregiver may be a risk factor leading to the use of social withdrawal. However, most researchers have investigated the relationship between attachment style and withdrawal behavior only in general terms. For example, researchers have shown that securely attached children had a lower score on a measure for withdrawal than did insecurely attached children (Bohlin, Hagekull, & Rydell, 2000; Rubin et al., 2004).

Given that each of the subtypes of social withdrawal may be meaningfully related to different dimensions of insecure attachment, it is necessary to test links between attachment–withdrawal subtypes. There are two distinct styles of insecure attachment in childhood: anxious and avoidant (Ainsworth et al., 1978; Finnegan, Hodges, & Perry, 1996). *Anxious* or *ambivalent attachment style* is characterized by high levels of separation anxiety and, upon reunion, overt distress remaining for longer periods of time than it does for other children (Ainsworth et al., 1978). The immediate causes of an ambivalent attachment style may be the caregiver's inconsistency and unpredictability in responding to children's needs. As well as the insecure internal working model of attachment, ambivalently attached children may be afraid that they will experience negative social interaction outside the family. As a result, they remain passive, especially in peer interaction, in order to minimize potential psychological pain that they may experience in these social environments (B.-B. Chen, 2012; B.-B. Chen & Santo, 2015). Therefore, we predicted that ambivalent attachment may be linked to shyness. In some studies, although shyness was not specifically investigated, results have supported this prediction. For example, B.-B Chen (2012) found in a cross-sectional study that anxious attachment style was associated with peer-reported shyness in Chinese school-aged children.

Avoidant attachment style is characterized by relatively low levels of overt distress during separation and the child distancing himself or herself from the caregiver upon reunion (Ainsworth et al., 1978). This insecure attachment style may be caused by parents being less emotionally available and less behaviorally responsive to their children than other parents are. As a result, children with avoidant attachment may perceive themselves as not being loved and may view other people as not being trustworthy. As a result, these children are more likely to have little desire to explore the social world, preferring to explore the physical, nonsocial world (McElwain, Cox, Burchinal, & Macfie, 2003).

In addition, Brumariu and Kerns (2008) found that avoidant attachment decreased anxious and distressful emotions in novel social interaction environments. Brumariu and Kerns described children with avoidant attachment as being more likely to stay away from others as a defensive strategy to relieve negative emotion brought about by not having an available and sensitive caregiver. Hence, these children showed a decreased desire for social contact compared to those who are anxiously attached. In other words, children whose attachment style is avoidant may experience less anxiety and distress than anxiously attached children mainly because they have become socially uninterested or unsociable and, as a result, they ignore the social environment (Coplan et al., 2004; McElwain et al., 2003).

Developmental Effects

Researchers seeking to understand how attachment influences social withdrawal (e.g., B.-B. Chen, 2012) have mostly conducted studies using a cross-sectional design, in which little information about developmental patterns has been provided. Therefore, in this study, we used a longitudinal design to examine how two subtypes of withdrawal behavior may be associated with children's wave 1 and wave 2 attachment styles (18 months apart). Researchers of the relationship between attachment and psychosocial outcomes have provided indirect evidence to suggest that attachment in the later years of childhood should contribute more to the explained variance than does earlier attachment (e.g., Bohlin et al., 2000; Brumariu & Kerns, 2008). For example, Brumariu and Kerns (2008) found that current attachment of children in middle childhood had a much stronger effect in predicting social anxiety than did early attachment. Therefore, the possibility that the predictive power of attachment at two timepoints may not be the same was raised in previous results.

In summary, our main aim was to test how each of the attachment styles was uniquely related to subtypes of withdrawal behavior with urban Chinese boys and girls in middle childhood. Both self-rating and peer-nominated measures were used to assess the following hypotheses in regard to children's social withdrawal behavior:

Hypothesis 1a: Secure attachment will have a negative association with shyness.
Hypothesis 1b: Ambivalent attachment will have a positive association with shyness.
Hypothesis 2a: Avoidant attachment will have a positive association with unsociability.
Hypothesis 2b: Ambivalent attachment will have a negative association with unsociability.
Hypothesis 3: Current attachment will have a stronger effect than earlier attachment will on social withdrawal.

