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# Characterizing and Comparing the Friendships of Anxious-Solitary and Unsociable Preadolescents

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## Abstract

Friendships matter for withdrawn youth because the consequences of peer isolation are severe. From a normative sample of 2,437 fifth-graders (1,245 females; *M* age = 10.25), a subset (n = 1364; 638 female) was classified into three groups (anxious-solitary, unsociable, comparison) and followed across a school year. Findings indicated that it was more common for unsociable than anxious-solitary children to have friends, be stably friended, and participate in multiple friendships. For withdrawn as well as non-withdrawn children, peer rejection predicted friendlessness, but this relation was strongest for anxious-solitary children. The friends of unsociable youth were more accepted by peers than those of anxious-solitary youth. The premise that friendship inhibits peer victimization was substantiated for withdrawn as well as non-withdrawn youth.

Although much has been learned about the peer *group* relations of withdrawn children (e.g., peer group acceptance and rejection; see Harrist, Zaia, Bates, Dodge, & Pettit, 1997), relatively little is known about their *dyadic* relationships with agemates, and their *mutual friendships* in particular. Understanding withdrawn children's friendships is important because, unlike non-withdrawn children, these youth have fewer contacts with agemates, and they are less likely to have peer experiences that are essential for healthy development (Rubin, Coplan, & Bowker, 2009).

Because of withdrawn youths' social deficits and risk for maladjustment, it may be critical for them to cultivate friendships. Because friends provide support including affirmation, assistance, and companionship (see Berndt, 2007), they often buffer children from adjustment problems including loneliness, depression, and victimization (see Brendgen, Vitaro, & Bukowski, 2000; Parker & Seal, 1996). Accordingly, this investigation's principal aim was to examine the friendships of withdrawn children, especially during preadolescence when youth seek greater intimacy with peers (Buhrmester & Furman, 1987), and increasingly rely on close peer relationships to meet their social and psychological needs (Brown, Dolcini, & Leventhal, 1997).

Although recent investigative advances have added to what is known about withdrawn children's friendships, much remains to be learned. Investigators primarily have focused on

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basic, descriptive aims such as charting the prevalence, stability, and quality of withdrawn children's friendships as well as determining whether friendships offer withdrawn children specific interpersonal provisions (particularly protection from peer victimization), and profiling the characteristics of their friends. Further, investigators have studied withdrawn children in general, rather than specific subtypes. Consideration of subtypes appears essential given that withdrawn children to be a heterogeneous group and that subtype differences are differentially predictive of adjustment.

Thus, this investigation's specific aims were to determine whether: (1) youth who exhibit different forms of withdrawal (i.e., unsociable and anxious-solitary youth) participate in mutual friendships (e.g., prevalence) and have different patterns of friendship (e.g., smaller vs. larger friendship networks, more or less stable friendships), (2) youth who belong to these withdrawn subtypes differ from non-withdrawn children in personal and behavioral characteristics that might promote or impede friendship participation, (3) anxious-solitary and unsociable children's emotional, behavioral, and relational attributes predict changes in their friendships, (4) anxious-solitary or unsociable youth who have mutual friends are less likely to be victimized by peers, and (5) anxious-solitary or unsociable youths' friends resemble them behaviorally, emotionally, or relationally.

## Are Some Withdrawn Youth More Successful than Others at Forming Friendships?

Our first aim was to test the hypothesis that subtypes of withdrawn youth differ in their friendship participation and patterns. Evidence suggests that about 60% of withdrawn children have reciprocated friendships (see Rubin et al., 2006; Schneider, 1999), and that this prevalence estimate approximates that for non-withdrawn children (Ladd & Burgess, 1999; Rubin et al., 2006; Schneider, 1999). Whether this finding generalizes to all types of withdrawn youth remains unclear because researchers have not compared prevalence estimates for children from different withdrawn subtypes.

Theory and research suggests that withdrawn children differ in their behavioral, emotional, and psychological attributes, and can be differentiated accordingly. The subtypes of withdrawn youth that have received the most research attention are anxious-solitary and unsociable children (Rubin, Burgess, & Coplan, 2002; Rubin & Coplan, 2004). In peer contexts, anxious-solitary children (also referred to as passive-anxious, anxious-withdrawn, shy/withdrawn; Asendorpf, 1993; Gazelle & Ladd, 2003; Rubin & Coplan, 2004) are hypothesized to experience competing motivations—on the one hand, they desire to interact with peers but, on the other hand, the prospect of doing so causes anxiety that prevents them from interacting. In contrast, unsociable children are seen as having low approach and low avoidance motives—that is, they have little desire to interact with peers but are not repelled by the prospect of doing so (e.g., peers' overtures do not make them feel anxious). It has been hypothesized that unsociable children choose to play alone even though they possess the skills that are necessary to interact with peers (Asendorpf, 1993; Harrist et al., 1997; Rubin et al., 2002).

### Anxious-solitary youth

A key difference between anxious-solitary and unsociable youth is that children in the former subtype are hypothesized to experience anxiety when in the company of peers. Consistent with this premise, Coplan and Weeks (in press), found that mother-identified shy first- and second-graders had higher levels of anxiety/emotional problems than did unsociable and control (i.e., not shy or unsociable) children. Exactly how anxiety disrupts

withdrawn children's peer relations and, in particular, their participation and maintenance of friendships, is not well understood.

A provocative but under-investigated hypothesis is that anxiety, when experienced in the presence of peers, alters children's thoughts, emotions, and behaviors in ways that interfere with friendship-making and maintenance. First, anxiety appears to focus children's attention on self-defeating thoughts (e.g., performance concerns, expectations of embarrassment, failure), and social-evaluative concerns (e.g., social self-esteem and preoccupation with others' judgments; see Asendorpf & van Aken, 1994; Chen et al., 2004). Anxiety manifested in these ways may be especially detrimental to friendships. Negative self-referent thoughts are likely to interfere with withdrawn children's efforts to make and keep friends particularly if such cognitions cause them to misinterpret partners' words, facial expressions, or body language (see Asendorpf, 1990). Likewise, preoccupation with others' judgments or low social self-esteem may undermine friendship formation and the stability of dyadic relationships. Evaluative concerns likely discourage self-disclosure and restrict the development of intimacy—processes critical to friendship formation and maintenance (see Parker & Asher, 1993). Indeed, evidence suggests that shy/withdrawn children and preadolescents see their best friendships as lower in intimate exchange than do non-withdrawn children (Rubin et al., 2006; Schneider & Tessier, 2007). Low efficacy beliefs and social-evaluative concerns may also influence friendship selection and partner similarity. Anxious-solitary children may eschew ties with intimidating others (e.g., popular or aggressive children), and instead seek friendships with persons who resemble themselves. Consistent with this premise, Rubin et al. (2006) found that shy/withdrawn children had friends who, like themselves, were withdrawn, victimized, and excluded by peers.

Second, anxiety's effects on friendships also may stem from the way that children express emotions during peer interactions. Failure to display positive emotions, and negative emotionality, correlates not only with shyness (e.g., Eggum et al., 2009; Eisenberg et al., 1998) but also with the quality of children's peer relations (e.g., Denham, McKinley, Couchoud, & Holt, 1990; Howes, 1983). Among withdrawn children, the absence of positive emotions appears more common and pronounced among anxious-solitary rather than unsociable children (Coplan, Prakash, O'Neil, & Armer, 2004). For example, relative to other children, Gazelle and Spangler (2007) found that anxious-solitary preschoolers displayed lesser positive affect when interacting with a friend, and were less likely to have a friend in first grade. Similarly, Schneider (2009) found that anxious-withdrawn adolescents displayed more neutral than positive affect during interactions with friends than controls. It appears that anxious-solitary children are less likely to exhibit the forms of positive affect that are fundamental for friendship formation and maintenance (see Howes, 1983).

Third, anxiety may cause children to act inappropriately or awkwardly with peers. Evidence indicates that anxious-solitary youth, unlike unsociable and non-withdrawn children, make fewer and less skillful initiations toward peers (Asendorpf, 1990; Gazelle & Spangler, 2007), and tend to retreat from situations in which they receive negative feedback from friends (see Gazelle & Druhen, 2009).

## Unsociable youth

Unsociable children, although studied infrequently, appear to be more skilled at interacting with others than anxious-solitary children (see Asendorpf, 1993; Coplan et al., 2004; Harrist et al., 1997). Asendorpf and Meier (1993) found that although socially disinterested children prefer solitude, their social skills are not impaired when they do engage in social interaction (Asendorpf & Meier, 1993). Thus, once in a friendship, unsociable children may have less difficulty than anxious-solitary children in retaining friends. Furthermore, unsociable

children's greater competence may enable them to become friends with peers who are dissimilar from themselves.

