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SOCIAL WITHDRAWAL AND ITS BEHAVIORAL CORRELATES AMONG CHINESE  
PRESCHOOLERS

by

Peixia Wu

A dissertation submitted to the faculty of

Brigham Young University

in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

School of Family Life

Graduate Program in Marriage, Family & Human Development

Brigham Young University

December 2006

BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

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This dissertation has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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As chair of the candidate's graduate committee, I have read the dissertation of Peixia Wu in its final form and have found that (1) its format, citations and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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## ABSTRACT

# SOCIAL WITHDRAWAL AND ITS BEHAVIORAL CORRELATES AMONG CHINESE PRESCHOOLERS

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Doctor of Philosophy

Researchers have recognized that social withdrawal in early childhood is a complex and multifaceted construct which includes three main observed subtypes: reticence, solitary-passive withdrawal, and solitary-active withdrawal. Each is differentially associated with children's behavioral outcomes in Western societies (e.g., United States, Canada). Furthermore, potential gender differences may exist regarding the distinct associations between non-social behavior and indices of maladjustment across boys and girls due to differential societal and cultural gender-role expectations. Previous studies suggest that subtypes of observed social withdrawal can be identified in Chinese preschoolers. It is important to examine the behavioral correlates of observed withdrawn subtypes in the Chinese cultural context due to the social-cultural variations in what is considered as socially acceptable/adaptable behaviors between North America and China. Therefore, the purpose of this study was to examine the various behavioral correlates of different forms of nonsocial play among Chinese preschoolers and potential gender differences in the linkages. Teachers of 506 preschoolers from two cities in mainland China completed a

battery of questionnaires that assessed various aspects of child behavioral outcomes in early childhood, including social withdrawal, assertiveness-prosociability, aggression, impulsive/disruptive behaviors, and anxiousness. Measurement models estimated with two-group confirmatory factor analyses yielded invariant factor structures for boys and girls for each of the behavioral measures. Distinct patterns of associations were found among behavioral correlates of subtypes of observed social withdrawal across boys and girls. *Solitary-passive play* was negatively associated with prosocial behaviors for girls and boys, positively related to impulsive behaviors for girls and boys, and negatively associated with victimization and anxious behavior for girls, but not boys. *Solitary-active play* was found to be negatively related to prosocial behaviors, positively associated with physical aggression, victimization, impulsive, and anxious behavior for girls and boys. *Reticence* was associated with less prosocial behavior for boys and girls. It was also positively associated with victimization, impulsiveness, and anxious behaviors for girls (but not boys). These gender difference findings and their implications for child adjustment in the Chinese cultural context are discussed.

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I dedicate this dissertation to my parents and my husband.

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## CHAPTER ONE

### INTRODUCTION

Peer interactions and relationships play a significant role in children's social and personality development. The importance of peer group interactions has been well established in Western literature (see Rubin, Bukowski, & Parker, 2006 for a review). On the other hand, children who constantly play on their own, without frequently interacting with peers, are at greater risk for later social and social-cognitive maladjustments, particularly in the form of internalizing problems (e.g., Rubin, Chen, McDougall, Bowker, & McKinnon, 1995; Rubin, Hymel, & Mills, 1989). In the past several decades, research has expanded significantly on the conceptualization of social withdrawal and its behavioral correlates and consequences in childhood.

It has been recognized that social withdrawal is a complex and multifaceted construct that varies with regard to motivational tendencies and developmental consequences, at least in early childhood (Burgess, Rubin, Cheah, & Nelson, 2001; Rubin, 1982; Rubin, Burgess, & Coplan, 2002; Coplan, Prakash, O'Neil, & Armer, 2004). Among preschoolers, three different forms of observed social withdrawal have been described and empirically identified, including reticence, solitary-passive withdrawal, and solitary-active withdrawal.

Reticence is characterized by frequent and prolonged onlooking and unoccupied behaviors in social contexts. This behavior is hypothesized to be a marker variable for social anxiety (Coplan, 2000; Coplan et al., 2004; Coplan, Rubin, Fox, Calkins, & Stewart, 1994) and has been linked to numerous indices of social maladjustment such as peer rejection (Hart, Yang, Nelson, Robinson, Olsen, Nelson, et al., 2000; Nelson, Hart, Robinson, Olsen, & Rubin, 1997) as well as to teacher ratings of internalizing problems (Coplan et al., 1994; Coplan & Rubin, 1998).

Solitary-passive behavior includes the quiet exploration of objects and/or constructive activity while playing alone at a distance from others. Even though earlier work suggested that solitary-passive is a relatively “benign” form of social withdrawal and not associated with concurrent indices of social maladjustment such as shyness, negative emotionality, anxiety, and behaviors of internalizing nature (Coplan et al., 1994; Coplan & Rubin, 1998; Rubin, 1982), findings from more recent studies suggest that this type of social solitude is also negatively related to children’s social and academic competence, especially for boys (Coplan, Molina, Lagace-Seguin, & Wichmann, 2001).

Solitary-active play is characterized by repetitive, sensorimotor actions with or without objects and/or by solitary dramatizing (Coplan & Rubin, 1998; Rubin, 1982). The frequent display of solitary-active behavior has been suggested to reflect psychological immaturity and poor impulse control and is associated with peer rejection, poor social problem-solving, externalizing problems, and impulsive/disruptive behaviors in early childhood (Coplan et al., 1994; Coplan & Rubin, 1998; Rubin, 1982).

Furthermore, gender differences may exist regarding the distinct linkage between non-social play and indices of maladjustment across boys and girls. In particular, evidence suggested that social withdrawal may present more risks for boys than for girls due to differential societal and cultural gender-role expectations (Coplan et al., 2001; Stevenson-Hinde, 1989; Stevenson-Hinde & Glover; 1996).

Despite the expansive Western literature on social withdrawal, less is known about the correlates and consequences of social withdrawal in non-Western societies. Examining the construct of social withdrawal in Chinese cultural context is of particular interest and importance

due to the social-cultural variations and differences in what is considered socially acceptable/adaptable behaviors between the North America and China.

In the extant literature so far, research findings regarding social withdrawal in China are not always consistent. One line of thinking is that inhibited, shy, sensitive, group-dependent, and socially restrained behaviors are accepted, valued, and encouraged by adult authority figures (Chen, Rubin, & Li, 1995; Chen, Rubin, & Sun, 1992; Ho, 1986), since these behavioral characteristics are viewed as conducive to maintaining the social order and group harmony, which is the ultimate goal of Chinese collectivistic culture. However, other researchers maintain that social withdrawal is associated with negative developmental consequences as it does not conform to group-oriented norms (Hart et al., 2000) and hinders the interactions with in-group others (Cheah & Rubin, 2004). There has been some evidence supporting both viewpoints, thus, definitive conclusions cannot be easily drawn due to differing definitions, measures, research methodologies, age range of participants, and time of the investigation in each study. A clearer picture of the behavioral associates of different forms of observed social withdrawal in early childhood is needed to better understand which forms of withdrawal are associated with more or less adaptive child behavioral profiles within the Chinese culture.

The aim of this study is to address this gap in the literature and to focus on the various behavioral correlates of different forms of nonsocial play among Chinese preschoolers. Also, since potential gender differences in the correlates of different forms of observed social withdrawal with other child behavioral profiles has apparently never been studied in China, another aim of this investigation is to examine the relations between subtypes of nonsocial play and various behavioral correlates among boys and girls, respectively.

This study is organized into five chapters. Chapter One introduces the topic of behavioral correlates of different forms of observed social solitude in early childhood. Chapter Two is comprised of a literature review synthesizing social/behavioral correlates topics relevant to social withdrawal and is divided into several subsections. The first subsection is a brief discussion of the importance of social interaction in child social and emotional development. The second subsection provides a description of the conceptualization of social withdrawal in early childhood and overviews social withdrawal in the context of the Chinese culture. This subsection is followed by a review of studies on the behavioral correlates of subtypes of social withdrawal and potential gender differences. The last subsection addresses the statement of the problem and presents the research hypotheses for this study. Chapter Three describes the participants, measures, procedures and methodology for the statistical analyses of the data. Chapter Four presents the results of data analyses. Chapter Five discusses the main findings of this study and recommendations for future studies.

## CHAPTER TWO

### REVIEW OF LITERATURE

#### The Importance of Social Interactions in Early Childhood

The importance of children's peer interactions and relationships for socio-emotional development and the problems with the lack thereof has been well established in the Western literature (see Rubin, Bukowski, & Parker, 2006 for a review; Rubin, Hymel, & Mills, 1989). Early developmental theories discussed the significance of peer interactions from various theoretical standpoints. For example, from the cognitive developmental perspective, Piaget (1926) suggested that it was through peer interactive experience, such as examining conflicting ideas, discussing multiple alternatives, and negotiating to reach compromises that children come to develop perspective-taking ability. Peer interactions provide a critical context for social learning. From the symbolic interactionist perspective, Mead (1934) argued that children mainly develop a concept of "self" and a concept of "others" through participation in peer interactions. Cooley (1902) coined the term "looking-glass self" to emphasize that a person's understanding of self is a reflection of other persons' perceptions of him/her. Self-concept evolves from social interactions and is closely intertwined with children's social development. In his theory of personality development, Sullivan (1953) stressed the importance of peer relationships in children's development of a sense of well-being. According to Sullivan, children who are isolated from peer interactions tend to experience feelings of inferiority and rejection, and thus, are at a greater risk for psychological maladjustment.

More recently, there has been growing support from empirical research demonstrating the importance of peer interactions and relationships. A large body of research from Western samples consistently indicates that children who participate in stable peer relationships develop

socially and cognitively in positive ways (see Rubin, Bukowski, & Parker, 2006 for a review). For example, as illustrated in a study by Ladd and Hart (1992), there are social advantages for children who experience more peer contacts in early childhood. Children who have more opportunities for peer group interaction tend to demonstrate more advanced social skills and are better accepted by peers. Other research indicates that peer exchanges, conversations, and interactions are associated with a decline in children's egocentric thinking. Through peer interactive experience, children's perspective-taking skills are also thought to be improved (Selman & Schultz, 1990).

On the other hand, children who constantly play on their own, without frequently interacting with peers, are thought to be at greater risk for later social and social-cognitive maladjustments, particularly in the form of internalizing problems (e.g., depression, low self-esteem, feelings of loneliness). In this regard, Rubin and colleagues (Rubin, Chen, McDougall, Bowker, & McKinnon, 1995) carried out a series of longitudinal investigations (see The Waterloo Longitudinal Project) to explore the long-term consequences of the lack of peer interactions on child development with a group of children in kindergarten through the fifth grade. Significant relations were found between early social withdrawal in kindergarten and Grade 2 and subsequent internalizing problems in Grade 4 and 5. Such findings suggest that, in North America, withdrawal from peer interactions in early childhood may be predictive of risk for internalizing difficulties in later childhood (Rubin, Hymel, & Mills, 1989). In another study Rubin and colleagues highlighted the potential long-term outcomes of social withdrawal, showing that a composite measure of observed and peer assessed social withdrawal at age 7 predicted negative self-perceived social competence, low self-worth, loneliness, and felt peer group insecurity at age 14 (Rubin et al., 1995).



Even though mainly studied in Western cultural contexts, relations between peer interactions and child social adjustment have also been examined with non-Western samples in recent years. For example, Hart and colleagues (1998) studied the relationship between peer contact patterns and preschoolers' social competence in China, Russia, and the United States to determine whether peer contacts were associated with child social adjustment in these diverse cultural contexts in ways similar to what has been found in North American samples. Their findings indicated that more frequent and longer exposure to peers facilitated positive social competences across all three cultures. Specifically, Chinese boys with more frequent peer contacts were rated by teachers as being more friendly and social. Chinese girls who spent more time together during play contacts were also rated by teachers as being friendlier, leadership oriented, as well as less anxious and fearful (Hart, Yang, Nelson, Jin, Bazarskaya, & Nelson, 1998). Also, Hart et al (1998) found that involvement with same-age peers instead of younger peers was linked to more positive peer ratings and to fewer negative peer nominations.