Method

Participants

The sample at Time 1 consisted of 159 children (83 boys, 76 girls), whose ages ranged from 6 to 10 years (M_{age} = 8.44 years, SD = 0.52) and who were students in Grades 2 and 3 at two primary schools in Shanghai, China. Participants were a convenience sample of children from predominantly middle-class families. The Time 2 survey was conducted after 1.5 years, with 142 children (74 boys, 68 girls) who had also taken part at Time 1. There were no significant differences in the Time 1 attachment scores between children who did and did not also participate at Time 2.

Procedure

Before the study began, parents and schoolteachers of the participants provided a letter of consent. The children were allotted a single class period to complete the self-reported scales of mother–child attachment at both Times 1 and 2. At Time 2, the children also completed both the peer-nomination and self-report instruments for withdrawal behavior.

Measures

Secure attachment. We used the Chinese version (B.-B. Chen, 2011) of the Kerns Security Scale (Kerns, Klepac, & Cole, 1996) to assess the children's perception of their attachment to their mother. The eight-item scale measures children's perception of their mother's availability and responsiveness, and their tendency to seek help from their mother in stressful situations (Kerns et al., 1996). Each item comprises two statements presented in the format of a forced choice reading "Some kids...BUT other kids...." A sample item is "Some kids find it easy to trust their mom BUT other kids are not sure if they can trust their mom." The children were asked to assess which part of each statement reflected their feelings, and whether it was "*really true*" or "*sort of true*" about themselves. The scoring method was based on the method used by Kerns et al. (1996) in their study. In this study, Cronbach's α was .73 at Time 1 and .67 at Time 2. These are similar to the coefficients reported by B.-B. Chen (2011, 2012).

Insecure attachment. The Chinese version (B.-B. Chen & Chang, 2012a) of the Coping Strategies Questionnaire (Finnegan et al., 1996) was used to assess two types of insecure attachment: preoccupied (or ambivalent) and avoidant. The questions were presented in the same format as those in the Kerns Security Scale and scoring method followed the procedure set out by Finnegan et al. (1996). In this study, Cronbach's α was .67 and .61 for ambivalent and avoidant attachment, respectively, at Time 1, and .76 and .68 for ambivalent and avoidant attachment, respectively, at Time 2. These coefficients are similar to those reported by B.-B. Chen and Chang (2012a) and B.-B. Chen and Santo (2015).

Peer-nominated social withdrawal. We used peer nomination to assess the two types of social withdrawal, namely, shyness (three items; $\alpha = .70$) and unsociability (two items; $\alpha = .63$). This measure has been used in previous studies with Chinese children (B.-B. Chen, 2012; B.-B. Chen & Chang, 2012b). Sample items are "Someone who is very shy" (shyness) and "Someone who would rather play alone than with others" (unsociability). The children were provided with a printed sheet on which the names of their classmates were printed, and they nominated up to three of the names. The nomination scores were standardized within class and then summed within each subscale (i.e., shyness and unsociability).

Self-reported social withdrawal. The children completed a survey designed to measure their perception of their own social withdrawal. An original pool of six items was derived from previous Chinese studies (B.-B. Chen, 2012; B.-B. Chen & Santo, 2015; Liu et al., 2014). Separate subscales (three items each) were designed to assess the two subtypes of social withdrawal, namely, shyness and unsociability. The children rated each item on a 4-point scale ranging from 1 (*very untrue of me*) to 4 (*very true of me*). Exploratory factor analysis with varimax rotation yielded two orthogonal factors: shyness and unsociability, on which the items loaded between .62 and .87, accounting for 60.38% of the variance. Results of confirmatory factor analysis assessing chi square, probability, comparative fit index (CFI), goodness-of-fit index (GFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR) measures indicated that the fit of this two-factor model was acceptable; $\chi^2(8) = 12.10$, $p > .05$; CFI = .97, GFI = .97, RMSEA = .06, SRMR = .05.