## Do Anxious-Solitary Versus Unsociable Youth Differ in Ways that Could Affect Friendship?

Our second and third aims were to determine whether anxious-solitary versus unsociable youth differed from non-withdrawn children in personal/behavioral and relational characteristics, and did so in ways that might affect friendship participation. In this study, we targeted four attributes known to predict friendship formation and maintenance, including two child characteristics (i.e., emotional sensitivity, prosocial behavior) and two relational factors (i.e., peer group rejection, exclusion).

## Do Withdrawn Children's Friendships Protect them From Peer Victimization?

Our third aim was to test the hypothesis that withdrawn children's friendships protect them from peer victimization. Studies of non-withdrawn children show that those with allies in their peer group (i.e., friends) are less likely to be victimized (see Hodges, Boivin, Vitaro & Bukowski, 1999; Hodges, Malone, & Perry, 1997). Investigators have yet to determine whether some or all types of withdrawn children derive this benefit from their friendships, but initial findings cast doubt on this assumption. Rubin et al. (2006), for example, found that friended versus friendless shy/withdrawn 5$^{th}$ graders did not differ significantly on a measure of victimization.

## Do Anxious-Solitary and Unsociable Children's Friends Resemble Them?

Our final aim was to extend knowledge about the characteristics of anxious-solitary and unsociable children's friends. The first investigator to examine the characteristics of withdrawn preadolescents' friends (Rubin et al., 2006) obtained some support for the homophily hypothesis: shy/withdrawn children's fiends were more withdrawn, victimized, and excluded compared to the friends of non-withdrawn children. No differences were found on aggression or prosocial behavior.

An important next step is to compare the characteristics of anxious-solitary and unsociable children's friends. In addition, it remains unclear whether anxious-solitary and unsociable children have friends in contexts where they are rejected by their peer group (e.g., classrooms where they are rejected or excluded by classmates). Moreover, if they do have friends under such conditions, nothing is known about the types of children they befriend.

## Framework, Investigative Strategies, and Hypotheses

Child and environment models (see Ladd, 2003) imply that person and environmental factors combine to influence developmental outcomes. Accordingly, we hypothesized that the prevalence and stability of withdrawn children's friendships would vary depending on differences in "persons" (i.e., whether or not withdrawn children experience anxiety in the presence of peers) and variations in peer environments (i.e., whether or not withdrawn children are accepted vs. rejected by classmates).

### Prevalence and stability of friendships

To test the hypothesis that anxious-solitary youth have greater difficulty forming and maintaining friendships, we compared friendship prevalence (i.e., having a mutual friend, number of mutual friends) and stability (i.e., having a mutual friend or not at the beginning

and end of the school year) for members of two withdrawn subtypes (anxious-solitary, unsociable) and a non-withdrawn, risk-free comparison group. The latter group consisted of youth who were neither withdrawn, aggressive, rejected, nor excluded among their classmates.

We also hypothesized that all children, but particularly withdrawn youth, would be less likely to have a friend, and would have fewer friends, if they were rejected or excluded by their classmates. Evidence indicates that children are significantly less likely to have a friend within their peer group if they are rejected (see Parker & Asher, 1993). These hypotheses were evaluated by identifying children within each of the withdrawn subtypes who were most versus least rejected, and then comparing these subgroups to each other and to the risk-free group on the targeted friendship measures. Contrasts were conducted using attitudinal versus behavioral indicators of rejection (i.e., peer disliking vs. peer exclusion). Although disliking and exclusion are partially distinct aspects of rejection (see Gazelle & Ladd, 2003; Ladd & Profilet, 1996), peers' attempts to bar children's participation (i.e., exclusion) may be a more powerful constraint on withdrawn children's opportunities to participate in friendships.

### Predictors of changes in friendships

To address this aim, measures of the targeted child characteristics (i.e., prosocial behavior, emotional sensitivity) and environmental/relational factors (i.e., peer group acceptance, peer exclusion) were obtained early in 5$^{th}$ grade, and used to predict whether anxious-solitary or unsociable children had a mutual best friend, kept their friendships across the school year, and developed smaller versus larger friendship networks over time. Because prosocial behavior predicts friendship formation and maintenance (Ladd, Kochenderfer, & Coleman, 1996; Parker & Seal, 1996), we expected withdrawn children who manifested this form of competence to have friends, keep their friendships, and develop larger friendship networks. The reverse was anticipated for emotional sensitivity, which is a marker for anxiety and other internalizing difficulties that are likely to interfere with friendship formation and maintenance (see Rubin & Coplan, 2004). Additionally, negative predictive relations were anticipated for peer rejection and exclusion because these intra-group dynamics not only militate against children's efforts to form friendships (e.g., reduce motivation) but also decrease the odds that peers will reciprocate (e.g., for fear of becoming disliked or excluded by association; see Coie, 1990; 2004; Buhs & Ladd, 2001).

### Friendship as protective factor

To determine whether friendship participation made it less probable that anxious-solitary and unsociable children were victimized, we identified youth within each of these subtypes who had a friend and compared them to their friendless counterparts on measures of peer victimization. The premise that children derive protection from friendships rests on the assumption that peers are less likely to abuse individuals who are well connected within their peer group (have allies, particularly high-status friends; see Veenstra et al., 2007) or have friends that are capable of defending them (see Hodges et al., 1997). Based on Rubin et al.'s findings, we expected that if anxious-solitary children made friends, they would tend to do so with other non-influential peers (e.g., other anxious-solitary classmates) and, thus, possess friends who (like themselves) were at risk for peer victimization. Unsociable children, in contrast, appear to be more socially skilled than anxious-solitary children (Harrist et al., 1997) and may be capable of forming friendships with more influential members of their peer groups. For this reason, we anticipated that unsociable children who had friends would be less victimized than unsociable children who lacked friends.

### Friends' characteristics

To determine whether the friends of anxious-solitary children differed from those of unsociable children, and whether the friends of children from these subtypes differed from those of children without social difficulties, we compared the members of the two withdrawn subtypes to each other and to the comparison group. The first set of contrasts assessed whether withdrawn children's friends differed on established indicators of behavioral competence— specifically, indicators of interactional competence (e.g., prosocial behaviors) and incompetence (e.g., aggressive behaviors). Consistent with Rubin et al. (2006), we expected that anxious-solitary children would have friends whose behaviors mirrored their own (e.g., homophily on anxious withdrawal), but would not differ from norms on other competence indices (prosocial, aggressive behaviors). Unsociable children, in contrast, were expected to have friends who were not as deviant on anxious-solitary behavior and that also resembled comparison children's friends on competence indicators (i.e., prosocial, aggressive behaviors). A second set of contrasts were conducted to determine whether anxious-solitary children's friends were rejected or excluded members of their peer groups (cf. Rubin et al., 2006), as compared to unsociable children's friends, who were hypothesized to be more accepted members of their peer groups.

## Method

### Participants

**Study sample—**The sample for the current study consisted of 2,437 (1,245 females; *M* age = 10.25) 5$^{th}$ grade children who were recruited from urban, suburban, and rural school districts within multiple Midwestern, Eastern, and Western states in the U.S. Consent was obtained from school districts, and written informed consent was obtained from parents prior to children's participation. Of the families who were invited, 95% consented to their child's participation. The sample contained 77.4% European American children, 16.3% African American children, 3.8% Hispanic children, and 2.5% Asian-American and other children. At the time of recruitment, children lived in a wide range of socioeconomic households: 36.8% were lower to middle income ($0 – $20,000), 30.6% were middle income ($21,000 – $40,000), and 32.6% were middle to higher income (above $40,000).

**Longitudinal sample—**Included in the sample of 2,437 participants was a subset of 389 students (193 females; *M* age in grade 5 = 10.21) who were participants in a larger longitudinal investigation. Fifth-grade data on these children were gathered from parents, teachers, and classmates. The demographics of this sample closely resembled that of the study sample (e.g., 78.9% were European American children, 16.1% were African American children, 2.6% were Hispanic children, and 2.4% were Asian-American children and others).

### Design, Assessment Strategies, and Procedure

The data for this short-term longitudinal study were collected during the fall (September/ October) and spring (April/ May) of children's 5$^{th}$ grade school year. Data on participants' classroom behaviors and emotions (i.e., withdrawn, aggressive, and prosocial behaviors; emotional sensitivity) and classroom peer relations (i.e., friendships, peer acceptance/ rejection, peer victimization) were obtained with peer nomination and rating methodologies, which were administered at both times of assessment. Prior to the administration of these instruments, trained project personnel taught participants how to nominate and rate peers in response to the investigated behavioral and relational criteria. These methodologies are known to provide reliable and valid data on children's peer behavior and relations during childhood and adolescence (see Cillessen & Bukowski, 2000; Ladd, 2006). To examine the validity of peer report data as a tool for distinguishing among withdrawn subtypes, teacher

reports of withdrawn behavior were also obtained during the spring of 5th grade for a subsample of the participants (i.e., children in the longitudinal sample). Instruments suitable for this purpose (i.e., those with established reliability and validity) were chosen. At the close of the study, participants received a small gift and teachers received an honorarium.