With regard to the correlates and consequences of the lack of social interactions with peers or social withdrawal among Chinese children, less agreement exists in the literature. While some researchers argue that inhibited, withdrawn behavior is more prevalent in the Chinese culture, and hence, is viewed as more normative (Chen, 1998; Chen, Rubin, Hastings, Chen, Cen, & Stewart, 1998; Chen, Rubin, & Li, 1997; Chen, Rubin, Li, & Li, 1999), others argue that social withdrawal behaviors of young children may still be considered problematic since its manifestation contradicts the Chinese culturally endorsed values such as collectivism and group-spirit (Cheah & Rubin, 2004; Hart et al., 2000).

In the next section, a brief review of the construct of social withdrawal in early childhood is provided. Then, research of social withdrawal in the Chinese cultural context is discussed.

## Subtypes of Observed Social Withdrawal

In recent years it has become increasingly recognized among many researchers that different constructs representing social withdrawal are associated with varying motivational tendencies and developmental consequences, starting in early childhood (Burgess, Rubin, Cheah, & Nelson, 2001; Coplan, Prakash, O' Neil, & Armer, 2004; Rubin, 1982; Rubin, Burgess, & Coplan, 2002). Representing current understanding, social withdrawal has been defined as “the consistent (across situation and over time) display of all forms of solitary behavior when encountering familiar/unfamiliar peers” (Rubin et al., 2002, p. 330). Three different forms of observed social withdrawal have been described and empirically identified in Western cultures with preschoolers, each of which is associated with unique psychological mechanism and social consequences (Coplan, Rubin, Fox, Calkins, & Stewart, 1994). Observed subtypes of social withdrawal include reticence, solitary-passive withdrawal, and solitary-active withdrawal.

### *Reticence*

Reticence is characterized by frequent and prolonged onlooking and unoccupied behaviors in social contexts (Rubin et al., 2002). Examples include (a) being alone, in close proximity to peers, and watching others' activity, (b) staring off into space, (c) playing with his/her own body, and (d) wandering aimlessly during free play. It is argued that the existence of reticent behaviors reflects social fear and anxiety in a social context. From a motivational standpoint, children who engage in reticent behaviors when they are among peers are thought to experience a social approach-avoidance conflict (Asendopf, 1990). It is thought that these children desire peer interactions and want to approach others in a peer group; however, the approach tendency is inhibited by a simultaneous motivation to avoid interaction with others.

Empirically, there is growing support in the Western literature for the notion that reticent behavior is a marker variable for social anxiety and is reflective of an approach-avoidance conflict (Coplan, 2000; Coplan et al., 1994; Coplan et al., 2004). For example, Coplan et al. (1994) found that reticent behavior was associated with 4-year-old children's hovering on the edge of social group without attempting to join in ongoing play. From a motivational viewpoint, hovering behavior has been interpreted as a manifestation of approach-avoidance conflict. In addition, Coplan et al. (2004) reported that reticent behavior was significantly and positively associated with conflicted shyness (i.e., a desire to interact socially coupled with fear and anxiety).

In terms of correlates and outcomes, children's reticent behavior has been linked to indices of social maladjustment. For example, preschoolers observed to be reticent among peers are more likely to be viewed by parents and teachers as having internalizing problems (Coplan & Rubin, 1998). Researchers have also explored linkages between reticence and peer social status. Positive relationships between reticence and peer rejection have been reported in various studies. For example, Nelson et al. (1997) found that preschoolers who scored high on reticence were more likely to be rejected by their peers. In addition, Hart et al. (2000) reported that reticent behaviors were consistently linked to lower peer sociometric ratings in cross-cultural samples of Chinese, Russian, and American preschoolers.

#### *Solitary-Passive Withdrawal*

Solitary-passive behavior includes the quiet exploration of objects and/or constructive activity while playing alone at a distance from others (e.g., building things with blocks alone; drawing, painting pictures, or doing puzzles alone, examining a toy or object alone; Coplan & Rubin, 1998). From a motivational perspective, it has been argued that in contrast to their

reticent peers, solitary-passive children possess both a low social approach tendency and a low avoidance motivation (Asendorpf, 1991). Passive withdrawn children are thought to be generally disinterested in social interactions and prefer being alone. For example, with North American samples it was found that children who displayed a high frequency of solitary-passive plays at age 5 were more likely to state that social interactions and relations were unimportant to them. Furthermore, solitary-passive behavior was positively related to believing that doing well in school was important to them (Rubin, 1993). However, children who display solitary passive behavior also appear to be willing to engage in social contacts if provided with attractive social stimuli in a peer group environment. Hence, some researchers argue that unsociable children who are more passive withdrawn may possess object-oriented as opposed to people-oriented personalities (Coplan, 2000). But more recent research from Coplan and colleagues did not find support for the speculation that solitary-passive is representative of social disinterest in early childhood (Coplan et al., 2004).

With regard to developmental significance, earlier work indicated that solitary-passive play is not associated with concurrent indices of social maladjustment such as shyness, negative emotionality, anxiety, and behaviors of internalizing nature (Coplan & Rubin, 1998; Coplan et al., 1994; Harrist, Zaia, Bates, Dodge, & Petit, 1997; Rubin, 1982) and has been considered as a “benign” form of social solitude, at least in early childhood. Support for this view was further obtained by Hart et al. (2000) who found that solitary passive behavior was not associated with negative peer sociometric ratings in Chinese, Russian, and U.S. preschoolers.

However, findings from other recent investigations raise concern over the appropriateness of the term “benign” in regards to solitary-passive withdrawal. For example, based on aggregate scores of teachers’ and observers’ behavioral ratings, it was found that all three withdrawn

subtypes were negatively associated with peer sociometric status and with peer sociometric rating scores (Nelson et al., 1997). These results suggest that passively withdrawn children may have the ability to interact socially, but choosing not to interact with peers may do themselves some social harm. This appears to be more the case as children grow older, particularly as reticence and solitary passive behavior merge into a singular construct (e.g., Hart, Fujiki, Brinton, & Hart, 2004) in ways that are associated with social uncertainty, anxiety, wariness, loneliness, feelings of low self-worth, and negative peer perceptions for older children (Asendorpf, 1991; Rubin & Asendorpf, 1993; Rubin et al., 1989; Young & Daniel, 1992). Solitary-passive behaviors during middle childhood have also been predictive of indices of maladjustment in later years. For example, passive withdrawal measured at fifth grade was significantly associated with loneliness, negative perception of social and athletic competence, and felt insecurity in the peer group in the ninth grade (Rubin, 1993). It has also been suggested that social-passive behavior may carry different meanings for boys and girls. For example, Coplan et al. (2001) reported that solitary-passive behavior was negatively associated with social competence and academic achievement and positively associated with internalizing problems in boys, but the opposite pattern of results was observed for girls.

#### *Solitary-Active Withdrawal*

Solitary-active play is characterized by repetitive, sensorimotor actions with or without objects and/or by solitary dramatizing (Coplan & Rubin, 1998; Rubin, 1982). Examples include pretending by one's self that an inanimate object such as doll or stick is alive, pretending to be an airplane or fireman in the vicinity of peers, but without interacting with them while doing so, etc. The frequent display of solitary-active behavior has been suggested to reflect psychological

immaturity and poor impulse control. Unlike reticence, this form of social withdrawal is not considered to reflect social wariness and anxiety.

In support of this position are the empirical findings from Coplan et al. (1994) who found that maternal rating of shyness was not related to solitary-active behavior. On the other hand, Coplan et al. found that maternal rating of impulsivity showed a significant positive association with solitary-active behaviors, despite its very low frequency of occurrence.

Due to its noncompliant and disruptive nature, solitary-active behavior has been suggested to be salient to peers, and hence, positively correlated with peer rejection even in early childhood and predictive of later externalizing problems (Coplan et al, 1994). In addition, key components of solitary-active behavior (sensorimotor and dramatic activities) were found to be negatively correlated with measures of competence in social, social-cognitive, and social-emotional domains such as positive peer group interactions, performance on perspective-taking tasks, sociometric status, and performance on impersonal problem-solving tasks (Rubin, 1982).

In summary, three different forms of observed social withdrawal have been identified both conceptually and empirically in early childhood. Each form has its own unique underlying psychological properties and meanings. However, most of the studies on social withdrawal have been conducted with North American samples. Less is known about the concept, correlates, and consequences of social withdrawal in non-Western cultures. In recent years, researchers have begun to investigate whether this construct can also be identified in other cultures and if so, whether different forms of solitary play still carry the same psychological meanings cross-culturally.

Examining the construct of social withdrawal in the Chinese cultural context is of particular interest and importance due to the social-cultural variations in what is considered as

socially acceptable/adaptable behaviors between North America and China. For example, as “the gold standard of individualism” (Oyserman, Coon, & Kemmelmeier, 2002, p. 4), European Americans value an outward-oriented disposition to social events, which is consistent with a more individualistic and independent nature. Children are encouraged to be assertive, autonomous, and independent in challenging situations. As a result, socially withdrawn behavior is negatively regarded and considered as “deviant” from normal social experience in North American culture. In contrast, collectivistic Chinese culture upholds group-dependent values and norms, therefore, these same behaviors may be interpreted and regarded in a very different way. The following section will address the extant literature concerning the concept of social withdrawal in the Chinese culture.

#### Social Withdrawal within the Chinese Cultural Context

In general, there has been limited research on the conceptualization of social withdrawal and its correlates and consequences in China. Also, the extant studies often produced discrepant results regarding the outcomes associated with social withdrawal.

One line of thinking which dominated the earlier work in the 1990s is that shyness/behavioral inhibition is linked to positive outcomes (e.g., social competence, school adjustment, academic achievement, peer acceptance) due to its reserved nature which fits into traditional Chinese values. It has been argued that despite sweeping social-economical changes which have occurred in Mainland China in the recent decades, Chinese families still retain most of the traditional values concerning children’s development and behavioral norms (Chen, Li, Li, Li, & Liu, 2000; Wu, Robinson, Yang, Hart, Olsen, Porter et al., 2002). Consistent with traditional Confucian and Taoist ideologies which emphasize social order and interpersonal harmony, self-restraint is considered as an important index of social maturity, self-mastery, and

understanding. In Chinese collectivistic culture, inhibited, shy, sensitive, group-dependent, and socially restrained behaviors might be accepted, valued, and even encouraged by adult authority figures (Chen, Rubin, & Li, 1995; Chen, Rubin, & Sun, 1992; Ho, 1986), since those behavioral characteristics are viewed as conducive to maintaining the social order and group harmony. Thus, unlike their North American counterparts, shy and behaviorally inhibited children would be considered as well-behaved and understanding rather than as socially immature and incompetent, thus, positively accepted by adults and peers.

To test these hypotheses, Chen and colleagues conducted a series of cross-cultural investigations in the 1990s, exploring one key aspect of social withdrawal, namely, shyness/sensitivity and its developmental correlates and consequences (Chen et al., 1992; Chen, Rubin, & Li, 1995a; Chen, Rubin, & Li, 1995b). Shyness/sensitivity was operationalized in these studies as children being perceived as sad, shy, or having feelings easily hurt by others. In a study comparing 8- and 10-year-old Chinese children with a group of same aged Canadian counterparts, Chen and colleagues (1992) examined the relations between social reputation and peer sociometric status. Results indicated that shyness/sensitivity was *positively* associated with sociability-leadership and with peer acceptance among Chinese children, whereas in the Canadian sample, shyness/sensitivity was *negatively* correlated with measures of peer acceptance. In addition, the items measuring shyness/sensitivity were separated from items assessing “isolation” in the factor structure only for Chinese children. Chen et al. (1995a) also investigated the relations between shyness/sensitivity and peer sociometric status with a group of middle school-aged children in a subsequent study. Results indicated that shyness/sensitivity was also positively related to sociability-leadership and peer acceptance among Chinese middle school-aged children. In addition, shy, inhibited, and withdrawn behaviors were not related to children’s



depression and feelings of loneliness. In fact, socially inhibited children were found to be less likely to feel depressed than their normal counterparts (Chen et al., 1995b).