Results

Descriptive Data

The attachment variables were submitted to a 2 (gender; between subjects) × 2 (Time 1 and Time 2; within subjects) mixed model analysis of variance. A nonsignificant interaction among time and gender was found for all three attachment style variables. Results showed a significant difference according to gender for ambivalent attachment, $F(1, 140) = 5.30$, $p < .05$, indicating that more girls had an ambivalent attachment style than boys did. Further, there was a significant main effect of time for secure attachment, $F(1, 140) = 9.17$, $p < .01$, indicating that the attachment of the children at Time 1 was more secure than at Time 2. Simple *t* tests were performed to test gender differences in the two subtypes of social withdrawal at Time 2. Results indicated that the peer-nominated boys had higher scores than did the peer-nominated girls in unsociability, $t(140) = 2.84$, $p < .01$. Means and standard deviations are shown in Table 1.

Table 1. *Means and Standard Variations for Variables at Time 1 and Time 2*

Variables	Boys		Girls	
	M	*SD*	*M*	*SD*
Time 1:				
Mother–child attachment style				
Secure attachment	3.23	0.60	3.36	0.53
Ambivalent attachment	0.76	0.39	0.87	0.42
Avoidant attachment	0.21	0.27	0.17	0.19
Time 2:				
Mother–child attachment style				
Secure attachment	3.10	0.52	3.22	0.53
Ambivalent attachment	0.74	0.42	0.91	0.44
Avoidant attachment	0.24	0.29	0.17	0.20
Social withdrawal dimensions				
Peer nomination				
Shyness	-0.26	1.81	0.33	2.56
Unsociability	0.29	1.66	-0.40	1.24
Self-report				
Shyness	1.58	0.74	1.51	0.70
Unsociability	1.74	0.68	1.75	0.67

Note. $N = 142$.

Multivariate Prediction of Social Withdrawal Dimensions

We used multiple regression analyses to test the unique links between attachment and social withdrawal. In this process, we repeated the analyses for predicting each subtype of withdrawal behavior, based on the results of the peer-nomination and self-report measures. First, gender was entered into the equation. Then, attachment style scores at Time 1 were entered in Step 2, and attachment style scores at Time 2 were entered in Step 3 (see Tables 2 and 3). In this way, we examined whether later (current) attachment style predicted the withdrawal subtypes when early attachment style was controlled.

The results presented in the left-hand column in Table 2 show that neither Time 1 nor Time 2 attachment style scores significantly predicted peer-nominated shyness (*F*s = *ns*). However, the results of the regression analysis of whether attachment style predicted self-reported shyness (shown in the left-hand column of Table 3), indicated that the test for change in R^2 was significant at Step 2, with attachment variables assessed at Time 1 explaining 8% of the variance in shyness, $F(3, 137) = 3.69$, $p < .05$. Secure attachment at Time 1 negatively predicted later shyness, whereas ambivalent attachment at Time 1 marginally and positively predicted later shyness. There was no change in R^2 score at Step 3 (when Time 2 attachment scores were entered), indicating that the child's current attachment style did not add to the prediction of shyness after controlling for early attachment.

Table 2. *Regression of Peer-Nominated Subtypes of Social Withdrawal Behavior on Attachment Styles*

	Shyness				Unsociability			
	B	*SE*	β	ΔR^2	*B*	*SE*	β	ΔR^2
Step 1.								
Gender	.59	.37	.13	.02	-.69	.25	-.23**	.05**
Step 2. Time 1: Attachment style								
Secure attachment	-.42	.38	-.11		-.15	.25	-.06	
Ambivalent attachment	-.04	.47	-.01		.27	.31	.07	
Avoidant attachment	-.92	.92	-.10	.01	-.30	.61	-.05	.01
Step 3. Time 2: Attachment style								
Secure attachment	-.47	.44	-.11		.45	.28	.16	
Ambivalent attachment	.73	.51	.14		.54	.33	.16	
Avoidant attachment	.17	.88	.02	.02	1.79	.57	.30**	.08**

Note. ** $p < .01$.