## Measures

**Peer reports of social withdrawal—**Peer nominations methodology was used to obtain data on multiple forms of withdrawn behavior. To help peers distinguish among withdrawn behaviors, a "gateway" nomination item was used to identify children who were eligible to be members of the targeted withdrawn subtypes. First, using a roster of classmates' names, participants and their classmates nominated up to three classmates who "play by themselves the most." Second, for each nominee, nominators were asked to consider the following three questions (which were printed on class rosters) and affirm those items (by circling "yes" rather than "no") that best described the person they had nominated: (1) Does this kid want to play with other kids but does not because they are too shy or afraid? (2) Does this kid want to play alone instead of playing with other kids? and (3) Does this kid play by himself or herself because other kids do not want to play with him or her? Scoring and psychometric properties for these measures are described in a subsequent section (see Identification of Withdrawn Subtypes).

Use of a gateway strategy simplified processing demands of this assessment task—that is, the requirement that children use multiple criteria when generating nominations (e.g., identify classmates that play alone *and* are shy vs. excluded, etc.). Respondents first identified peers who fit a broader, more obvious criterion (e.g., Who plays alone?), and then made more discriminating judgments about these same persons (i.e., Of those who play alone, who is also shy vs. unsociable vs. excluded?). Thus, children made secondary judgments only about those peers that they had first nominated as exemplars of the broader criterion. The reliability and validity of this measurement technique was estimated with a subsample of children and teachers by correlating these scores with those from conceptually similar measures that were obtained from teachers (see below).

**Teacher reports of withdrawn behavior—**Teacher report data on withdrawn behavior were obtained for a subset of the sample (i.e., the 389 children in the longitudinal sample) by having teachers complete the Teacher Report Form (TRF; Achenbach, 1991) and the Child Behavior Scale (CBS; Ladd & Profilet, 1996; Ladd, Herald-Brown, & Andrews, 2009). Measures were created using a method similar to that employed by Gazelle and Ladd (2003) in which items from both the Withdrawn Behavior subscale of the TRF and the Asocial with Peers subscale of the CBS were combined to create indicators of anxious solitude and unsociability. Five items were used to create a measure of anxious solitude: (1) self-conscious or easily embarrassed (TRF); (2) too fearful or anxious (TRF); (3) is worried, worries about many things (CBS); (4) nervous, high-strung, or tense (TRF); and (5) tends to be fearful or afraid of new things (CBS). An index of unsociability was created with three items: (1) would rather be alone than with others (TRF); (2) prefers to play alone (CBS); and (3) likes to be alone (CBS). In addition, a measure of peer exclusion was formed with five items: (1) peers avoid this child (CBS); (2) excluded from peers' activities (CBS); (3) peers refuse to let this child play with them (CBS); (4) not chosen as a playmate by peers (CBS); and (5) ignored by peers (CBS). Items were rated on a 3-point scale (i.e., 0 = not true, 1 = sometimes true, and 2 = often true), and ratings were averaged within subscales to create scores.

The anxious-solitary and peer exclusion subscales have previously been validated (Gazelle & Ladd, 2003). Data from this study indicated that scores for these subscales were internally

consistent: anxious solitude (α = .75), unsociable (α = .88), peer exclusion (α = .95). Further evidence of scale reliability and factorial validity was obtained from a confirmatory factor analysis that was computed for a measurement model that contained three latent variables (i.e., anxious solitude, unsociable, peer exclusion) each of which was composed of the item/indicators listed above. Criteria recommended by Hu and Bentler (1999) indicated that this model fit the data well, $\chi^2(62) = 147.56$, $p < .001$, *CFI* = .97, *RMSEA* = .06, *SRMR* = .04. Item loadings ranged from .45 to .91.

**Peer reports of aggressive behavior—**Participants and their classmates were asked to nominate up to three children who were best described by each of the following criteria: "Those who hit, push, or kick other kids" (physical aggression), "Those who talk meanly to or argue too much with other kids" (verbal aggression), and "Those who tell kids they won't like them or be their friend anymore just to hurt them or get their own way" (social/relational aggression). The nominations participants received were averaged and standardized by classroom (to adjust for differences in number of nominators; see Coie, Dodge, & Coppotelli, 1982) by criterion. Scores were found to be moderately to highly correlated (*r*s = .40 - .84) and thus were averaged to form a single composite that was reliable (αs = .84 fall, .81 spring) and stable across the school year (*r* = .84, see Table 2).

**Peer reports of prosocial behavior—**Participants and their classmates nominated up to three peers who were best described by each of the following criteria: "Those who cooperate with other kids, that is, they get along well, share, and take turns," and "Those who help other kids the most." Nominations were averaged and then standardized by classroom. Because scores correlated positively at each time of assessment (*r* = .42, fall; .83, spring) and were stable over time (*r* = .70; see Table 2), a prosocial composite was created by averaging the scores.

**Peer reports of emotional sensitivity—**Participants nominated up to three classmates who fit the criterion: "Those whose feelings get hurt easily". The scores participants received were averaged and standardized by classroom, and were found to be stable over time (*r* = .74; see Table 2).

**Peer reports of mutual classroom friendships—**To determine whether children were participants in one or more close classroom friendships, participants and their classmates were asked to nominate (by circling names on a class roster) up to five persons in their classroom that they considered to be a "best friend." Participants were considered to have a mutual (reciprocated) best friendship (MBF) if the person they nominated as a best friend nominated them as one of their five best friends (see Parker & Asher, 1993). Two measures of classroom friendships were created for each participant, at each time of assessment: (1) participation in a mutual best friendship—scores indicated whether a child did, or did not, have at least one reciprocated best friendship (MBF; scored as 1 or 0) and, (2) friendship network size (#MBF; the number of MBFs per participant; ranged from 0 to 5).

**Peer reports of exclusion—**To create this measure, participants and their classmates were asked to nominate up to three classmates who were best described by the following criterion: "Those who are often left out." Nominations that participants received for these were averaged and then standardized by classroom and the resulting score were found to be stable over time (*r* = .80; see Table 2).

**Peer reports of peer victimization—**This aspect of children's classroom social relations was assessed by asking participants and their classmates to nominate up to three peers for each of the following criteria: "Those who get hit, pushed, or kicked by other kids"

(physical victimization), "Those who get called bad names by other kids" (verbal victimization), "Those who other kids gossip about or say bad things about behind their backs" (relational victimization), and "Those who get picked on by other kids" (general victimization). The nominations participants received were averaged across criteria and then standardized within classrooms to adjust for differences in class size. Because scores for the physical, verbal, relational and general victimization measures correlated substantially (*r*s averaged .70 across measures and assessments), these indicators were averaged to form an overall victimization composite. This measurement strategy is known to be reliable and valid with 5th graders (see Ladd & Kochenderfer-Ladd, 2002), and scores from this four-item scale were reliable at both times of assessment (αs = .82 fall, .92 spring) and stable (*r* = .81; see Table 2).

**Peer reports of classroom peer acceptance—**Children's peer group acceptance/rejection was measured with a roster-and-rating sociometric (see Asher, Singleton, Tinsley, & Hymel, 1979; Asher & Dodge, 1986). This tool was administered in each classroom by asking children to rate each classmate on the following criterion: "How much do you like to play with this person in school?" Ratings were made on a 3-point scale, with 1 = "not much", 2 = "sometimes", and 3 = "a lot" (for details, see Asher, Singleton, Tinsley, and Hymel; 1979). The ratings participants received were averaged and then standardized by classroom. The resulting scores were stable (*r* = .79; see Table 2).

## Identification of Withdrawn Subtype and Non-Withdrawn Comparison Groups

The nomination scores that participants received on the above-described social withdrawal and aggression criteria in the fall of 5th grade were used to classify children into withdrawn subtypes. These scores were first examined in a series of one-way (Sex: Males, Females) ANOVAs to determine if they differed by sex. Results showed that: (a) girls had significantly higher scores than boys on "plays alone because they are too shy or afraid", $F(1, 2435) = 7.61$, $p < .01$, (b) boys had significantly higher scores than girls on "plays alone because other kids do not want to play with him or her", $F(1, 2435) = 6.29$, $p < .05$, and (c) boys had significantly higher scores than girls on the aggression composite, $F(1,2437) = 169.21$, $p < .01$. No sex difference was found for "plays alone because he/she wants to play alone", $F(1,2437) = 3.37$, *ns*.

Because there were significant sex differences in average scores for the majority of the classification criteria, and because other investigators have reported similar findings (e.g., see Harrist et al., 1997), we standardized the withdrawn and aggression scores within sex and classroom (i.e., to control for differences in number of nominators across classrooms; see Coie et al., 1982; Oh et al., 2008). This recast children's scores in terms of distances from their classroom's sex-group's mean (i.e., deviations from the mean of same-sex classmates) rather than from the overall classroom mean (average score for male and female classmates combined). The resulting deviation scores, therefore, indexed the degree to which participants' withdrawn behavior nominations were higher or lower than the average for their same-sex classmates.