However, the most recent work from Chen and colleagues (Chen, Cen, Li, & He, 2005) suggested the possibility of societal transition effects on the developmental correlates and consequences of social withdrawal in China. For example, more and more cultural interactions have occurred between China and Western countries ever since China opened its doors to the world market and adopted the market economic system. As a result, individualistic values and ideologies, more than likely, have been gradually accepted by the younger Chinese generation. The desire for freedom, independence, and individuality has become prevalent among young people (Lau, 1996). In response to these socio-cultural changes, Chinese schools have expanded the education goals to include helping children develop social and behavioral characteristics that are required in a more competitive society. In their work, Chen et al. (2005) analyzed the relations between social functioning and adjustment in three cohorts (1990, 1998, and 2002) of elementary school children. The effect of different societal transition was manifested in the relations between shyness-sensitivity and social adjustment among these three cohorts. For instance, shyness-sensitivity was *positively* associated with indices of social adjustment and academic achievement in the 1990 cohort. However, shyness-sensitivity was found to be *negatively* correlated with social and school adjustment and positively related to peer rejection, school problems, and depression in the 2002 cohort. The patterns of association were weaker, mixed, or not significant in the 1998 cohort.

Using the previously defined constructs of reticence, solitary-passive, and solitary-active forms of withdrawal, which are somewhat different constructs than shyness/sensitivity, an alternative view has emerged in the literature. This view suggests that withdrawing from peer

interaction would likely be linked to negative social outcomes since it may well be considered as a failure to conform to group-oriented norms in collectivistic cultures such as China (Cheah & Rubin, 2004; Hart et al., 2000). For example, using data gathered in 1995 and 1998, Hart and colleagues empirically examined the existence of subtypes of observed social withdrawal among Chinese preschoolers and the linkage between each subtype and peer group acceptance (Hart et al., 2000). Their findings indicated that these three subtypes of observed social withdrawal (i.e., reticence, solitary-passive, and solitary-active) can be empirically identified by Chinese teachers of a group of 4- to 6-year-old preschoolers. Also, reticence, but not solitary-active or solitary-passive behavior, was linked to peer rejection in China, similar to what was found in North America and Russia. In contrast to earlier work by Chen regarding social sensitivity, the mid- to late 1990's data suggests that reticent behavior may have been viewed negatively by preschool peers in China during the 1990s as well.

Although not tested in the Hart et al.'s (2000) study, the authors speculated that even though the linkage between reticence and lower peer ratings was similar across cultures, the underlying reasons for the this relationship may vary across these cultural milieus. For example, whereas reticence may be viewed as a failure to exert oneself with confidence in Western cultures, the same behavioral manifestation may be regarded as a failure to fit into a group in the Chinese culture. This speculation is somewhat supported by what Stimpel, Zheng, and Meredith (1997) have observed in Chinese preschools. They reported that the majority of activities in the preschool involved group play, which is considered as an effective way of preparing children for a society that honors the value of collectivism. In addition to direct observation of school activities, parents and preschool teachers were also interviewed by Stimpel, Zheng, and Meredith.

During their interviews, parents and preschool teachers often stressed the importance of children learning to be together and of helping children find their proper place in the social order.

Similar to Stimpel, Zheng, and Meredith, Cheah and Rubin (2004) maintain that as individualistic cultures value the skills of interacting with out-group strangers, collectivistic cultures value the skills of interacting with in-group others, such as peers. Hence, in collectivistic Chinese culture, not interacting with peers in a familiar social setting by either being alone, playing alone, or acting alone, may well be negatively perceived by others since such “nonsocial” behaviors hinder “in-group interactions” (p. 84). European American and Mainland Chinese mothers’ responses to preschoolers’ social withdrawal were examined in Cheah and Rubin’s study and their results indicated that both groups of mothers reacted with negative emotions such as feeling anxious regarding social withdrawn behaviors among preschoolers. Cheah and Rubin further examined the socialization goals that parents have with regard to social withdrawal. Unlike their European American counterparts whose socialization goal was focused on the needs of the children and increasing children’s self-confidence, Chinese mothers were less likely to be concerned with children’s internal psychological state. Instead, their main concern was on how children’s nonsocial behaviors may impact their long-term functioning in a group-oriented society. In their interview, Chinese mothers reported higher proportions of collectivistic socialization goals, which emphasized the importance of group interactions and harmony. Chinese mothers also stated that their main purpose of changing children’s withdrawn behavior “was to develop his/her group spirit” (p.92), whereas American mothers were more focused on the emotional needs of the child.

Not only do Chinese mothers of preschoolers apparently react negatively toward social solitude in early childhood, they also utilize certain parenting practices to encourage more social

interactions among peers when their children were rated as socially withdrawn by teachers. For example, in a study examining the relations among peer contacts patterns, parenting practices and preschoolers' social competence in China, Russia, and the United States, Hart and colleagues (1998) found that mothers in all three cultures became more involved in mediating functions (e.g., initiating contacts, planning activities) when their children were rated by teachers as being more withdrawn. Specifically, teacher rated child non-affiliation and "conducting play by oneself" appeared to prompt more interactive supervision on the part of Chinese mothers, perhaps as a means of encouraging more social involvement with playmates during non-school, peer-play interactions.

Few studies in the extant literature have examined the correlates and consequence of social withdrawal among Chinese children. For example, in addition to Hart et al.'s cross-cultural comparison (2000), Schwartz, Chang, and Farver (2001) investigated the behavioral correlates of peer victimization with a sample of Chinese elementary school children. Moderately strong associations between teacher ratings of submissiveness-withdrawal (e.g., timid or shy, overly submissive, likes to play alone) and victimization by peers was reported in the study. Beyond these studies, little if any research has apparently been conducted to examine the relationships between social withdrawal and various childhood behavioral profiles that include sociability, internalizing, and externalizing problems.

In sum, findings regarding social withdrawal across the past two decades in China are less than clear-cut, which may likely be attributed to differing definitions, measures, research methodologies, age range of participants, and time periods when investigations were conducted. For example, with older children and adolescents, a key aspect of social withdrawal - shyness/sensitivity, measured by items such as "easily hurt feelings" and "usually sad" that taps

internal social reactivity and oversensitivity was positively related to social competence, leadership, and peer acceptance in the 1990s (Chen et al., 1992; Chen et al., 1995). However the same construct was found to be linked to peer rejection, school problems, and depression in Chinese elementary school-aged children in a 2002 cohort (Chen et al., 2005). Alternatively, recent studies with younger Chinese children found not only did Chinese mothers react with negative emotions (e.g., feeling anxious) to social withdrawal in early childhood (Cheah & Rubin, 2004), teacher-ratings of reticence among preschoolers was also associated with peer rejection in China (Hart et al., 2000). In addition, teacher ratings of submissiveness-withdrawal has been linked to victimization by peers in middle childhood (Schwartz et al., 2001). Given these mixed findings and paucity of work in early childhood in China, the main purpose of this study was to explore the various behavioral correlates of observed subtypes of social withdrawal among Chinese preschoolers.

### Behavioral Correlates of Social Withdrawal

In this section, various behavioral correlates of different forms of observed social withdrawal (i.e., reticence, solitary-passive, solitary-active) will be examined in detail. The behavioral correlates considered here include both externalizing (i.e., aggression, peer victimization, impulsive/disruptive behaviors) and internalizing problems (i.e., depression) and assertiveness-prosociability.

#### *Social Withdrawal and Assertiveness-prosociability*

In general, the relation between social withdrawal and prosociability has been described as a negative one in Western literature. Specifically, children who are socially withdrawn and who consistently demonstrate social anxiety during peer interactions tend to be less likely to help share, and comfort when compared to more outgoing children (Hart, Durock, London, & Atkins,

2003). Furthermore, with a group of toddlers, Young, Fox, and Zahn-Waxler (1999) observed that behavior inhibition at age 2 was associated with lower level of prosocial behavior (a key aspect of prosociability), especially with strangers.

However, some researchers speculated that social solitude may not always be linked to lower levels of prosocial behavior. The relations between social withdrawal and prosocial behaviors may change over the course of development, depending on levels of familiarity among the participants involved in the social exchanges, and the nature of the prosocial interactions (i.e., whether spontaneously emitted or a response to a request). In particular, some circumstantial evidence has suggested that young adolescents who were higher in evaluative concerns participated in more prosocial behaviors and were less aggressive (Rudolph & Conley, 2005). Also, children who tend to exhibit social wariness during social interactions may be more likely to engage in prosocial behaviors with peers that they know. For example, it was observed that preschoolers who had higher level of social anxiety were relatively more likely to be prosocial towards their younger siblings (Volling., 2001). The possible explanation is that anxious-withdrawn children are more likely to experience another person's distress as they grow older, and the familiarity with that person may help decrease their social anxiety. Furthermore, it has been reported that introversion among elementary school children was correlated with helping in ways that did not involve approaching the injured person (Suda & Fouts, 1980). Overall, compared to their withdrawn counterparts, sociable children seem to be engaged in more prosocial behaviors when assisting others in ways that involves social initiation or results in social interaction. This is consistent with what was reported in the Waterloo Longitudinal Project indicating that socially withdrawn children took less social initiation than their non-withdrawn counterparts (Rubin, 1993).

Schwartz et al. (2001) also found a negative relation between submissive-withdrawn and assertive-prosocial behaviors in China among elementary school-aged children. Both assertive (i.e., be assertive and stands up for self without using aggression, good leader) and prosocial (i.e., shares with peers, helpful to peers) aspects of sociability were examined in relation to peer victimization. In addition to being negatively related to victimization by peers, both assertive and prosocial behaviors were negatively correlated with children's submissive withdrawal

Even though researchers have recognized that social withdrawal is a multifaceted construct, which consists of different forms of social solitude (i.e., solitary-passive, solitary-active, reticence) with its own unique underlying psychological mechanism and social consequences, there have been no studies explicitly examining the associations between observed subtypes of social withdrawal and childhood prosociability. In fact, these different forms of non-social play may well be related to aspects of prosociability in their own unique ways among young children. For example, the display of solitary-passive behavior is indicative of social disinterest; therefore, it may be negatively associated with both assertive and prosocial behaviors. As an indicator of social wariness and anxiety, reticent behaviors may also be negatively linked to assertive and prosocial behaviors, especially among strangers. But among familiar peers, reticent children may be more likely to provide help due to their increased sensitivity to other children's distress. Furthermore, since solitary-active withdrawal has been suggested to reflect psychological immaturity, poor impulse control, and socially inappropriate behavior, it is reasonable to speculate that solitary-active behaviors would be negatively correlated with prosocial behaviors, which are more socially appropriate in many contexts.

### *Social Withdrawal and Aggression*

One specific subtype of observed social withdrawal (solitary-active play) has been consistently linked to externalizing problems (in particular aggressiveness) during the preschool-age period (Coplan, 2000; Coplan & Rubin, 1998). Researchers hypothesized that solitary-active play is representative of social immaturity and poor impulse control, hence, is more likely to be associated with problems of an externalizing nature. Evidence from empirical studies also supports this speculation. For example, a short-term longitudinal study by Coplan (2000) indicated that solitary-active behavior during school entry was positively related to rough play at six weeks and externalizing problems four months later in preschool. In addition, solitary-active play was significantly related to teacher and/or peer derived indices of aggression (Rubin & Mills, 1988).

Solitary-passive play was not found to be associated with problems of an externalizing nature during the early childhood (Rubin, 1993), and reticence has been reported to be negatively related to externalizing problem (Coplan, 2000).

Even though not a main focus of the study, Schwartz et al.'s research (2001) also explored the relations between submissive-withdrawal (e.g., likely to play alone; gives in easily to demands or requests from peers; overly submissive) and aggression in China. Child aggression was assessed through self-report, peer nominations, and teacher ratings. Also, items used to measure aggression tapped into both physical (i.e., uses force to obtain other children's possessions) and relational (i.e., tries to get other children to stop playing with a peer) forms of aggression. A moderately strong negative association was reported between submissiveness-withdrawal and aggression. However, whether physical and relational forms of aggression are



differentially related to submissive-withdrawn behavior among Chinese school-aged children remains unknown.

### *Social Withdrawal and Victimization*

Evidence suggests that the relations between social withdrawal and peer victimization change during the course of development. During early childhood, social withdrawal has not been associated with victimization by peers. However, children who are characterized by submissive, inhibited, and withdrawn behaviors are more likely to be targeted for verbal and physical abuse during middle childhood (Biovin, Hymel, & Bukowski, 1995). Researchers speculated that behavioral characteristics of socially withdrawn children become increasingly noticeable to peers as children get older (Rubin, Burgess, & Coplan, 2002). Hence, the association between social withdrawal and peer victimization has not been shown to be significant until mid-childhood.