Table 3. *Regression of Self-Reported Subtypes of Social Withdrawal Behavior on Attachment Styles*

	Shyness				Unsociability			
	B	*SE*	β	ΔR^2	*B*	*SE*	β	ΔR^2
Step 1.								
Gender	-.08	.12	-.05	.00	.01	.11	.01	.00
Step 2. Time 1: Attachment style								
Secure attachment	-.25	.12	-.20*		-.16	.11	-.14	
Ambivalent attachment	.29	.15	.16[a]		-.09	.14	-.05	
Avoidant attachment	.20	.29	.07	.08*	.30	.28	.10	.05
Step 3. Time 2: Attachment style								
Secure attachment	.08	.16	.03		-.09	.13	-.07	
Ambivalent attachment	.62	.28	.05		-.03	.15	-.20*	
Avoidant attachment	.04	.14	.22*	.03	.54	.26	.20*	.08**

Note. * $p < .05$; ** $p < .01$; [a] $p = .057$.

The results of the regression analysis to establish whether attachment style predicted peer-nominated and self-reported unsociability are shown in the right-hand section of Tables 2 and 3, respectively. These results indicated that when Time 1 attachment style entered at Step 2, it did not yield a significant increment in R^2 for predicting peer-nominated unsociability. However, at Step 3 of Time 2 the attachment style of the child explained an additional 8% of the variance in peer-nominated unsociability, $F(3, 134) = 4.00$, $p < .01$. As is shown in the lower right-hand portion of Table 2, at Time 2 scores for avoidant

attachment style were significantly and uniquely predictive of peer-nominated unsociability over and above the contribution of other attachment style scores. Because we controlled for avoidant attachment style at Time 1 in this analysis, our results show that, over time, an increase in behavior using an avoidant attachment style was linked to a higher level of unsociability at Time 2. Similarly, attachment style at Time 1 entered at Step 2 did not significantly predict self-reported unsociability. However, attachment style at Step 3 of Time 2 explained an additional 8% of the variance in self-reported unsociability, $F(3, 134) = 4.29$, $p < .01$. As shown in the lower right-hand section of Table 3, an ambivalent attachment style at Time 2 was negatively related to self-reported unsociability, whereas an avoidant attachment style was positively related to self-reported unsociability.

In sum, our results showed that all hypotheses were supported. Secure attachment was negatively associated with shyness (H1a); ambivalent attachment was positively associated with shyness (H1b); avoidant attachment was positively associated with unsociability (H2a); and ambivalent attachment was negatively associated with unsociability (H2b).

Discussion

Although the understanding of how family context may influence social withdrawal behavior (Hastings et al., 2010; Rubin et al., 2009) is advanced by the attachment theory, there has been little data-based evidence showing how subtypes of social withdrawal develop as a function of attachment patterns. We have addressed this lack in our exploration of specific connections between attachment style and social withdrawal subtypes with Chinese children in an urban setting.

We found that the securely attached children in our sample were more likely than the children with other attachment styles to have a lower level of self-reported shyness a year and a half later. Our results support the finding derived from attachment theory that children whose parents provide a secure base for them tend to show less fear than others do of negative evaluation (Brumariu & Kerns, 2008) and display less shyness-inhibited behavior (Dykas, Ziv, & Cassidy, 2008). In addition, consistent with H1b, children whose style of attachment to their mother was ambivalent–insecure tended to show a higher level of self-reported shyness than did others 18 months later. It has previously been found that ambivalently attached children who develop expectations of the self as helpless and incompetent at an early stage of childhood may remain passive and wary when exploring and interacting with the social world outside the family (B.-B. Chen & Santo, 2015).

According to our results, the early and later attachment styles of the children did not make a unique contribution to their shyness as rated by their peers. One possibility for this finding is that shyness, relative to unsociability, may reflect a more internalizing than externalizing pattern of withdrawal behavior, a feature of which is inner thoughts with fear and anxiety in social situations. This phenomenon was referred to as the hidden face of shyness by Harris (1984). Hence, it appears to be difficult for observers, including peers, to accurately judge how shy a child is. In recent empirical research, it has been shown that shyness scores assessed by others' perceptions seem to be less accurate than self-perception (Spooner, Evans, & Santos, 2005). Therefore, it is possible that in our study, those children whose shyness was undetected by their peers may have had attachment relationships that contributed to their shyness (see e.g., our results for the self-reported shyness measure). However, the lack of recognition of this shyness by peers may have resulted in a nonsignificant association between attachment and peer-nominated shyness in statistical terms.