Boys and girls were assigned to either the anxious-solitary (AS) or the unsociable (UN) withdrawn groups using cut-off scores that have become standard practice for classifying specific behavioral and relational subtypes of children (i.e., between . 50 and 1.00 standard deviations from the mean on the grouping variable; see Coie et al., 1982; Rubin et al., 2006). Specifically, children were identified as AS if they had z-scores ≥ 1 *SD* on "wants to play with other kids but does not because he/she is too shy or afraid", < .5 SD on "wants to play alone …", and < .5 SD on the aggressive behavior composite. Children were classified as UN if their scores were ≥ 1 *SD* on "wants to play alone instead of playing with other kids",

< .5 SD on "…is to shy or afraid", and < .5 SD on the aggressive composite. Then, the comparison group (C) comprised children with scores that were < .5 *SD* on both withdrawn items and the aggression composite. The numbers of children assigned to these subgroups using these criteria are shown by sex and ethnicity in Table 1.

### Validity of the Withdrawn Behavior and Peer Exclusion Measures and the Withdrawn Subtypes

This aim was addressed by examining: (a) the extent to which peer and teacher reports of withdrawn behavior concurred (correlational analyses), (b) the degree to which participants' group membership (i.e., AS, UN, C) could be predicted from the teacher report data (discriminant function analyses); and (c) the extent to which participants' scores on the classification measures (i.e., the peer report anxious-solitary and unsociable indices) were consistent with their group assignments.

Moderate, positive correlations were found between peer and teacher reports of anxious solitude ($r = .31$), unsociability ($r = .40$), and exclusion ($r = .54$). Relations of this direction and magnitude are consistent with previous reports of comparable measures obtained with 5th graders (e.g., $r = .29$ - .55; Younger, Schneider, Wadeson, Guirguis, & Bergeron, 2000). Discriminant function analyses (Groups: AS, UN, C), revealed that: (1) 91.1% of the children identified by peers as anxious-solitary were likewise identified by teachers, $\chi^2$ (1, $N = 389$) = 13.35, $p < .001$; (2) 91.5% of children identified by peers as unsociable were also identified by teachers, $\chi^2$ (1, $N = 389$) = 7.16, $p < .03$, and (2) 86.2 % of the children classified as non-withdrawn using peer data were correctly identified by teachers, $\chi^2$ (1, $N = 389$) = 15.89, $p < .001$.

Three one-way ANOVAs (Groups: AS, UN, C) were calculated using the peer reported anxious-solitary, unsociable, and aggression data, respectively, to determine if group members' scores on these measures were consistent with their group assignments. As expected, children in the AS group ($M = 1.84$) scored significantly higher on the anxious-solitary criterion than did children in either the UN ($M = -.36$) or comparison ($M = -.44$) groups. In contrast, children in the UN group outscored the other two groups on their classification criterion (unsociable behavior; $M$s = −.06, 1.63 and −.47, for the AS, UN and C groups, respectively). Moreover, children in all three groups had lower (< .5 SD) rather than higher aggression scores.

## Results

### Preliminary Analyses and Data Analytic Aims

Variable distributions, relations, missing data and other properties of the data were examined and found to conform to the assumptions underlying parametric statistics. Across the 5th grade school year, attrition was minimal with 2,434 (99%) of the original participants remaining in the sample from fall (G5F) to spring (G5S). Because less than 2% of the data points within the entire data set were missing, traditional missing data techniques (e.g., listwise deletion) were utilized in analyses.

Correlation was used to ascertain the extent to which indicators of participants' classroom behaviors and emotions, peer group relations, friendships, and peer victimization provided distinct information. On average, indicators that were included in each of these categories of measures were low to moderately correlated (see Table 2). Thus, all were retained for further analysis.

Study aims were addressed as follows: First, we examined subgroup, sex, and time of school-year (e.g., fall; spring) differences in the child (behavioral: prosocial, emotional

sensitivity) and environment (relational: acceptance, exclusion) factors that were hypothesized to be more or less conducive to friendship. Second, analyses were undertaken to determine whether there were differences by subgroup (AS, UN, C) in children's participation in friendships (i.e., MBFs, stably friended across the school year, and maintenance of the same friend over time). Third, the child and relational factors that were hypothesized to be conducive of friendship were examined by subgroup as predictors of children's participation in friendships. This included determining whether withdrawn children would be less likely to have friends if they were emotionally sensitive or excluded by their peer group, and whether they would be more likely to have friends if they were prosocial and accepted within their peer group. Fourth, we examined the degree of similarity between target children's characteristics and their friends. Lastly, friended as opposed to friendless withdrawn children were identified and compared on peer victimization to evaluate the hypothesis that mutual friendship operates as a protective factor for anxious-solitary and unsociable children.

## Anxious-Solitary, Unsociable, and Comparison Children: Personal and Relational Differences?

Our first aim was to determine whether participants who had been classified into the withdrawn and non-withdrawn subgroups differed from each other in the fall and spring of the school year on behavioral, emotional, and relational characteristics that may be associated with friendship participation. A series of 3 (Groups: AS, UN, C) X 2 (Sex: Boys, Girls) X 2 (Time: 5F, 5S) RM-ANOVAs was conducted on the following measures: prosocial behavior, emotional sensitivity, peer acceptance, peer exclusion, and peer victimization. Post-hoc tests on means were conducted with Bonferroni contrasts to reduce the probability of chance findings.

**Prosocial behavior—**Analysis of this composite produced a significant Sex effect, $F(1, 1358)= 35.33$, $p < .01$, which was attributable to girls outscoring boys ($M = .36$, $SD = 1.21$ vs. $M = -.23$, $SD = .80$; respectively). All other main and interaction effects were nonsignificant.

**Emotional sensitivity—**For this measure, significant effects were found for Group, $F(2, 1358)= 34.51$, $p < .01$, Sex, $F(1, 1358) = 23.68$, $p < .01$, and Group by Time, $F(2, 1358)= 5.21$, $p < .05$. Because the effect of Group was qualified by Time, tests of simple effects were undertaken and revealed that, at each time point ($F(2, 1363) = 34.58$ and 16.18, G5F and G5S, respectively), anxious-solitary children were more emotionally sensitive than children in the other two groups (see Table 3). However, AS children also tended to become less emotionally sensitive over time ($F(1,113) = 8.55$, $p < .01$; G5F $M = .42$; G5S $M = .24$). No Time effects were found for the unsociable or comparison groups. The main effect of sex showed that girls were significantly more emotionally sensitive than boys ($M = .15$, $SD = .86$ vs. $M = -.21$, $SD = .67$).

**Classroom peer acceptance—**Significant effects ($p < .01$) were found for Group, $F(2, 1357) = 58.50$, and Time, $F(1, 1357) = 7.13$. Bonferroni tests showed that children in the anxious-solitary group were significantly less well accepted by classmates as compared to children in the unsociable and comparison groups. In turn, children in the unsociable group were significantly less accepted than children in the comparison group (See Table 3). The effect of time revealed that peer acceptance scores were lower in the spring (G5S $M = -.04$, $SD = .27$) than fall (G5F: $M = .05$, $SD = .33$).

**Exclusion from peer activities—**This analysis produced a main effect of Group, $F(2, 1327) = 116.87$, $p < .01$, that was qualified by a Group by Time interaction, $F(2, 1327) =$

5.25, $p$ <.05. Tests of simple effects revealed Group effects at each time point ($F$(2, 1363) = 189.55, $p$ < .01 and 116.69, $p$ < .01, respectively) indicating that anxious-solitary children were more excluded than children in the other two groups. In addition, unsociable children were more excluded than the comparison group. Time effects were also found for the unsociable ($F$(1, 61) = 4.20, $p$ < .05) and comparison ($F$(1, 1158) = 11.87, $p$ < .01) groups such that both became less excluded over time (see Table 3).

**Victimization by peers—**Analysis of this measure produced significant effects only for Group, $F$(2, 1345) = 50.42, $p$ < .01, and Sex, $F$(1, 1345) = 5.22, $p$ < .05. Tests on means revealed that, on average, children in the anxious-solitary group were significantly more victimized than those in the other two groups (see Table 3), and that boys ($M$ = .20; $SD$ = .21) were more victimized than girls, ($M$ = .16, $SD$ = .16). The unsociable and comparison groups did not differ significantly.

## Anxious-Solitary, Unsociable, and Comparison Youth: Differences in Friendship and Friendship Stability

Our second aim was to determine whether there were differences by subgroup in children's friendships. First, we calculated the proportion of children in each group who participated in an MBF. Then, to examine stability in friendship participation, the proportions of children who were stably friended (SF) were calculated; specifically, children were stably friended if they had a MBF at both G5F and G5S, even if it was not the same friend at both times. We also identified children who maintained the *same* mutual friendship across the school year (SMBF). Lastly, we examined the number of children's MBFs as a function of group, sex, and time.