Whether or not socially withdrawn children emerge as frequent victims of bullying in the Chinese cultural context is a question of high interest due to the cultural differences between Chinese society and Western countries (Triandis, 1993). In regards to this, a series of studies conducted by Chen and colleagues have suggested that processes predicting positive social outcomes in China differ from the corresponding processes in Western cultures (Chen & Rubin, 1992; Chen et al., 1995a; Chen et al., 1995b; Chen et al., 1992). For example, it has been demonstrated that in China, shyness-sensitivity is often associated with acceptance by elementary school peers (Chen et al., 1992). Hence, the relation between social withdrawn behaviors and victimization by peers may not be replicated among Chinese children. Schwartz et al.'s study (2001) was the first empirical investigation that explored behavioral correlates of peer victimization with a group of Chinese elementary school children (fifth and sixth graders with a

mean age of 11). Recognizing that social withdrawal may not be a unitary phenomenon, they specifically examined the anxious form of social avoidance which bears strong resemblance to the reticence subtype of observed social withdrawal in Western literature. The results indicated a moderately strong association between submissiveness-withdrawal and peer victimization.

However, it is unclear whether this pattern of findings can be replicated with younger children in China. No extant studies have explored the relations between social withdrawal, especially the subtypes of observed social withdrawal, and peer victimization during early childhood in the context of Chinese culture.

#### *Social Withdrawal and Internalizing Problems*

It has been long hypothesized that social withdrawal may be concurrently and predicatively associated with children's internalizing problems (e.g., depression, low self-esteem, feelings of loneliness) in the Western literature. The Waterloo Longitudinal Project conducted by Rubin and colleagues empirically tested the relations between social withdrawal in early and mid-childhood and measures of internalizing difficulties in later childhood (Rubin, Chen, McDougall, Bowker, & McKinnon, 1995). Internalizing difficulties assessed in the study included self-reports of social competence, overall self-worth, loneliness, and depression as well as teacher ratings of shy/anxious behaviors in late childhood. Significant relations were found between early social withdrawal in kindergarten and Grade 2 and subsequent internalizing problems in Grade 4 and 5, which suggests that social withdrawal in early childhood is predictive of risk for internalizing difficulties in later years (Rubin, Hymel, & Mills, 1989). In addition, Rubin and colleagues reported that a composite measure of observed and peer assessed social withdrawal at age 7 predicted negative self-perceived social competence, low self-worth, loneliness, and felt peer group insecurity at age 14 (Rubin et al., 1995).

In addition to the more general index of observed withdrawal, Rubin and colleagues also examined the long-term correlates of two observed forms of social solitude (solitary-passive vs. solitary-active) in the Waterloo Longitudinal Project. It was found that children who engaged in high frequencies of passive solitary behaviors in kindergarten subsequently reported negative feelings of self-worth, negative evaluations of their own social competence, a high degree of loneliness in Grade 4, and feelings of low self-worth and depression in Grade 5. In addition, Grade 5 teacher ratings of anxiety were positively associated with the display of solitary-passive behaviors in kindergarten. Furthermore, children who engaged in a high frequency of passive withdrawn behavior in Grade 2 were found to perceive themselves as lacking social competence and as lonely in grade 4 and as depressed in grade 5. On the other hand, solitary-active play was not related to the teacher and peer assessments of fearfulness (Rubin & Mills, 1988).

Whether social withdrawal in early childhood is a cause of subsequent internalizing difficulties in later childhood is still debatable. Solitude and the lack of social interaction in early childhood may well be symptoms of underlying psychological problems such as anxiety, insecurity, and negative self-regard.

No studies have been conducted in China to examine the relations between different observed forms of social withdrawal and internalizing problems (i.e., depression) during childhood. However, the association between shyness-inhibition and depression has been tested with a group of Chinese school-aged children (Chen et al., 1995b). No significant correlations were found between depression and both peer-assessed and teacher-rated shyness-sensitivity. Furthermore, it was found that depressed children were significantly less shy and sensitive than their non-depressed counterparts. However, as noted earlier, shyness/sensitivity taps into a different construct than reticence, solitary passive, and solitary active withdrawal.

### *Social Withdrawal and Impulsive/disruptive Behaviors*

The frequent display of solitary-active play was thought to be reflective of social immaturity and impulsivity during early childhood; this particular form of social solitude was postulated to be associated with impulsive and disruptive behaviors among young children. Findings from Coplan et al.'s study (1994) with a group of preschoolers indicated that observed solitary-active play among quartets of unfamiliar same-sex peers was related to maternal ratings of impulsivity (high emotionality plus high activity level). However, possibly due to very low occurrence of both solitary-active and disruptive behaviors, the study failed to report significant associations between solitary-active play and observed noncompliance and disruptiveness. Furthermore, reticent behaviors during free play were negatively correlated with the impulsivity aggregated variable, which represented poor performance such as a higher proportion of time spent in off-task-disruptive during clean-up and ticket-sorting sessions due to impulsivity and disruptiveness. No relations between solitary-passive play and both observed impulsive/disruptive behaviors and maternal rating of impulsiveness were found.

Whether the same pattern of results can be replicated with young children in China is unknown. There have been no extant studies attempted to explore the relations between different forms of observed social withdrawal and childhood impulsive and disruptive behaviors in early childhood.

### *Social Withdrawal and Gender Differences*

Researchers have also investigated the possible gender differences in the manifestation of social withdrawal and its differential correlates and consequences. In general, no significant gender effects in the frequency of occurrence of various forms of social withdrawal have been reported for young children (Coplan et al., 2001; Coplan & Rubin, 1998; Coplan et al., 1994;

Rubin, 1982). For example, a recent study by Coplan and colleagues found that there were no significant differences in terms of the observed display of reticent, solitary-passive, and solitary-active behaviors among boys and girls in a study involving kindergarten children (Coplan et al., 2001). Also, in a cross-cultural study examining peer acceptance in early childhood and subtypes of social withdrawal in China, Russia, and United States, Hart et al. (2000) reported no gender differences in the level of teacher ratings of solitary-passive, solitary-active, or reticence in any of the cultural samples through latent mean comparisons.

However, interesting results have emerged regarding the potential distinct associations between non-social play and indices of maladjustment across boys and girls. In particular, findings have suggested that social withdrawal may present more risks for boys than for girls due to differential societal and cultural gender-role expectations (Stevenson-Hinde, 1989). In Western cultures, shyness and social withdrawal are perceived to be less acceptable for boys than for girls. In fact, it was observed that teachers tended to praise boys for outspoken behaviors while praising girls for being quiet (AAUW Educational Foundation, 1995). Also, withdrawn boys were more likely to have negative interactions with parents (Simpson & Stevenson-Hinde, 1985; Stevenson-Hinde, 1989), exhibited more behavior problems (Stevenson-Hinde & Glover, 1996), felt more lonely and had poorer social skills (Rubin, Chen, & Hymel, 1993) when compared to withdrawn girls.

One potential important caveat associated with these early studies examining gender differences in social withdrawal is that they mainly focused on the overall level of social solitude and their concurrent and predictive linkages to the indices of maladjustment. Some researchers started to realize that since different forms of nonsocial play (e.g., solitary-passive, solitary-active, reticence) seem to be differentially associated with indices of maladjustment in early

childhood (e.g., Coplan, 2000; Coplan et al., 1994), potential gender differences in the relations between observed subtypes of social withdrawal and indices of adjustment should be explored.

In a recent study, Coplan and colleagues (2001) investigated the relations between three subtypes of observed social withdrawal and social and school adjustment with a sample of kindergarten children in a short-term longitudinal study. Different forms of children's nonsocial play (i.e., reticent, solitary-passive, and solitary-active) were observed during free play six months into the school year. Various indices of adjustment were obtained from teacher ratings and child interviews, which included child behavior problems (internalizing and externalizing), social competence, and academic achievement near the end of school year. Results indicated that the nature of relations between two observed subtypes of social withdrawal (e.g. solitary-passive, solitary-active) and indices of adjustment differed for boys and girls. More specifically, solitary-passive play was found to be negatively associated with adjustment among boys whereas it was positively associated with adjustment among girls. For boys, solitary-passive behaviors were positively associated with internalizing problems and negatively associated with social competence and academic achievement. For girls, solitary-passive behaviors were negatively related to internalizing problems, positively related to academic achievement, and relatively unassociated with social competence. For solitary-active play, solitary-active boys did not differ from comparison boys (consisting of children who did not demonstrate any solitary-active behavior) in terms of externalizing problems. In contrast, solitary-active girls displayed significantly more externalizing problems than comparison girls. Reticent behavior was significantly and negatively associated with social competence, academic achievement, and externalizing problems for both girls and boys. In other words, there were no significant interactions between reticence and gender in the prediction of indices of adjustment.

In sum, findings from the Coplan et al.'s (2001) study demonstrate the importance of considering gender effects when examining the correlates and consequences of different subtypes of social withdrawal in early childhood. Certain forms of social withdrawal (i.e., reticence) were associated with indices of social and academic maladjustments for both boys and girls, whereas other forms of solitary play was associated with indices of maladjustment for boys (i.e., solitary-passive) and girls (i.e., solitary-active).

In the same study, Coplan et al. (2001) further explored the potential mechanism underlying the differential gender effect in the association of different forms of nonsocial play by examining the relations between subtypes of nonsocial play and two aspects of child temperamental characteristics (i.e., shyness, emotional regulation/dysregulation). It was found that shyness was negatively associated with the solitary-passive behavior for girls; however, it was positively related to solitary-passive play for boys. Hence, for girls, the display of solitary-passive behavior may be indicative of social disinterest, whereas for boys, it was an indication of social wariness. Furthermore, child shyness was related to reticence for both boys and girls. However, emotion dysregulation was found to be associated with the display of solitary-active behaviors for both boys and girls.

In addition to child temperamental attributes, parenting characteristics may also contribute to the gender differences in the correlates and consequences associated with nonsocial behavior for boys and girls. In particular, parents may differentially interpret the display of various forms of nonsocial play among boys and girls, in keeping with their cultural gender-role expectations. As a result, the same withdrawn behaviors among boys and girls may elicit different parent-child interactions. For example, for young children, Stevenson-Hinde (1989) reported that parents of inhibited girls tended to be responsive and warm, but not for boys. In

addition, it was found that fathers of socially withdrawn boys were highly directive and less engaging and physically playful during the father-child interaction. The same interaction pattern was not observed for withdrawn girls (MacDonald & Parke, 1984). Thus, gender difference in the correlates of subtypes of nonsocial play may also be partly due to different socialization experience for withdrawn boys and girls.

Little if any research has directly examined possible gender differences in the relations between different observed forms of social withdrawal and their correlates and consequences in China. However, some relevant evidence suggests that similar gender differences in nonsocial play may also exist in China. For example, in a cross-cultural study comparing the peer contact patterns, parenting practices, and preschoolers' social competence in China, Russia, and United States (Hart et al., 1998), it was found that mothers perceived themselves as enacting more interactive interventions when their children (particularly boys) were rated by teachers as being more solitary active/solitary passive in their play, which suggests that mothers were more concerned when their boys were socially withdrawn. Also, in a longitudinal study investigating social functioning and adjustment among Chinese elementary school-aged children, Chen et al. (1995) reported that shyness-sensitivity at 10 years of age predicted teacher-rated social competence at 12 years of age for girls, but not for boys. In sum, research on gender differences in social withdrawal among Chinese children has been limited and existing findings regarding gender differences are similar to what have been reported in the West.