Results showed that, as predicted, an increase in the use of an avoidant–insecure attachment style over time was associated with unsociability as assessed by both self-reported and peer-rated measurement. Because children whose style of attachment is avoidant may perceive themselves as unworthy of love and their caregivers as being unavailable and not able to be trusted, they may turn from exploring the social world to exploring the physical object-oriented world (McElwain et al., 2003). Therefore, unsociability is linked to an avoidant attachment style. In contrast, the children whose style of attachment was highly ambivalent showed less self-reported unsociability than children with low ambivalent attachment did. There are two possible explanations for this: One is that ambivalently attached children who are fearful, anxious, and hyperactive (Brenning, Soenens, Braet, & Bosmans, 2012), may not keep away from social contact; instead they may make more effort in searching for dependence on social relationships, although they remain passive and wary in doing so. Another explanation is that children use unsociability as a way of coping with, and relieving, anxious feelings (Coplan et al., 2004). Therefore, unsociable children may show fewer ambivalent attachment internalizing problems than sociable children do. Our finding that unsociability was positively related to avoidant attachment style and negatively related to ambivalent attachment style among our participants, supports the result reported by Brumariu and Kerns (2008) that children whose style of attachment was avoidant had a lower level of anxiety and distress compared with children with an ambivalent attachment style. Specifically, the authors found that compared with ambivalently attached children, avoidantly attached children become unsociable as a defense to cope with unavailable and insensitive caregivers, subsequently helping them to relieve their social anxiety and distress.

Finally, a result in our study that we found noteworthy was the predictive power of the child's attachment style at Time 1 vs. Time 2 on the subtypes of social withdrawal. That the current attachment style did not contribute to the prediction of shyness was a result we had not expected. It may be possible that early attachment has a relatively stronger association with shyness than does attachment in the later years of childhood. In other words, the style of early attachment may establish a lasting influence on the development of shyness (Calkins & Fox, 1992). Therefore, the child whose early attachment style is ambivalent may be at risk for developing shyness. However, consistent with our expectations, in the regression model based on current attachment style—especially in the case of avoidant attachment—the result for unsociability was significant, as measured by both self-report and peer nomination. There are two possible explanations for this: Previous researchers have shown that unsociability becomes a maladaptive pattern of consistent withdrawal behavior in later childhood (B.-B. Chen & Santo, 2015; X. Chen et al., 2011; Liu et al., 2014). Therefore, among our participants, the association between avoidant attachment and unsociability was much stronger at Time 2 than at Time 1. Another possibility is that unsociability is the developmental outcome over time of the cumulative effect of avoidant attachment. In sum, based on our results in this study and the findings in previous studies, it appears that, in regard to parent–child attachment relationships, subtypes of social withdrawal may be influenced differently during the period of middle childhood from the style formed in early attachment. The socialization role of subtypes of social withdrawal will, thus, be best understood by including consideration of quality of both later and early attachment.

There are some limitations in this study. First, we measured the attachment patterns of the children with a self-report assessment tool. Although this measure has been widely used, future researchers should include other assessment tools, such as an observation-based measure or a story completion task, to enhance validity, especially taking cultural consideration into account (B.-B. Chen, 2015).

Second, we found that there was a meaningful relationship between attachment style and social withdrawal, especially when measured by self-report. However, the relationship between self-reported shyness or unsociability and self-reported attachment style may have resulted from the same reporter (i.e., the child) providing the information for each of these constructs. Therefore, future researchers should include other sources of measurement, based on observation and interviews for both attachment style and social withdrawal.

Third, other scholars have indicated that disorganized attachment is associated with social adjustment difficulties (e.g., Moss, Bureau, Cyr, Mongeau, & St-Laurent, 2004). If this insecure attachment style is included in future research, it may add to knowledge about the links between emotional bonding and withdrawal behavior that we addressed in this study.

Finally, as our sample size was not large, this may have decreased the statistical power of our results and may also account for the nonsignificant links we found between attachment style variables and peer-nominated shyness and unsociability. Therefore, in future studies, researchers should replicate and extend our study with a larger sample.

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