**Mutual best friendships—**Group differences in friendship participation during G5F and G5S were analyzed with separate chi-square analyses in which differences in proportions were tested for significance via a $z$ test. At both times of assessment, Group effects were found such that the proportion of anxious-solitary children who had a MBF ($z$ > 4.69, $p$ < .05) was lower than those in the comparison group (see Table 4). Unsociable youth did not differ from those in the other groups.

**Stability of participation in a friendship—**To determine whether the stability of children's participation in friendships differed by group, we first calculated the proportion of children who were stably friended (i.e., had at least one MBF at each time of assessment), and then computed the proportion of children who had a SMBF at both time points. Results showed that not only was a smaller proportion of children in the anxious-solitary group stably friended as compared to the proportion of children in the unsociable and comparison groups ($z$s = 2.46 and 5.63, respectively, $p$s < .05), but children in the anxious-solitary group were also less likely to maintain a SMBF across the school year ($z$s = 2.00 and 3.04, respectively, $p$s < .05; see Table 4 for proportions). Neither form of friendship retention differed significantly for youth in the unsociable versus comparison groups.

**Number of mutual friendships—**A Groups X Sex X Time RM-ANOVA performed on the number of MBFs yielded significant effects only for Group, $F$(2, 1358) = 44.71, $p$ < .01. Youth in the anxious-solitary group had significantly fewer friends than those in the unsociable or the comparison groups at both times of assessment (see Table 4); the latter two groups did not differ significantly.

## Child and Environmental Factors Associated with Having a Friend, Keeping Friends, and the Size of Friendship Networks for AS, UN, and Comparison Children

Our third aim was to determine whether specific child characteristics (i.e., prosocial behavior, emotional sensitivity) or environmental/relational factors (i.e., peer group acceptance, peer exclusion), measured early in 5th grade (G5F), were associated with having a mutual best friend, keeping that friendship over the school year, and the size of friendship networks, and whether these links differed as a function of children's group membership.

**Having and keeping friends—**To address this aim, logit regression analyses were used to predict (a) children's participation in a MBF (0 = no friend; 1 = friend), and (b) whether or not children maintained the same friend over the year (0 = did not keep same friend; 1 = same friend). The predictors in these analyses were children's subgroup membership (AS, UN, or C groups; categorical variable), sex, and their scores on the following G5F measures: prosocial behavior, emotional sensitivity, peer group acceptance, and peer exclusion. In addition, moderation was tested by including interaction terms for each subgroup by child/relational predictor. Results revealed that, although subgroup and all of its interaction terms were nonsignificant, prosocial behavior was significantly associated with having a MBF ($\beta = .23$, $p < .05$) and predicted keeping the same friend across the school year ($\beta = .16$, $p < .05$). In contrast, peer exclusion ($\beta = -.38$, $p < .01$) was associated with friendlessness and predicted children's failure to maintain friendships ($\beta = -.26$, $p < .05$). Although peer acceptance was associated with having a friend ($\beta = .54$, $p < .01$), it was not associated with keeping a friendship ($\beta = .03$, *ns.*).

In addition, chi-square analyses were used to examine variations in friendlessness at more extreme levels of peer rejection and peer exclusion. The first analysis examined whether friendlessness was more common among rejected (those with acceptance ≤ −1 SD) than non-rejected children within each of the three study groups (*n* of rejected children per group ≥ 18). For G5F, results showed that, in all three groups, rejected children were more likely to be friendless than were non-rejected children: AS group: 57% vs. 30%; UN group: 25% vs. 15%, C group: 34% vs. 13%, respectively). *Z*-tests on proportions showed that, within every group, a significantly larger proportion of rejected than non-rejected children lacked friends ($p < .05$). Across groups, *z*-tests revealed that the proportion of rejected children who lacked friends was significantly larger in the AS group than in the other two groups ($p < .05$). The same pattern of results was found for G5S.

The second analysis assessed whether friendlessness differed for highly excluded children (those with standardized exclusion scores ≥ 1 SD) versus less excluded children (those with scores < 1 SD) within the study groups (*n* of excluded children per group ≥ 12). Results mirrored those found for rejected and non-rejected children. Specifically, highly excluded children were significantly ($p < .05$) less like to have a MBF than were less excluded children in every subgroup: AS group: 53% vs. 22%; UN group: 25% vs. 17%, C group: 42% vs. 14%; respectively). Across groups, *z*-tests revealed that the proportion of highly excluded children that lacked friends was significantly larger in the AS group than in the other two groups ($p < .05$). The same pattern of results was found for G5S.

**Size of children's friendship networks—**A hierarchical regression analysis was used to determine whether the same child and relational environment factors predicted changes in the size of children's friendship networks from G5F to G5S. The criterion in this analysis was the number of MBFs children possessed in G5S. Predictors, which were measured at G5F, were entered in the following order: number of MBFs, subgroup membership (AS, UN or C groups; categorical variable), sex, prosocial behavior, emotional sensitivity, peer group

acceptance, and peer exclusion. Moderation was tested by including interaction terms for each subgroup by child/relational predictor.

Because this analysis did not yield any significant interactions, it was recomputed without these terms. The final regression equation was significant, $F(7,1564) = 125.97$, $p < .01$, and accounted for 36.2% of the variance in the criterion. Membership in the AS group, but not the UN or C groups, predicted decreases in the number of friends ($\beta = -.08$, $p < .01$), and lower levels of peer acceptance and higher levels of exclusion predicted declines in the number of friendships ($\beta$s = −.21, .09, respectively, $p$s < .01).

Additional analyses were used to examine variations in friendship network size at more extreme levels of peer rejection and peer exclusion. The first set of analyses explored whether rejected children within each subgroup (i.e., those with standardized acceptance scores ≤ −1 SD) differed from their non-rejected counterparts. Two separate Group (AS, UN, C) X Sex (M, F) X Rejection status (Rejected or not), X Time (G5F, G5S) RM-ANOVAs were calculated on scores for number of MBFs. In these two analyses, the levels of the Rejection factor were defined by children's scores in the *fall* versus the *spring* of the school year, respectively. When rejected status was defined at G5F, significant effects were found only for Group, $F(2, 1357) = 14.69$, $p < .01$, and Rejection status, $F(1, 1357) = 39.09$, $p < .01$. Bonferroni comparisons showed that: (a) as reported above, children in the AS group had significantly fewer friends than those in the UN or C groups, and that the difference between the latter two groups was not significant, and (b) on average, rejected children had fewer friends ($M = 1.34$, $SD = 1.15$) than did non-rejected children ($M = 2.65$, $SD = 1.31$). Highly similar results were obtained when rejected status was defined at G5S.

The second set of analyses examined whether the most excluded children within each subgroup (those with standardized exclusion scores ≥ 1 SD) differed from their less-excluded counterparts. In this case, two separate Group X Sex X Peer Exclusion X Time RM-ANOVAs were calculated, one defining exclusion using G5F scores; the other using G5S exclusion. At G5F, significant effects were found for Group, $F(2, 1327) = 15.00$, $p < .01$, and Peer Exclusion, $F(1, 1327) = 24.56$, $p < .01$. Bonferroni comparisons showed that: (a) as for rejection, children in the AS group had significantly fewer friends than those in the UN or C groups, and that the difference between the latter two groups was not significant, and (b) on average, highly excluded children had fewer friends ($M = 1.77$, $SD = 1.35$) than did less excluded children ($M = 2.64$, $SD = 1.32$). Results when identifying excluded versus non-excluded children based on G5S scores were nearly identical.

## Do Anxious-Solitary and Unsociable Children's Friends Resemble them Behaviorally or Relationally?

The homophily hypotheses were addressed with data from the fall of the school year because friend characteristics were assessed only at G5F. To address this aim, friendship dyads were identified by first selecting participants in each group who had a MBF and then matching them with the peers whom had been identified as their MBF. If a participant had more than one friend, then a single MBF was selected at random. Dyads assembled this way were inspected to determine if the friend selected for one participant was also selected for other participants; if so, dyads that contained the same friend ($n = 35$) were excluded from analyses. This procedure resulted in dyads for 37 AS targets (24 boys), 33 UN target children (17 boys), and 595 comparison children (300 boys).

To determine whether the friends of withdrawn children differed from the friends of non-withdrawn children, a series of 3 (Group) X 2 (Sex) ANOVAs were computed on friends' scores for each of the behavioral, emotional, and relational criteria. A significant Group effect was found for peer group acceptance, $F(2,609) = 8.21$, $p < .01$, and peer exclusion,

$F(2,609) = 8.21$, $p < .01$. Post hoc tests ($p < .05$) showed that friends of anxious-solitary children, compared to the friends of comparison children, had lower peer acceptance ($M = .16$, SD = .85 vs. $M = .62$, $SD = .70$) and higher peer exclusion scores ($M = -.22$, SD = .68 vs. $M = -.45$, $SD = .43$). The friends of unsociable children were more excluded ($M = -.19$, SD = .76 vs. $M = = -.45$, $SD = .43$) than those of comparison children, but did not differ on peer acceptance.