#### Statement of the Problem

As summarized in the literature review above, research that attempts to examine the construct of social withdrawal and its corresponding developmental correlates and consequences in the light of Chinese cultural context has begun to receive more attention during the past



decade. For example, Chen and colleagues (Chen et al., 1992; Chen et al., 1995a; Chen et al., 1995b; Chen et al., 2005) have systematically investigated the relations between shyness/sensitivity (one key aspect of social withdrawal) and indices of adjustment during early and middle childhood since early 1990s. On the other hand, Hart and colleagues focused on the observed subtypes of social withdrawal and demonstrated that different forms of observed nonsocial play (i.e., solitary-passive, solitary-active, reticence) can be empirically identified with a sample of Chinese preschooler. Based on the notion that child solitary behaviors may elicit certain parenting characteristics, which in turn may help perpetuate children's tendency to be solitude, Cheah and Rubin (2004) also examined mothers' emotional responses toward withdrawn behaviors among preschoolers. Nevertheless, behavioral and other child adjustment correlates of observed subtypes of social withdrawal still remain predominantly unexplored in China. The two exceptions are Hart et al.'s (2000) investigation of peer acceptance linkages of subtypes of social withdrawal among Chinese preschoolers and Schwartz et al.'s (2001) study of relations between victimization and submissive-withdrawn behaviors. However, a clear picture of the behavioral associations involving different forms of observed social withdrawal in early childhood is much needed so as to inform intervention applications.

Hence, the goal of this study is to begin addressing this gap in the Chinese socialization literature and focus on the various behavioral correlates of different forms of nonsocial play among Chinese preschoolers. More specifically, four broad aspects of child social behaviors (i.e., assertiveness-prosociability, aggression-victimization, impulsiveness, anxiousness) were examined in the study, in relation to subtypes of observed social withdrawal (reticence, etc.) with a sample of Chinese preschoolers.

Also, since potential gender difference in the correlates of different forms of observed social withdrawal has never been studied in China, another aim of this study is to explore the relations between subtypes of nonsocial play and various behavioral correlates among boys and girls, separately.

### Hypotheses

Since this is the one of the first investigations examining the behavioral correlates of subtypes of social withdrawal during early childhood in China, the hypotheses regarding the behavioral correlates of subtypes of observed social withdrawal and the gender difference are largely exploratory in nature.

#### *Subtypes of Observed Social Withdrawal and Behavioral Correlates*

The following hypotheses regarding the behavioral correlates of three subtypes of observed social withdrawal in early childhood (i.e., reticence, solitary-passive, solitary-active) will be tested:

(a) All three subtypes of observed social withdrawal will be negatively related to children's assertiveness and prosocial behaviors. However, since there have been few, if any, studies explicitly examining the associations between subtypes of observed social withdrawal and childhood assertiveness-prosociability, this hypothesis is mainly explorative based on circumstantial evidence. For example, the display of solitary-passive behavior is indicative of social disinterest (Coplan et al., 2004). Therefore, it may be negatively associated with both assertiveness and prosociability. As an indicator of social wariness and anxiety, reticent behaviors may also be negatively linked to assertiveness and prosociability. Submissive-withdrawal which is akin to reticent behavior was recently found to be negatively correlated with prosocial behaviors with a group of Chinese elementary school-aged children (Schwartz et al.,

2001). Furthermore, since solitary-active play has been suggested to reflect psychological immaturity and poor impulse control, it is reasonable to speculate that solitary-active behaviors would be negatively correlated with prosocial behaviors, which are socially appropriate in most cultural contexts.

(b) In terms of the relations between subtypes of observed social withdrawal and aggression, it was hypothesized that solitary-active play would be associated with aggressive behaviors, particularly in the form of physical aggression. Display of solitary-active play has been considered to represent social immaturity and poor impulse control and hence, is more likely to be associated with problems with externalizing nature (Coplan, 2000). No significant relations have been reported between solitary-passive play and aggression. It was expected that the same pattern would be replicated with Chinese preschoolers. Reticence has been reported to be negatively related to externalizing problems (Coplan, 2000); hence, it was hypothesized that displays of reticence behaviors would be negatively associated with aggression. In a study involving older children, submissive-withdrawal and aggression (physical and relational aggression combined) was found to be negatively correlated (Schwartz et al., 2001).

(c) In the West, evidence has suggested that the association between social withdrawal and peer victimization changes over the course of development. During early childhood, no significant relations have been reported. However, the relations become significant when children enter mid-childhood as behavioral characteristics of socially withdrawn children becoming increasingly noticeable to peers (Rubin, Burgess, & Coplan, 2002). In addition, empirical findings with older Chinese children (age eleven) indicated a moderately strong association between submissiveness-withdrawal and peer victimization. No extant study has examined whether the same pattern of findings can be replicated with a sample of Chinese

preschoolers. However, based on the previous finding that reticence among Chinese preschoolers was associated with peer rejection (Hart et al., 2000), this subtype of observed social withdrawal was expected to be positively related to peer victimization in this study.

(d) Past research in the Western literature has consistently indicated that social withdrawal in early childhood is predictive of risk for internalizing difficulties (i.e., feelings of depression, anxious behaviors) in later years (Rubin et al., 1989; Rubin et al., 1995). In terms of different forms of nonsocial play, passive withdrawal was found to be predictive of problems of an internalizing nature, whereas solitary-active play was not (Rubin & Mills, 1988).

Few, if any, studies have been conducted in China to examine the relations between different forms of observed social withdrawal and internalizing problems (i.e., depression) during early childhood. However, the association between shyness-inhibition and depression with a group of Chinese school-aged children has been found to be negative or non-significant (Chen et al., 1995b). Since results of recent studies (Hart et al., 2000; Schwartz et al., 2001) suggest that shyness-inhibition and subtypes of observed social withdrawal tap into different aspects of social solitude, the same pattern of results may not be replicated with subtypes of social withdrawal in early childhood.

Thus, in the absence of clear cut data from the Chinese culture, and based on the findings in the Western literature, it was expected that both reticent and solitary-passive behaviors would be associated with internalizing problems such as depression, fearfulness, and anxiousness. No significant relation for solitary-active play was expected.

(e) It was hypothesized that solitary-active behavior would be correlated with impulsive/disruptive behaviors since the frequent display of solitary-active play reflects social immaturity and impulsivity during early childhood (Coplan et al., 1994). Given the results of

past research in the West, reticent behaviors were expected to be negatively correlated with impulsive/disruptive behaviors. No specific relations for solitary-passive play and childhood impulsive/disruptive behaviors were speculated.

*Gender Differences in the Behavioral Correlates of Observed Social Withdrawal*

Based on the results of one of the only studies that examined gender differences in the relations involving different forms of nonsocial play and indices of adjustment during early childhood (Coplan et al., 2001), it was expected that in general solitary-passive behavior would be more likely to correlate with indices of maladjustment for boys, and that solitary-active behavior would be more likely to associate with indices of maladjustment for girls. No gender differences were expected for the behavioral correlates of reticent behaviors.

## CHAPTER THREE

### METHOD

#### Participants

Participants included 249 boys and 257 girls from four full-day preschools in Beijing and one full-day preschool in Hangzhou of mainland China and their head teachers. Beijing is the capital city and political and cultural center of China, with a population of 13.8 million (2000 population census). Hangzhou is the capital city of Zhejiang province, with a population of 1.8 million (2000 population census). The city is well-known for its rich cultural heritage, beautiful natural scenery, and relaxed lifestyle. It has been long discussed in the literature that geographical differences have non-negligible effects on child social and personality development, especially when the migration of people from area to area has been relatively rare in the past due to the political institutions and cultural traditions in China. However, the certainty of this speculation is unclear. Hence, samples were deliberately taken from both cities representing the northern and southern parts of China, in hopes of accounting for any geographical bias resulting from when samples are gathered from only one geographical area, as has been the case in most past research conducted in China.

In this sample, children's age ranged from 3.5 to 6 years (42-84 months), with an average of 5.1 years ( $SD = .7$ ) for boys and 5.2 years ( $SD = .8$ ) for girls. The typical age range for preschoolers in China is from 3 to 6. Basic demographic information about the parents of preschoolers was also collected in order to provide some understanding of the socioeconomic background of children in this study. Parents of the preschoolers in this sample were relatively well educated, having completed an average of 2 to 3 years of education beyond high school

(Mothers:  $M=13.2$ ,  $SD=2.7$ ; Fathers:  $M=13.6$ ,  $SD=2.9$ ). Mothers had a mean age of 32.8 years ( $SD=3.7$ ), whereas fathers' average age was 34.8 ( $SD=4.9$ ).

### Procedure

Schools in China act “in loco parentis”, and thus written parental permission cannot be obtained (cf. Chen et al., 1992; Hart et al., 2000). As a part of a larger study investigating Chinese familial influences on children’s social development, however, school administrators helped arrange group meetings with the parents so that procedures could be explained to both teachers and parents by the researchers. At these group meetings, teachers and parents were also assured of confidentiality of all responses in this study. They were told that they could withdraw from the study at any time. The questionnaires were then given to the teachers and parents along with instructions on how to complete them. Researchers collected the questionnaires about a month later.

### Measures

All items were successfully forward- and back-translated by Chinese researchers who were fluent in both Chinese and English and pilot-tested with Chinese preschool teachers. Assistance was received from the investigators regarding difficult-to-translate items to ensure that the items originally developed in the West would be similarly understood by Chinese preschool teachers.

Head teachers completed a battery of questionnaires that assessed various aspects of child behavioral outcomes in early childhood, including social withdrawal, sociability, aggression, impulsiveness, and anxiousness. When rating each child, teachers were asked to “think about the child’s present behavior relative to others in this age group that you know or have known.” All the items were rated on a 3-point Likert type scale anchored by 0 (never) to 2 (always).

### *Assessment of Child Observed Social Withdrawal Subtypes*

Social withdrawal in early childhood was assessed with 13 items that have been successfully used in previous research in China (e.g., Hart et al., 2000; Nelson, Hart, Yang, Olsen, & Jin, 2006), including three subscales: reticence (5 items; e.g., “wanders aimlessly when outdoors or during free play”, “appears to be doing nothing”, “stares at other children without interacting with them”, “is fearful in approaching other children”, “watches other children play without joining in”); solitary-passive (5 items; e.g., “would rather play alone”, “does artwork by self, away from others”, “does constructive activities alone”, “read books alone, away from others”, “play with toys by self rather than with other children”); and solitary-active (3 items; e.g., “pretends to be something in the vicinity of peers doing similar things but does not interact with them while doing so”; “animates toys by self, pretending an inanimate object is alive, away from others”, “does pretend/dramatic play with others, but does not interact with them while doing so”).

### *Assessment of Child Assertiveness-prosociability*

This scale consists of 12 items, designed to assess teacher’s perceptions of children’s prosocial behaviors (four items; e.g., “offers to help other children who are having difficulty with a task in the classroom”, “comforts a child who is crying or upset”, “praises the work of less capable children”, “helping other children who are feeling sick”), assertiveness (three items; e.g., “introduces himself or herself to new people without being asked”, “acknowledges compliments or praise from peers”, “says nice things about himself or herself when appropriate”); and teacher delights (5 items; e.g., “finishes class assignments within time limits”, “produces correct schoolwork”, “puts work materials or school property away”, “is efficient in carrying out daily tasks such as cleanup”, “attends to teacher’s instructions”).



### *Assessment of Child Aggression-victimization*

The child aggression scale includes three subscales: physical aggression, relational aggression, and victimization. The physical aggression construct used in this study was defined by 4 items: (a) hits, kicks, pushes to get something he/she wants; (b) ruins other children's things (artwork, block structures) when upset; (c) throws things at other children when he/she doesn't get his/her own way; and (d) pushes or hits peers to get even for something that was done accidentally. The relational aggression construct used in this study was measured by the following 6 items: (a) tells other children not to play with someone; (b) tells other children not to play with or be a peer's friend; (c) tries to get others to dislike a peer by whispering mean things about the child behind their back; (d) tells a peer that he/she won't play with them if he/she doesn't do what is asked; (e) tells other children that they can't play with the group unless they do what the group wants them to do; and (f) says, "I won't be your friend" to peers "if you don't do things my way." The victimization subscale consists of three items: (a) is picked on by mean kids; (b) is pushed around by other children; and (c) is made fun of by means kids.