**Examination of the homophily hypothesis—**Behavioral and relational similarity was examined by testing mean differences in participants' and their friends' scores using paired *t*-tests; analyses were conducted by subgroup. Because statistical significance tests are largely influenced by sample size— and the comparison group was substantially larger than either of the two withdrawn subgroups ($n = 595$ dyads versus 37 and 33, for the AS and UN subgroups, respectively)—two separate criteria were utilized to evaluate the homophily hypothesis. Specifically, for the two withdrawn subgroups, evidence of homophily was assumed to exist when the mean difference scores for participants' and their friends were statistically non-significant. However, for youth in the comparison group and their friends, the absolute magnitude of the mean difference between friends was utilized to evaluate homophily; specifically, a mean difference ≤ .33 standard deviations (i.e., the largest nonsignificant mean difference for withdrawn participants and their friends) was selected to be indicative of similarity between friends in the comparison group.

Overall, results from these analyses were consistent with the homophily hypothesis; with few exceptions (see below), there was support for the hypothesis that friends tend to be more similar than dissimilar to one another. In fact, when differences were detected, they tended to be found among the classification variables (i.e., anxious-solitary, unsociable, and aggression)—most likely due to the extremeness of the scores required to identify subgroups. For example, youth in the AS group differed significantly from their friends in both anxious-solitary and aggressive behaviors such that, consistent with the criterion for identifying AS youth, the participants had higher anxious-solitary scores and lower aggressive tendencies (albeit, their friends tended to be nonaggressive as well). Similarly, children in the UN group differed from their friends on the anxious-solitary and unsociable measures; specifically, they had lower anxious-solitary scores, but higher unsociable scores.

Despite these differences between target children and their friends, support was found for the homophily hypothesis. Specifically, with only a few exceptions for the comparison group and their friends, targeted youth did not differ from their friends in terms of prosocial tendencies, sensitivity, peer acceptance, peer exclusion, or victimization (see Table 5). Moreover, the differences detected for the target children in the comparison group suggested that they tended to be even more prosocial and accepted than their friends whom, it should be noted, also were prosocial and well-regarded by their peers. An examination of the means reported in Table 5 further revealed that: (a) AS children's friends resembled them in that they tended to have lower than average peer acceptance scores and higher than average exclusion scores, and (b) UN children's friends resembled them in that they tended to have higher than average peer acceptance scores and lower than average exclusion scores. Results for victimization were not as strong, but the means obtained for the AS and UN groups suggested that these children had friends who experienced similar levels of victimization.

## If Anxious-Solitary and Unsociable Children have Friends, are they Less Victimized?

This aim was addressed by comparing, by subgroups and sex, the victimization scores of children who did versus did not have stable friendships. Stably friended children were those who had a MBF in their classrooms at *both* G5F and G5S (but not necessarily the same friend at both time points). It was possible to evaluate friendship status as a main effect and

as a moderator of differences attributable to subgroups, sex, and time because there were a number of boys and girls in each subgroup that were stably friended/not stably friended across the school year: AS (boys 36/32; girls: 22/25), UN (boys: 26/10; girls: 20/8) and C (boys: 454/168; girls: 426/137).

A 3 (Subgroups) X 2 (Sex) X 2 (Stably friended or not) X 2 (Time) RM-ANOVA was computed on victimization scores, and this analysis produced main effects ($p$s < .01) for Subgroup, $F(2, 1338) = 30.61$, and Friendedness, $F(1, 1338) = 5.32$. No other main effects or interaction effects were significant. Post hoc tests ($p < .05$) showed that, regardless of subgroup, stably friended children were less likely to be victimized ($M = -.20$, $SD = .69$) than those who were not ($M = .03$, $SD = .76$). Additionally, children in the AS group ($M = .24$, $SD = .96$) were more victimized than children in either the UN group ($M = -.21$, $SD = .61$) or the C group ($M = -.37$, $SD = .63$). Means for the UN and C group did not differ significantly.

## Discussion

This study of withdrawn children's friendships is one of only a few conducted thus far, and to our knowledge, the only one in which both anxious-solitary and unsociable children's friendships was examined. In the sections that follow, we consider how our results reflect on this study's specific aims and hypotheses, compare to previously reported findings, and collectively substantiate or revise our current understanding of withdrawn children's friendships.

### Subtype Profiles: Behavioral, Emotional, and Relational Characteristics

Consistent with expectation, participants in the two withdrawn subgroups exhibited emotional and relational profiles that differed from each other and from their counterparts in the comparison group. It was not surprising that anxious-solitary children were more emotionally sensitive (e.g., having their feelings hurt easily) relative to unsociable and comparison children. Anxious-solitary/shy children likely have excessive social-evaluative concerns, experience self-consciousness, and have expectations for social failure (see Crozier, 2010), which may make them especially sensitive and vulnerable to negative actions or words directed at them. In contrast, it may be the case that unsociable children are less concerned with peer relationships than are anxious-solitary children (see Coplan & Weeks, 2010), and thus, are not as likely to suffer hurt feelings in this context.

Anxious-solitary children's emotionally sensitivity and likely correlates (i.e., anxiousness, low social self-confidence) may also explain why they, in contrast to unsociable or comparison children, experienced higher levels of peer exclusion and victimization. Whereas classmates may notice and dislike both anxious-solitary and unsociable children's non-participation in social interaction, only anxious-solitary children may exhibit a level of "anxious vulnerability" (see Perry, Kusel, & Perry, 1988) that increases risk for peer victimization. If unsociable children, in contrast, do not exhibit signs of emotional vulnerability (e.g., fear, defenselessness), peers may see them as capable of standing up for themselves in confrontations. This may be why unsociable children were no more likely to be victimized than comparison children.

Indeed, the finding that anxious-solitary participants were more victimized than comparison children paralleled Rubin et al.'s (2006) results for shy/withdrawn children. Although anxious-solitary versus shy/withdrawn children may not be identical subtypes, these findings are consistent with evidence linking anxious and shy behaviors with peer maltreatment (see Perry et al., 1988). Our findings also extend Rubin et al.'s by showing that not only are anxious-solitary children susceptible to victimization, but they also exhibit greater emotional

vulnerability and have other relational difficulties (e.g., peer rejection, exclusion) that are likely to interfere with friendship formation and maintenance. These potential deterrents were fewer and less severe for unsociable children.

Thus, it would appear that the patterns of withdrawn behavior exhibited by anxious-solitary and unsociable preadolescents are associated with distinct emotional and relational profiles. Anxious-solitary children appear less well adjusted, and their emotional and relational profiles were consistent with those hypothesized to operate as risk factors for friendship making and maintenance.

### Prevalence and Stability of Friendship

This study's findings substantiate as well as extend the prevailing view of withdrawn children's friendships. At the broadest level of analysis, our findings were consistent with the position that withdrawn children are capable of forming and participating in friendships (e.g., see Rubin et al., 2006; Schneider 1999; 2009). The majority of the children we sampled, including those identified as members of withdrawn subtypes, had one or more friends. However, a more detailed level of analysis—one in which comparisons were made among subsamples of anxious-solitary, unsociable, and non-withdrawn children—revealed that anxious-solitary participants were significantly less likely than unsociable or comparison children to be participants in a mutual friendship.

This finding qualifies and extends current knowledge by suggesting that some withdrawn children, particularly those who are anxious and solitary, are less successful at forming friendships than others (e.g., unsociable children). Moreover, the fact that fewer anxious-solitary than unsociable children had friends was consistent with the hypothesis that, when in the presence of peers, anxious-solitary children experience anxiety and/or anxiety-driven thoughts and behaviors that subvert their dyadic interactions and relationships. As outlined in our investigative rationale, the pathways through which anxiety interferes with friendship processes likely are complex and capable of influencing multiple aspects of children's competence (e.g., cognitive, motivational, and behavioral competence). Among the anxiety-driven processes or events that may impact friendship formation negatively and, thus, warrant further empirical scrutiny, include those that: (a) trigger or focus attention on debilitating thoughts (e.g., expectations of embarrassment, failure) and social-evaluative concerns (e.g., performance concerns, preoccupation with others' judgments), (b) promote non-normative or negative emotional displays (e.g., failing to display positive emotions), (c) inhibit social motivations and behaviors (e.g., reducing the desire for affiliative ties; suppressing social overtures), and (d) cause children to act inappropriately or exhibit behaviors that are inept, awkward, or off-putting to peers.