### *Assessment of Child Impulsiveness*

Three constructs were considered when assessing preschooler's early impulsiveness in this study: venting (four items; e.g., "has temper tantrums", "stamps feet when angry", "has sudden mood changes", "is stubborn"), nonconformance (four items; e.g., "excessive praise or reward is required to get child to do chores/assignment such as cleanup", "is not sorry after misbehaves", "dawdles when required to do something", "won't do chores/assignment such as cleanup unless threatened in some way"), and disruptive (four items; e.g., "disturbs ongoing activities", "interrupts conversations of others", "draws attention to self in disruptive ways when trying to enter ongoing activities with peers", "butts into games or activities").

### *Assessment of Child Anxiousness*

Four aspects of child anxiousness were included in this study: distractible (five items; e.g., “restless. Runs about or jumps up and down. Doesn’t keep still”, “has poor concentration or short attention span”, “inattentive”, “fidgets or moves excessively”, “is restless and overactive”), fearful (four items; e.g., “tends to be fearful or afraid of new things or new situation”, “shows anxiety about being with a group of children”, “rather than asking to something he/she wants, does not ask and appears to wait for it to happen”, “rather than asking for something he/she wants, choose to do something else”), oversensitive/depressed (three items; e.g., “is worried. Worries about many things”, “appears miserable, unhappy, tearful, or distressed”, “acts sad or depressed”), and automanipulative (three items, e.g., “bites nails or fingers”, “manipulates body parts such as twists/wrings hands, hair, mouth, ears”, “twists/manipulates clothing”).

### Analyses

A structure equation modeling (SEM) approach was used to examine the behavioral correlates of the three subtypes of social withdrawal in this study. SEM is preferred over standard exploratory factor analysis and regression path analysis due to the following reasons. First, SEM is a flexible tool in that it incorporates both factor analysis (the measurement model) and path analysis (the structural equation model) in the same model so a set of regression equations linking latent variables of interest that are measured by observed variables can be tested simultaneously. More importantly, measurement error is not taken into account in standard exploratory factor analysis and regression path analysis, so the magnitudes of the factoring loading and regression coefficient estimates are attenuated. In SEM, measurement and confirmatory factor analysis (CFA) can be used to purge errors, making relationships among latent variables less contaminated by measurement errors. Furthermore, SEM has an ability to fit

non-standard models including datasets with non-normally distributed variables and incomplete data (Kline, 1998). Given the above-mentioned reasons, the structural equation modeling approach was adopted for analyzing data in this study.

More specifically, categorical analyses were carried out with the MPlus program due to the nature of skewed and ordinal data that were collected with Likert-type scales with only three values (0-never, 1-sometimes, and 2-very often) for this study. It has been argued that using raw ordinal scores as true measures of linear statistical analyses may produce distorted results. Prior research suggests that underestimation problems may arise when treating ordinal data as continuous (Babakus, Ferguson, & Jöreskog, 1987). A more appropriate alternative approach is to perform categorical analyses when data is ordinal in nature rather than interval, using the polychoric correlations of the ordinal data as data input in SEM rather than the linear Pearson's product moment correlations (Muthen, 1983; Rigdon & Ferguson, 1991; Muthen & Muthen, 2001).

Yang, Hart, Nelson, Porter, Olsen, and Robinson (2004) empirically compared and contrasted categorical and continuous approaches with data collected with Likert-type scales. It was found that the path coefficients were attenuated when the structural equation model was estimated based on the linear Pearson's product moment correlations rather than the polychoric correlation of the ordinal data. Since the MPlus program is able to treat skewed Likert-type scales of ordinal data through categorical analysis, categorical approaches to data analyses in structural equation modeling through MPlus was adopted in this study.

Regarding the reliability of the measurement model in CFA, standardized factor loadings greater than .40 indicate an acceptable reliability when samples consist of more than 150 cases (Stevens, 1996). Also, unlike in exploratory factor analysis, Cronbach's  $\alpha$  is not typically

reported in CFA as an indicator of reliability since “latent variables are not multiple-item scales and  $\alpha$  values therefore cannot be calculated” (Nelson, Hart, Yang, Olsen, & Jin, 2006, p.560). Furthermore, a minimum of three observed variables per latent construct is recommended in order for the latent variable to be reliably measured (Kline, 1998).

In terms of measuring overall fit, there is a large array of model fit statistics described in the SEM literature. The following indices are typically reported by researchers to measure the overall fit of a specified model. First, the  $\chi^2$  statistic tests the absolute fit of the overall model to the data. Low and nonsignificant values of  $\chi^2$  indicates that the null hypothesis where the specified model fits the data is true. However, the  $\chi^2$  statistic is very sensitive to sample size. With a large sample size the  $\chi^2$  statistic may be significant even when the differences between the observed and model implied covariances are small. To reduce the sensitivity of  $\chi^2$  to sample size, the  $\chi^2$  to degree of freedom ratio is often suggested by researchers with 3 as a frequently used cutoff point. In general, a  $\chi^2$  to degree of freedom ratio less than 3 indicates a good fit. The Bentler’s Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) tests the relative fit of a specified model. Both CFI and TLI can be interpreted as the proportion of the improvement of researcher’s specified model relative to the basement model. In the basement model, the observed variables are assumed to be uncorrelated. Hence, the larger the values of these two statistics, the greater the model improvement in fitting the observed covariance matrix. The Root Mean Square Error of Approximation (RMSEA) is another fairly used index which is less sensitive to sample size. Values less than .08 suggest an adequate fit. Since indexes discussed above reflect somewhat different aspects of the model fit, multiple fit indices are preferred and were reported in this study.

Analyses for this study were carried out by the Mplus statistical modeling program (Muthen & Muthen, 2001) in three steps. First, a two-group (boys and girls) confirmatory factor analysis (CFA) was conducted to test the social withdrawal measurement model consisting of reticence, solitary-passive, and solitary-active constructs. Second, four sets of two-group (boys and girls) CFAs were fit for sociability (i.e., prosocial behaviors, assertiveness, and teacher delights), aggression (i.e., physical aggression, relational aggression, and victimization), impulsiveness (i.e., disruptive, venting, and nonconformance), and anxiousness (i.e., distractible, fearful, oversensitive/depressed, and auto-manipulative). For all the measurement models, factorial invariance across gender groups was also assessed to ensure that items used to measure each latent construct were invariant or at least partially invariant among boy and girls. Finally, the associations of each subtypes of observed social withdrawal with other child behavioral correlates were estimated with a series of two-group structural equation models with each observed social withdrawal subtype as exogenous variable and other child behavioral outcomes (e.g., sociability, aggression, impulsiveness, and anxiousness) as endogenous variables. Gender differences among the associations between social withdrawal subtypes and an array of early childhood behavioral correlates were specifically examined. In addition, due to the rather large variation of participants' age (4-6 years), child age was incorporated as a covariate in SEM to account for the effect of age associated with social withdrawal.

## CHAPTER FOUR

### RESULTS

#### Measurement Model of Childhood Observed Social Withdrawal Subtypes

Initially, the measurement model of social withdrawal was estimated with a two-group (boys and girls) CFA. The baseline model was first estimated with all the factor loadings freely estimated across the two gender groups, which yielded a fairly good fit to the data:  $\chi^2=159.59$ ,  $df=61$ ,  $p<.001$ ,  $CFI=0.98$ ,  $TLI=0.99$ ,  $RMSEA= 0.079$ . The standardized factor loadings for the social withdrawal model are presented in Table 1.

In a two-group CFA, a main question concerns measurement invariance, namely, whether factor loadings were invariant across both gender groups. Typically, invariance of factor loadings (Little, 1997) or at least partial invariance (Byrne, Shavelson, & Muthen, 1997) is essential for identifying similar latent constructs across groups. To evaluate the measurement invariance with CFA, typically a likelihood ratio  $\chi^2$  difference test comparing the relative fits of the two factor models were performed. A model without metric equality constraints served as the baseline model, which is compared against another model with the same factor structure with equality-constrained factor loadings. Non significant  $\chi^2$  difference test suggests the observed variables measure the same latent construct across groups.

Measurement invariance of the factor loadings for the social withdrawal model was tested by comparing a constrained model which had all factor loadings constrained to be equal across boys and girls with the baseline model. The goodness of fit index ( $\chi^2$ ) increased non-significantly ( $\chi^2_{dif}=13.29$ ,  $df_{dif}=7$ ,  $p>.05$ ), which indicated that the items used to measure social withdrawal subtypes were statistically equivalent for boys and girls in this Chinese sample.

Similar to what has been reported in previous research (Hart et al., 2000, Nelson, et al., 2006), latent correlations of subtypes of social withdrawal were high, with solitary-passive and solitary-active=0.91, solitary-passive and reticence=0.93, solitary-active and reticence=0.92 for boys and solitary-passive and solitary-active=0.89, solitary-passive and reticence=0.93, solitary-active and reticence=0.90 for girls.

Due to the high intercorrelations among the subtypes of social withdrawal, several alternative models merging two constructs were examined to test whether the reticence, solitary-passive, and solitary-active constructs were well distinguished statistically. The chi-square difference tests showed that the measurement model with three separate social withdrawal factors fits the data much better than any other two-factor models by merging any two of the constructs together. Specifically, merging solitary-passive and solitary-active as one construct significantly worsened the model ( $\chi^2_{\text{dif}}=30.98$ ,  $df_{\text{dif}}=5$ ,  $p<.00$ ), the same for merging solitary-passive and reticence ( $\chi^2_{\text{dif}}=21.08$ ,  $df_{\text{dif}}=5$ ,  $p<.001$ ), and merging solitary-active and reticence ( $\chi^2_{\text{dif}}=22.56$ ,  $df_{\text{dif}}=5$ ,  $p<.001$ ). Hence, the findings indicated the three constructs of social withdrawal were conceptually and statistically well distinguished, despite the high correlations among the constructs.

#### Measurement Models of Childhood Behavioral Correlates

Second, a series of two-group (boys and girls) CFA were conducted to examine the measurement models of a variety of child behavioral outcomes (i.e., assertiveness-prosociability, aggression-victimization, impulsiveness, anxiousness).

##### *Childhood Assertiveness-prosociability*

A 12-item, three-factor (prosocial, assertiveness, and teacher delight) unconstrained measurement model provided a good fit to the data:  $\chi^2=158.25$ ,  $df=68$ ,  $p<.001$ ,  $CFI=0.96$ ,  $TLI=0.98$ ,  $RMSEA= 0.073$ . The standardized factor loadings are presented in Table 2.

Measurement invariance of the factor loadings were examined with a chi-square difference test by comparing a constrained model (factors loadings were constrained to be equal between boys and girls) with the baseline unconstrained model. The results from the chi-square difference test suggested that all the factor loadings are statistically equivalent across child gender ( $\chi^2_{dif}=9.48$  ,  $df_{dif} =8$  ,  $p=0.30$ ).

The latent correlations among the three constructs were modest to high, with prosocial and teacher delight=0.62, assertiveness and teacher delight=0.58, and prosocial and assertiveness=0.70 for boys, and prosocial and teacher delight=0.56, assertiveness and teacher delight=0.75, and prosocial and assertiveness=0.62 for girls.

An alternative model was tested by merging teacher delight and assertiveness together. The model fit indexes decreased significantly for alternative model, and differ significantly from the three-factor baseline model ( $\chi^2_{dif}=118.01$  ,  $df_{dif} =6$  ,  $p<.001$ ).

#### *Childhood Aggression-victimization*

Three dominant aspects (e.g., physical aggression, relational aggression, victimization) of childhood aggression measured with 13 items provided a good fit to the data:  $\chi^2=122.40$ ,  $df=57$ ,  $p<.001$ ,  $CFI=0.98$ ,  $TLI=0.99$ ,  $RMSEA= 0.068$ . The standardized factor loadings are presented in Table 3.

Non-significant results from the chi-square difference test for testing the measurement invariance of the factor loadings suggested that all the factor loadings are statistically equivalent across child gender groups ( $\chi^2_{dif}=6.95$  ,  $df_{dif} =7$  ,  $p=0.43$ ).



Consistent with high correlation coefficients reported in prior research regarding physical and relational aggression with various samples (McNeilly-Choque, Hart, Robinson, Nelson, & Olsen, 1996; Nelson, Robinson, & Hart, 2005; Yang et al. 2004), the latent correlation for physical and relational aggression was .75 for boys and .84 for girls. The latent correlations for victimization and physical and relational aggression were modest, with victimization and physical aggression=0.50, victimization and relational aggression=0.54 for girls, and victimization and physical aggression=0.45, victimization and relational aggression=0.44 for boys.