Anxious-solitary participants' greater propensity to lose friends over time likely illustrates another avenue through which anxiety interferes with processes that are critical to friendship. Rather than implicating anxiety as a disruptive influence on friendship formation, these findings imply that anxiety, and the processes that may accompany it, are negative influences on relationship development and maintenance. Although the actual processes that might be responsible for such effects were not directly investigated here, it is possible that certain types of internalizing problems— including anxiety—destabilize friendships (Rudolph, Ladd, & Dinella, 2007). For example, children who exhibit depressive symptoms, which are closely associated with anxiety, have been shown to engage in higher levels of one-sided negative self-disclosure and reassurance-seeking in their peer relationships (i.e., discussion of problems; seeking reassurance about one's worth or likeability; Potthoff, Holahan, & Joiner, 1995; Segrin & Flora, 1998). Likewise, children who have negative self views appear to create stress in their peer relationships (Caldwell, Rudolph, Troop-Gordon, & Kim, 2004). These processes and characteristics, if typical of anxious-solitary children,

and if exhibited excessively, may alienate friends and contribute to the dissolution of friendships.

Anxious-solitary children also may experience greater friendship instability and loss due to the social dynamics that operate or are elicited by these children within peer environments. Classmates' responses to anxious-solitary children—particularly their propensity to exclude and victimize them— may inform their friends that the continuation of such relationships will come at a cost. As friends recognize that anxious-solitary children are maltreated by peers (e.g., victimized, excluded), they may choose to shield themselves from such treatment by terminating these ties.

Thus, our findings suggest that anxious-solitary youths' friendship relations are quite different from those of unsociable and non-withdrawn youth. Comparatively, anxious-solitary youth are less likely to have friends, and when they do have these relationships, their friendship networks are smaller, and they are more likely to lose friends over time. If, as hypothesized, these differences stem from the dysregulating effects of anxiety, then it is possible that anxious-solitary youths' emotions (and/or related cognitive, motivational, and behavioral processes) preclude or interfere with the development of competencies that are specific to: (a) friendship formation (e.g., initiating interactions, starting conversations, finding common ground), (b) friendship maintenance (e.g., mutual responsiveness, intimacy), and (c) management of multiple relationships (e.g., balancing ties and commitments across friendship partners; social multi-tasking; see Gottman, 1983; Parker & Seal, 1996).

In contrast, we discovered that unsociable youths' friendships and the friendship networks were, as hypothesized, as prevalent, stable, and populated as those of non-withdrawn youth. Compared to anxious-solitary youth, a greater proportion of unsociable children had friends, were stably friended, and had larger friendship networks. These findings lend further support to the view that unsociable, compared with anxious-solitary children, are more emotionally regulated and, in turn, more skilled at forming and maintaining friendships (Harrist et al., 1997).

Some of our findings were at odds with Rubin's et al. (2006) results, which suggested that there was no difference between shy/withdrawn and comparison children in friendship prevalence or stability. This discrepancy may, in part, be attributable to differences in the types of withdrawn subgroups studied, and to differences in samples. First, whereas Rubin et al. (2006) identified shy/withdrawn children using criteria that were indicative of multiple forms of shy behavior, and verbal inhibition in particular (e.g., "very shy", "talks quietly", "hardly ever starts up a conversation", "nervous about group discussions"; see also Oh et al., 2008), we identified anxious-solitary children using a multiple-gating strategy that included an initial withdrawn-from-peers criterion ("play by themselves the most") and a secondary criterion that indexed anxiety or shyness as an inhibitor of peer play ("wants to play with other kids but does not because he/she is too shy or afraid"). It is possible that these two selection procedures identified different types of children. Second, although the participants in both studies were $5^{th}$ graders, the 169 shy/withdrawn children in the Rubin et al. study were drawn from a sample of 556 children whereas, in this study, 115 anxious-solitary children were selected from a sample of 2,437 children. The fact that a proportionately smaller number of children were identified as members of the withdrawn subgroups in this study (< 5% of the sample) as compared to the Rubin et al. study (≈ 30% of the sample), may have made the participants in this study more extreme exemplars of each of the targeted withdrawn subtypes. Unless sampling and selection criteria permit sufficient discrimination, there is the risk of capturing non-withdrawn children in the samples used to define

withdrawn subtypes. Confounds of this type might mask differences in friendship prevalence.

Overall, these findings extend past work by showing that anxious-solitary children's friendship relations differ from other withdrawn youth as well as from non-withdrawn youth. It is important to note that the differences found for friendship stability were evident regardless of whether stability was measured as consistency in friendedness or as maintenance of the same friendship over time.

## Child and Environmental Predictors of Friendship

Our findings provide new insights into the antecedents of withdrawn children's friendships, specifically those factors that predict whether they have friends, maintain their friendships, and gain or lose friends (i.e., develop smaller versus larger friendship networks) across a school year. Of the behavioral, emotional, and relational characteristics evaluated, prosocial behavior, peer group acceptance/rejection, and peer exclusion emerged as significant predictors.

Prosocial behavior is a form of social competence known to be pivotal in friendship formation and maintenance (Ladd et al., 1996; Parker & Seal, 1996) and our findings revealed that acting prosocially toward peers was just as predictive of withdrawn children's friendship participation and maintenance as it was for nonwithdrawn children. These findings suggest that prosocial behavior serves the same functions in friendships for withdrawn children as it does for non-withdrawn children, and further imply that it is important for withdrawn children to utilize this form of social competence.

As hypothesized, peer group rejection and exclusion did not bode well for friendships. On the one hand, our findings suggested that these group dynamics were equally problematic for all children, regardless of subgroup. Exclusion, in particular, predicted friendlessness and friendship instability for both withdrawn and non-withdrawn children. Children who were excluded early in the school year were less likely to maintain their best friendships and more likely to experience reductions in the size of friendship networks. Rejection's predictive relations were similar except that it was not as prognostic of friendship stability. On the other hand, some of our findings were consistent with the premise that these group dynamics are particularly detrimental for anxious-solitary children. When more severe levels of rejection and exclusion were examined (i.e., when we contrasted children who were classified as rejected vs. non-rejected, or excluded vs. non-excluded within subgroups), it was discovered that those anxious-solitary children who were rejected or excluded by peers were more likely than their counterparts in the unsociable or comparison subgroups to become friendless.

It is conceivable that anxious-solitary children's emotional sensitivity causes them to react more negatively to rejection and exclusion than other children. Consistent with this tenet, Gazelle and Druhen (2009) found that anxious-solitary 3$^{rd}$ graders exhibited more socially helpless responding compared to controls when they perceived rejection from a friend. Further, anxious-solitary children who also were excluded by peers reported feeling significantly higher anticipatory feelings of rejection than control children when waiting for a friend's response to an invitation. It is possible that, when anxious-solitary children's social overtures *are* rejected, they become caught in a cycle that confirms their social fears and reinforces negative self-perceptions. This, in turn, may intensify anxiety in future social situations (Asendorpf & van Aken, 1994; see Rubin, Bowker, & Kennedy, 2009) and alter interactions with others in at least two ways. First, helplessness may discourage youth from initiating toward others and, thereby limit opportunities for friendship formation. Second, anxious-solitary children's anxiety and perhaps negative feelings and cognitions (e.g.,

anticipatory rejection, self-defeating thoughts) may impair the quality of their interactions—repelling social partners and decreasing the probability of continued interaction and friendship.

### Resemblance between Withdrawn Children and their Friends

This study's results corroborated prior inferences (see Rubin et al., 2006) by suggesting that the friends of withdrawn children (a) differ from the friends of non-withdrawn children on indicators of behavioral and relational competence, and (b) possess behavioral and relational characteristics that are concordant with those of withdrawn children. However, these data extend past findings because homophily was examined with participants (and their friends) from two distinct withdrawn subtypes using criteria that were both the same and different from those utilized in past research (i.e., behavioral, emotional, and relational dimensions). What we learned was that, as a partner-selection or attraction dynamic, homophily is operative in two subtypes of withdrawn children's friendships. Specifically, comparisons of friends' characteristics by subgroups showed that the resemblance found between friends extended across behavioral, emotional, and relational criteria.

Evidence of homophily was obtained across all three participant groups in level of emotional sensitivity, peer exclusion, and peer victimization. Moreover, children were also similar to their friends in terms of prosocial behaviors and levels of peer acceptance; albeit the mean-level differences in comparison children and their friends were statistically significant. That is, both comparison children and their friends displayed above average levels of prosocial behaviors and were well-regarded by their peers, although the actual mean differences revealed that comparison children were significantly higher on these dimensions than their friends. Similarly, children and their friends were quite similar on levels of aggression, although the friends of anxious-solitary children tended toward more normative levels of aggression ($z = -.10$).

While support was garnered for the homophily hypothesis, notable exceptions were present. For example, while it could be expected that unsociable youth evidence higher levels of unsociability than their friends (i.e., a possible consequence of using extreme grouping cut-offs), the findings show that unsociable children tended to befriend peers who had stronger anxious-solitary tendencies than themselves. Perhaps unsociable children find that anxious-solitary partners place fewer social demands on them as compared to more sociable peers. Also consistent with the premise that unsociable children seek out less demanding friendship partners was the finding that anxious-solitary children tended to be similar to their friends on the unsociability dimension. That is, both anxious-solitary children and their friends tended to score near the mean for unsociability suggesting that their social needs may not be particularly high relative to other children.