Due to the high latent correlation between physical and relational aggression, an alternative model was tested by merging these two constructs together. The model fit indexes decreased significantly for the alternative model, and differed significantly from the three-factor baseline model ( $\chi^2_{\text{dif}}=61.22$ ,  $df_{\text{dif}}=4$ ,  $p<.001$ ). Thus, despite the high latent correlation, the physical and relational aggression constructs were statistically distinguished.

### *Childhood Impulsiveness*

Twelve items were used to measure three main aspects of child impulsiveness: venting, nonconformance, and disruptive. A baseline model with all the factor loadings freely estimated across the two gender groups yielded a fairly good fit to the data: a three-factor unconstrained measurement model fit the data:  $\chi^2=126.98$ ,  $df=61$ ,  $p<.001$ , CFI=0.98, TLI=0.99, RMSEA=0.066. The standardized factor loadings are presented in Table 4.

A second model had all the factor loadings constrained to be invariant for boys and girls. The chi-square difference test comparing the second model with the baseline unconstrained model indicated that all the factor loadings are statistically equivalent across child gender ( $\chi^2_{\text{dif}}=4.78$ ,  $df_{\text{dif}}=7$ ,  $p=0.69$ ).

Further analyses showed that these three impulsiveness constructs were highly correlated (venting and disruptive=0.74, nonconformance with disruptive= 0.76, and nonconformance with venting= 0.78 for girls; venting and disruptive=0.74, nonconformance with disruptive= 0.77, and nonconformance with venting= 0.74 for boys). To test whether these three constructs were well distinguished, several two-factor models combining any two of the impulsiveness constructs were compared to the three-factor baseline model. The model fit indexes decreased significantly for any of the two-factor alternative models, and differ significantly from the baseline model ( $\chi^2_{\text{dif}}=95.11$ ,  $df_{\text{dif}}=6$ ,  $p<.001$  for merging venting and disruptiveness;  $\chi^2_{\text{dif}}=51.48$ ,  $df_{\text{dif}}=5$ ,  $p<.001$  for combining nonconformance and disruptiveness; and  $\chi^2_{\text{dif}}=35.04$ ,  $df_{\text{dif}}=5$ ,  $p<.001$  for merging venting and nonconformance). Hence, despite the high correlations among the impulsiveness constructs, venting, disruptiveness, and nonconformance were statistically well separated.

#### *Childhood Anxiousness*

Finally, an unconstrained four-factor measurement model with 15 items was estimated with a two-group (for boys and girls) CFA for childhood anxiousness. The model yielded an acceptable goodness of fit index ( $\chi^2=158.26$ ,  $df=68$ ,  $p<.001$ , CFI=0.96, TLI=0.98, RMSEA=0.07). The standardized factor loadings for the four factors (e.g., distractible behaviors, fearfulness, depression, automanipulation) are presented in Table 5.

Measurement invariance of the factor loadings was tested with a chi-square difference test by comparing a constrained model (factor loadings were constrained to be equal between boys and girls) with the baseline unconstrained model. The results from the chi-square difference test suggested that the items used to measure anxiousness performed equivalently for boys and girls ( $\chi^2_{\text{dif}}=16.07$ ,  $df_{\text{dif}}=9$ ,  $p>.05$ ).

As with the other child behavior constructs, the four dimensions of childhood anxiousness were modestly to highly correlated. The latent correlations range from .25 to .69 for boys, .54 to .84 for girls. The highest latent correlation was found between fearful and depressed (.69 for boys and .84 for girls). However, when fearful and depressed constructs were combined into a single construct and compared with the four-factor baseline model, the goodness of fit indexes for the alternative models decreased and differed significantly from the baseline model:  $\chi^2_{\text{dif}}=45.98$ ,  $df_{\text{dif}}=7$ ,  $p<.001$ . Therefore, a 15-item four-factor model provided a better fit to the data and was used in further analyses.

#### Relations between Observed Social Withdrawal Subtypes and Other Child Behavior Outcomes

Finally, the associations between withdrawn subtypes and other child behavioral outcomes were examined with a series of structural equation models, with factor loadings of social withdrawal and other child outcome constructs constrained to be equivalent between boys and girls. Due to the high intercorrelations among subtypes of observed social withdrawal, separate models were run with each subtype as exogenous variable and other child behavior outcomes as endogenous variables. The final path coefficients for the relations between each subtype of social withdrawal and other childhood behavioral correlates (e.g., assertiveness-prosociability, aggression-victimization, impulsiveness, anxiousness) and model fit indexes were presented in Table 6. In the SEM, child age was incorporated as a covariate.

The results suggest that solitary-passive play was negatively associated with prosocial behaviors and positively related to venting for boys. For girls, it was negatively related to prosocial behaviors, assertiveness, and teacher delight, and positively to victimization, venting, nonconformance, distractible behavior, fearfulness, depression, and automanipulation. Solitary-active play was found to be negatively related to prosocial behaviors, and positively to physical

aggression, victimization, venting, fearfulness, and depression for boys. For girls, it was negatively linked to prosocial behaviors, assertiveness, and teacher delight, and positively to physical aggression, victimization, venting, nonconformance, distractible behavior, fearfulness, depression, and automanipulation. No significant relations were found between reticence and other childhood behavioral correlates besides prosocial behaviors (negatively) for boys. For girls, it was negatively linked to prosocial behaviors, assertiveness, and teacher delight, and positively to victimization, venting, nonconformance, distractible behavior, fearfulness, depression, and automanipulation.

## CHAPTER FIVE

### DISCUSSION

The goal of this study was to examine various correlates involving subtypes of global behavioral profiles (i.e., assertiveness-prosociability, aggression-victimization, impulsiveness, anxiousness) with different forms of nonsocial play (i.e., reticence, solitary-passive, solitary-active) among Chinese preschoolers and to examine potential gender differences in the associations. Although the correlates of subtypes of observed social withdrawal have been explored in previous studies, past researchers have focused on these associations mainly in Western settings and for older children in China. It is important to examine the behavioral correlates of withdrawn subtypes in the Chinese cultural context due to the social-cultural variations in what is considered to be socially adaptable behaviors in North America and China. This study may be the first to examine various aspects of children's behavioral outcomes associated with subtypes of social withdrawal among Chinese preschoolers.

Results show that (a) measurement models estimated with two-group confirmatory factor analyses yielded invariant factor structures for boys and girls for each of the behavioral measures and (b) distinct patterns of associations were found among behavioral correlates of subtypes of social withdrawal across boys and girls. In particular, *solitary-passive play* was negatively associated with prosocial behavior and positively related to venting for boys and girls. It was also negatively correlated with assertiveness and teacher delights and positively related to victimization, nonconformance, distractible behavior, fearfulness, depression, and automanipulation for girls only. *Solitary-active play* was negatively associated with prosocial behavior and positively related to physical aggression, victimization, venting, fearfulness, and depression for boys and girls. It was also negatively related to assertiveness and teacher delights

and positively associated with nonconformance, distractible behavior, and automanipulation for girls only. *Reticence* was negatively correlated with prosocial behavior for boys and girls, and negatively related to assertiveness and teacher delights. It was positively associated with victimization, venting, nonconformance, distractible behavior, fearfulness, depression, and automanipulation for girls (not for boys).

These findings identify behavioral correlates of observed withdrawal subtypes in early childhood in China that are consistent with findings from previous research conducted in Western society (i.e., the United States, Canada), as well as unique to China. The contributions of this study to our current understanding of non-social play in early childhood in China will be discussed in turn, followed by a discussion of the limitations of this study and recommendations for future research.

The first notable finding of this study is that, in general, all three subtypes of withdrawal were associated with indices of maladjustment for boys and girls as early as the preschool years in China. These results further support the view that withdrawing from peer interactions are likely linked to indices of maladjustment since such behavior may well be considered as a failure to conform to group-oriented norms in collectivistic cultures such as China (Hart et al., 2000). Nonsocial behavior may also be negatively regarded since it hinders “in-group interactions” that are valued in collectivistic Chinese culture (Cheah & Rubin, 2004; Oyserman et al., 2002). For example, findings from Hart et al. (2000) indicated that one subtype of social withdrawal, reticence, was linked to peer rejection in China. Submissive-withdrawal, which bears much resemblance to reticence, has also found to be positively related to peer victimization (Schwartz et al., 2001). Taken together, the current study extends findings from other studies that focus on ways that social withdrawal may be associated with social maladjustment. Given recent findings,

it is not surprising that Chinese mothers have been found to feel anxious about their preschooler's display of social withdrawal, to express concern about how children's nonsocial behaviors may impact their long-term functioning in a group-oriented society, and be prone to try to change their children's withdrawn behavior patterns (Cheah & Rubin, 2004).

The results also raise questions regarding the view that solitary-passive behavior, which is indicative of social disinterest, is a "benign" form of nonsocial play in early childhood. Earlier work indicated that solitary-passive play was not associated with concurrent indices of social maladjustment such as shyness, negative emotionality, anxiety, and behaviors of internalizing nature in the early childhood years (Coplan & Rubin, 1998; Colpan et al., 1994; Harrist et al., 1997; Rubin, 1982). A recent study by Hart et al. (2000) also supported this view, reporting that solitary passive behavior was not associated with negative peer sociometric ratings in Chinese, Russian, and U.S. preschoolers.

Other studies, including this one, have contradicted this view. Based on aggregate scores of teachers' and observers' behavioral ratings, Nelson et al. (1997) found that all three withdrawn subtypes were negatively associated with peer sociometric outcomes. In addition, Coplan and colleagues reported that solitary-passive behavior was negatively associated with social competence and academic achievement and positively associated with internalizing problems in boys. Together with findings from this study, there is some evidence emerging suggesting that even though passively withdrawn children may have the ability to interact socially, choosing not to do so on a regular basis peers may do themselves some social harm with peers. As Coplan et al. (2004) suggested, there may be a cost associated with a preference for social solitude in early childhood, especially in the area of peer relationships. This especially appears to be the case in China where group-oriented norms are valued and encouraged. Due to

the one-child-per-family policy, parents are concerned about the “4-2-1 syndrome”: four grandparents and two parents pouring their attention onto one child. Spoiled only children have been perceived to be unsocial and self-centered. In hope of correcting children’s undesirable social behaviors and fostering their group spirit, parents often agree that preschool gives their children the needed experience of collective life (Wu, 1996). In fact, observation studies also revealed that group-activity was the main theme in Chinese preschools in both city and rural areas (Stimpfl et al., 1997; Wu, 1996). Hence, it is understandable that perceived solitary behaviors among preschoolers elicit concerns from teachers and are more likely to be associated with indices of social maladjustment.

Caution should be exercised in making direct comparisons across studies examining linkages between passive withdrawal and indices of maladjustment. For example, associations between solitary-passive behavior and various teacher rated childhood behavioral outcomes may not necessarily contradict what Hart et al. (2000) reported regarding no association between solitary-passive behavior and negative peer sociometric ratings. In the current study, both subtypes of social withdrawal and childhood behavioral outcomes were rated by preschool teachers, whereas in Hart et al.’s (2000) study, teachers assessed preschoolers’ display of nonsocial play and peer acceptance were measured through peer ratings. Thus, it is highly possible that young children may have difficulties in perceiving fine distinctions in subtle behaviors that reflect the overall construct of social withdrawal when compared to teachers (cf. Younger, Schneider, & Daniels, 1997). In fact, past research indicates that during the preschool years, peers’ perceptions of their classmates’ social behavior is more accurate and apparently has a greater impact on peer liking for highly salient behaviors such as aggression than for less salient behaviors such as social withdrawal (Ladd & Mars, 1986). In Nelson et al. (1997) study,



preschoolers were also found to be unreliable informants concerning their peers' withdrawn behaviors based on the low internal consistency (low Cronbach's alpha). Thus, teacher ratings of solitary-passive behavior not being associated with peer sociometric ratings in the Hart et al. (2000) study also suggests the possibility that young children may fail to identify or underestimate peers' display of this type of social solitude in ways that are reflected in their perceptions of liking or disliking of them.

Examining gender differences in behavioral correlates of subtypes of social withdrawal was another aim of this study. Distinct patterns of associations were found among behavioral correlates of different forms of nonsocial play across boys and girls. Overall, the picture that emerged indicates that subtypes of social withdrawal carry more negative effects for girls than for boys. For example, reticence was negatively related to prosocial behavior, assertiveness, and teacher delights, and positively associated with victimization, venting, nonconformance, distractible behavior, fearfulness, depression, and automanipulation for girls. For boys, it was only negatively associated with prosocial behavior. The associations between solitary-passive behavior and behavioral outcomes are the same as reticence for girls. For boys, solitary-passive play was only negatively related to prosocial behavior and positively related to venting. The only exception is solitary-active withdrawal where findings from this study were similar for both boys and girls. The display of solitary-active behavior was negatively associated with prosocial behavior and positively related to physical aggression, victimization, venting, fearfulness, and depression for boys and girls. Solitary-active behavior was, likewise, negatively related to assertiveness and teacher delights and positively associated with nonconformance, distractible behavior, and automanipulation for girls only.

These results regarding gender differences in social withdrawal among Chinese preschoolers seem to contradict what has been reported in Western literature suggesting that social withdrawal may present more risks for boys than for girls due to differential societal and cultural gender-role expectations (Stevenson-Hinde, 1989). In Western cultures, shyness and social withdrawal are thought to be less acceptable for boys than for girls. Empirical evidence has indicated that social withdrawal for boys is more likely to be associated with indices of maladjustment (e.g., more behavior problems, poorer social skills, feelings of loneliness) when compared to withdrawn girls (Rubin et al., 1993; Stevenson-Hinde & Glover, 1996).

However, the picture favoring boys' maladjustment associated with social withdrawal is not entirely clear, with some forms of nonsocial play reported to be differentially associated with indices of maladjustment for both boys and girls in early childhood. For example, Coplan et al. (2004) found that although solitary-passive behavior is negatively associated with social adjustment and academic achievement only in boys, solitary-active is related to externalizing problems for girls, but not for boys (Coplan et al., 2001).

Even though shy-sensitive behavior may be perceived as more acceptable for girls than for boys in traditional Chinese culture (Ho, 1986), there is little if any evidence in the extant literature indicating that the same gender effect would be found for different forms of social withdrawal among Chinese preschoolers. The results of this study clearly show that behavioral solitude in many forms has more negative ramifications for girls in China. Traditional Chinese gender concepts and gender-role expectations may shed some light on understanding this finding. For example, in traditional Chinese culture, only boys can carry on the ancestral line according to the kinship structure, and thus, boys are valued more in family and society (Hong, 1976). As a result, boys are more likely to be spoiled by parents and their immature behaviors tend to be

tolerated. The same socialization pattern could also be true in school setting to certain degree, especially in early years. In contrary, girls are expected to be expressive, compliant, and nurturing; hence, girls' unsocial behaviors such as withdrawing from peer interactions in different forms (e.g., being alone, playing alone, acting alone) are more likely to be perceived negatively by authority figures such as teachers and associated with teacher ratings of child problematic outcomes in various areas.

Whether gender differences reported in this study can be replicated with another sample of preschoolers remains unknown. Further research is required to examine whether these findings regarding gender differences in social withdrawal can be generalized to other samples. Likewise, further research is needed to explore why social withdrawal presents more risk for Chinese girls than boys in early childhood.

As mentioned previously, this is apparently the first study examining various behavioral correlates of subtypes of social withdrawal and potential gender differences among Chinese preschoolers, which is largely explorative in nature. Several caveats must be considered in the interpretation of these results.

First of all, in this study both subtypes of observed social withdrawal and various childhood behavioral outcomes were assessed through teacher ratings, which may reflect shared method variance (Nelson, Robinson, & Hart, 2005). One can expect a higher number of associations among measures that are obtained via the same method. Accordingly, significant findings for teacher ratings might also be due to an artifact of the research methodology employed in addition to true teacher perceptions. Future studies involving observed nonsocial play and/or observed behavioral outcomes can help overcome shared method variance issues

Even though the sample for this study was taken from two cities of mainland China in the hope of accounting for any geographical bias resulting from when samples are gathered from only one geographical area, both samples represent more highly educated families from urban areas. It cannot be assumed that findings from samples from specific cities/areas can be generalized to the larger Chinese culture. This does not allow the conclusions from this study to be generalized to families representing more diverse socioeconomic background in China. Larger and more representative samples in China would facilitate generalization of the results.

For future studies, it is important to include additional adjustment outcomes such as academic achievement. Issues related to academic achievement have particular relevance to Chinese children's adjustment (Schwartz et al., 2001). Also, Chinese parents are more likely to focus on children's academic performance and place higher standards for their children's school achievement as early as preschool years (Chen, Rubin, & Li, 1997; Stevenson, Lee, Chen, Stigler, Hsu, & Kitamura, 1990). Whether subtypes of social withdrawal were differentially related to children's academic achievement in China is worth exploring.

Despite these limitations, this study provided important descriptive information on the behavioral correlates of nonsocial play in early childhood in China. Future studies should include additional indices of adjustment such as academic performance with more diverse and representative samples, utilizing multiple informants and research methods. In addition, future research with longitudinal samples is needed to properly understand the nature of relations between subtypes of social withdrawal and various childhood behavioral outcomes.

In summary, the current study extends the existing social withdrawal literature by focusing on various correlates of social withdrawal in Chinese preschoolers. Consistent with research conducted in Western settings, social solitude was found to be positively related to

indices of maladjustment (i.e., aggression, victimization, impulsive/disruptive behaviors, anxious behaviors) and negatively associated with sociability. Hence, there seems to be a significant degree of similarity in correlates of nonsocial play across settings. In addition, unique gender differences were also reported with nonsocial play associated with more negative behavioral profiles for girls in China. Future research in this cultural setting is clearly required to replicate and ascertain the meaning of these findings in the Chinese cultural context.

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Table 1. Factor Structure of Observed Social Withdrawal

Social Withdrawal Constructs	Measurement Items	Factor loadings	
		Girls	Boys
<b>Solitary Passive</b>	Would rather play alone	.89	.92
	Does artwork by self, away from others	.93	.86
	Does constructive activities alone(e.g., blocks, puzzles)	.93	.90
	Reads books alone, away from others	.88	.78
	Plays with toys by self rather than with other children	.94	.89
<b>Solitary Active</b>	Does pretend/dramatic play by self in the vicinity of peers doing similar things	.96	.94
	Animates toys by self (e.g., pretends an inanimate object (doll or stick) is alive)	.87	.80
	Does pretend/dramatic play with peers, but does not interact with them while doing so	.91	.89
<b>Reticence</b>	Wanders aimlessly during free play	.79	.68
	Appears to be doing nothing	.88	.83
	Stares at other children without interacting with them	.91	.96
	Is fearful in approaching other children	.72	.68
	Watches other children play without joining in	.91	.81

Table 2. Factor Structure of Assertivness-Prosociability

Assertiveness-Prosociability Constructs	Measurement Items	Factor loadings	
		Girls	Boys
<b>Prosocial Behavior</b>	Offers to help other children who are having difficulty with a task in a classroom	.86	.87
	Comforts a child who is crying or upset	.77	.78
	Praises the work of less capable children	.70	.70
	Helps other children who are feeling sick	.94	.87
<b>Assertiveness</b>	Introduces himself or herself to new people without being told	.70	.73
	Acknowledges compliments or praise from peers	.90	.78
	Says nice things about himself or herself when appropriate	.66	.72
<b>Teacher Delight</b>	Produces correct schoolwork	.78	.88
	Finishes class assignments within time limits	.83	.86
	Puts work material or school property away	.81	.73
	Is efficient in carrying out daily tasks (e.g., cleanup)	.87	.85
	Attends to teacher's instruction	.71	.60



Table 3. Factor Structure of Aggression-Victimization

Aggression-Victimization Constructs	Measurement Items	Factor loadings	
		Girls	Boys
<b>Physical Aggression</b>			
	Hits, kicks, or pushes to get something he/she wants	.81	.90
	Ruins other children's things (artwork, block structures) when upset	.89	.89
	Throws things at other children when he/she doesn't get his/her own way	.86	.89
	Pushes or hits peers to get even for something that was done accidentally	.83	.91
<b>Relational Aggression</b>			
	Tells other children not to play with someone	.78	.81
	Threatens to keep a peer out of the play group if the peer doesn't do what the child says	.90	.88
	Tries get others to dislike a peer (e.g., whispering mean things about the child behind their back)	.87	.80
	Tells a peer that he/she won't play with them if he/she doesn't do what is asked	.84	.78
	Tells other children that they can't play with the group unless they do what the group wants them to do	.70	.78
<b>Victimization</b>			
	Is picked on by mean kids	.91	.80
	Is pushed around by other children	.74	.82
	Is made fun of by mean kids	.92	.93

Table 4. Factor Structure of Impulsiveness

Impulsiveness Constructs	Measurement Items	Factor loadings	
		Girls	Boys
<b>Disruptive Behavior</b>	Disturbs ongoing activities	.96	.97
	Interrupts conversations of others	.91	.91
	Draws attention to self in disruptive ways when trying to enter ongoing play activities with peers	.77	.80
	Butts into games or activities	.97	.85
<b>Venting</b>	Has temper tantrums	.89	.89
	Stamps feet when angry	.80	.78
	Has sudden mood changes	.83	.73
	Is stubborn	.87	.71
<b>Nonconformance</b>	Excessive praises or reward is required to get child to do chores/assignment (cleanups)	.84	.73
	Is not sorry after misbehaves	.78	.85
	Dawdles when required to do something	.73	.60
	Won't do chores/assignment (cleanups) unless threatened in some way	.70	.71

Table 5. Factor Structure of Anxiousness

Anxiousness Constructs	Measurement Items	Factor loadings	
		Girls	Boys
<b>Distractible Behavior</b>	Restless. Runs about or jumps up and down. Doesn't keep still	.69	.77
	Has poor concentration or short attention span	.91	.83
	Inattentive	.85	.87
	Fidgets or moves excessively	.88	.89
	Is restless and overactive	.69	.87
<b>Fearfulness</b>	Tends to be fearful or afraid of new things or new situations	.95	.80
	Appears unsure of self	.84	.85
	Rather than asking for something that he/she wants, does not ask for appears to wait for it to happen	.77	.72
	Rather than asking for something that he/she wants, chooses to do something else	.81	.69
<b>Depression</b>	Is worried. Worries about many things	.79	.69
	Appears miserable, unhappy, tearful, or distressed	.94	.95
	Acts sad or depressed	.91	.90
<b>Automanipulation</b>	Bites nails or fingers	.78	.71
	Manipulates body parts (e.g., twists/wrings hands, hair, mouth, ears)	.89	.90
	Twists/manipulates clothing	.90	.83

Table 6. Structure Coefficients of Behavioral Correlates of Observed Social Withdrawal

		Solitary- Passive	Solitary- Active	Reticence
<b>Prosocial Behavior</b>	Boys	-.29	-.38	-.30
	Girls	-.49	-.53	-.54
<b>Assertiveness</b>	Boys			
	Girls	-.51	-.40	-.59
<b>Teacher Delight</b>	Boys			
	Girls	-.36	-.39	-.49
<b>Physical Aggression</b>	Boys		.25	
	Girls		.27	
<b>Relational Aggression</b>	Boys			
	Girls			
<b>Victimization</b>	Boys		.59	
	Girls	.48	.63	.60
<b>Disruptive Behavior</b>	Boys			
	Girls			
<b>Venting</b>	Boys	.26	.26	
	Girls	.28	.36	.22
<b>Nonconformance</b>	Boys			
	Girls	.33	.46	.44
<b>Distractible Behavior</b>	Boys			
	Girls	.40	.43	.51
<b>Fearfulness</b>	Boys		.79	
	Girls	.65	.57	.67
<b>Depression</b>	Boys		.50	
	Girls	.81	.74	.83
<b>Automanipulation</b>	Boys			
	Girls	.45	.35	.45

Note: Significance tests are based on the unstandardized coefficients (not shown) and their associated standard errors. All the coefficients reported above are significant at .05 level.