In sum, findings show that most children tend to have friends who resemble them on behavioral, emotional, and relational dimensions. When differences were detected, they were indicative of selection processes that were guided by complimentarily (e.g., anxious-solitary and unsociable children befriending one another) rather than difference (e.g., opposing characteristics). That is, we did not find that withdrawn children befriended aggressive children or that highly accepted children befriended excluded children, and so forth.

### Friendship and Victimization

Having established that withdrawn youth have friends, the question of whether they benefit from these relationships becomes germane. Like prior investigators, we explored whether withdrawn youths' friendships protect them from victimization and, to advance past

research, we sought to determine whether anxious-solitary as well as unsociable youth profit in this way from friendships.

Our findings were consistent with the hypothesis that stable friendships lessen children's chances of being victimized (see Hodges et al., 1997), and imply that this the case for all children, including those from the investigated withdrawn subtypes. Stably friended children, regardless of subgroup, were less victimized than children who were friendless at one or both times during the school year.

If, as our findings imply, withdrawn children are less at risk for victimization when they are stably friended, it may be because their friends possess protective characteristics. Although our findings did not characterize the friends of withdrawn children as better suited to defending them (e.g., more aggressive, prosocial, etc.) than the friends of non-withdrawn children, we did find that withdrawn children's friends were relatively dissimilar with respect to victimization, and no more abused than comparison children's friends. Perhaps withdrawn children are partially buffered from victimization when their friends are less likely than they are to be aggressed on by peers.

These findings and inferences are in contrast to those of Rubin et al. (2006) who found that shy/withdrawn children's greater exposure to peer victimization was not moderated by their participation in a mutual best friendship, and that shy/withdrawn children's friends were more likely than those of non-withdrawn children to be victimized. Again, these disparities may stem from differences in the types of withdrawn subgroups studied, and to differences in samples. It may also be the case that *sustained* friendships offer withdrawn children greater protection from victimization than do less stable friendships. Unlike Rubin et al., we addressed the question of whether friendships reduced the probability of victimization by comparing children who had stable friendships to those who were friendless at one or both times during the school year.

## Summary and Conclusions

In sum, we examined the prevalence and stability of withdrawn children's mutual friendships, the characteristics of withdrawn children's friends, and the hypothesis that withdrawn children are less likely to be victimized by peers if they have a mutual friend. Unlike previous investigators, however, we addressed these questions with previously under-researched samples—that is, children belonging to unsociable and anxious-solitary withdrawn subtypes. A second novel aim was to ascertain—for unsociable as well as anxious-solitary children—whether specific behavioral and relational variables predicted their participation in friendships, the stability of their friendships, and changes in the size of their friendship networks across a school year.

When contrasted against past findings, the results of this investigation: (a) corroborated as well as contradicted extant evidence, and (b) extended what is known about withdrawn children's friendships. First, the results further substantiated the premise that withdrawn children have mutual best friends, and extended past findings by showing that, although most withdrawn children have friends, it is more common for unsociable than anxious-solitary children to have friends, be stably friended, and have larger friendship networks. Second, it was discovered that although peer rejection and exclusion anteceded friendlessness and friendship instability for withdrawn as well as non-withdrawn children, these peer group dynamics were particularly prognostic of friendlessness for anxious-solitary children. Third, the findings qualified previous evidence by suggesting that homophily occurs to a greater extent, and is manifested on more maladaptive characteristics, within the friendships of anxious-solitary as compared to unsociable children. Finally, the results corroborate the premise that friendship serves a protective function for peer

victimization, and extends what is known about withdrawn children's friendships by implying that anxious-solitary and unsociable children derive this type of provision from their friendships.

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**Table 1**

Withdrawn Subtype and Comparison Groups and Unclassified Children: N's by Groups and Ethnicity

| | | ***N* by Ethnicity** | | | | |
|---|---|---|---|---|---|---|
| | **Sample** | **Caucasian** | **Af-American** | **Asian** | **Latino** | **Other** |
| | ***N*** | ***N*** | ***N*** | ***N*** | ***N*** | ***N*** |
| Anxious-Solitary | 115 | 90 | 12 | 3 | 2 | 4 |
| Males | 68 | 52 | 7 | 3 | 1 | 2 |
| Females | 47 | 38 | 5 | 0 | 1 | 2 |
| Unsociable | 64 | 52 | 8 | 2 | 1 | 0 |
| Males | 36 | 29 | 5 | 1 | 0 | 0 |
| Females | 28 | 33 | 3 | 1 | 1 | 0 |
| Comparison | 1185 | 940 | 155 | 43 | 31 | 18 |
| Males | 622 | 478 | 89 | 24 | 14 | 13 |
| Females | 563 | 462 | 66 | 10 | 17 | 5 |
| Unclassified | 1073 | 779 | 210 | 22 | 34 | 14 |
| Males | 466 | 330 | 106 | 7 | 12 | 6 |
| Females | 607 | 449 | 104 | 15 | 22 | 8 |

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**Table 2**

Correlations for All Measures (Fall correlations are presented below the diagonal; spring is above and stability coefficients are along the diagonal)

| Measures | AGG | PRO | SEN | MBF | #FR | ACC | EXC | PV |
|---|---|---|---|---|---|---|---|---|
| Aggression (AGG) | .84 | −.37 | −.04 | −.11 | −.04 | −.26 | .03 | .26 |
| Prosocial (PRO) | −.30 | .70 | −.02 | .29 | .07 | .47 | −.19 | −.26 |
| Sensitivity (SEN) | −.07 | .12 | .74 | −.27 | −.10 | −.36 | .55 | .54 |
| Mutual best friend (MBF) | −.15 | .23 | −.23 | .55 | .23 | .60 | −.44 | −.40 |
| # of Friends (#FR) | −.08 | .12 | −.07 | .23 | .29 | .15 | −.14 | −.16 |
| Acceptance (ACC) | −.32 | .33 | −.32 | .61 | .18 | .79 | −.60 | −.58 |
| Exclusion (EXC) | .06 | −.06 | .48 | −.46 | −.14 | −.60 | .80 | .72 |
| Victimization (PV) | .29 | −.08 | .49 | −.35 | −.13 | −.53 | .63 | .81 |

Note. $|r| \geq .04$ are significant at $p < .05$.

**Table 3**

Breakdown of RM-ANOVA Group Main Effects and Group by Time Interactions: Mean (SD)

| | Interaction effect Sensitivity | | Main effect Peer | Interaction effect Peer Exclusion | | Main effect Peer |
|---|---|---|---|---|---|---|
| | G5F | G5S | Acceptance | G5F | G5S | Victimization |
| Anxious-Solitary | .37(1.16)[a] →.20(1.11)[a] | | −.40(.93)[a] | .74(1.13)[a] | .63(1.20)[a] | .28 (.35)[a] |
| Unsociable | −.23(.73)[b] | −.20(.64)[b] | .02(.80)[b] | .02(.74)[b]→−.11(.68)[b] | | .13 (.14)[b] |
| Comparison | −.25(.78) [b] | −.23(.74)[b] | .39(.81)[c] | −.39(.51)[c]→−.33(.70)[c] | | .12 (.16)[b] |

Means denoted by different letters within columns are significant at $p < .01$. Arrows indicate a significant time effect.

**Table 4**

Participation in Friendships

| | MBF | | SF | SMBF | # of MBF | |
|---|---|---|---|---|---|---|
| | G5F | G5S | | | G5F | G5S |
| Anxious-Solitary | 68.4% [a] | 68.5% [a] | 52.7% [a] | 29% [a] | 1.82 (1.32)[a] | 1.83 (1.31)[a] |
| Unsociable | 82.5% [b] | 84.4% [b] | 73.0% [b] | 47% [b] | 2.73 (1.28)[b] | 2.64 (1.31)[b] |
| Comparison | 85.7% [b] | 86.3% [b] | 77.5% [b] | 46% [b] | 2.89 (1.34)[b] | 2.88 (1.36)[b] |

Notes. Proportions and means denoted by different letters within columns are significant at $p < .01$.

G5F = Grade 5, fall; G5S = Grade 5, spring; MBF = mutual best friendship; SF = Stably friended; SMBF = stable mutual best friendship; and # of MBF = number of mutual best friendships

## Table 5

Comparisons of friends' characteristics (dyads): Paired t-tests

| | | | | Target Friend |
|---|---|---|---|---|
| | ***M*** | ***M*** | ***M*** | ***DIF*** |
| AS Anxious-solitary | 1.72 | .08 | 1.64 | $t(36) = 8.57^{**}$ |
| UN Anxious-solitary | −.33 | .11 | −.44 | $t(32) = -2.52^{*}$ |
| C Anxious-solitary | −.46 | −.22 | −.24 | $t(593) = -8.02^{**}$ |
| AS Unsociable | −.08 | .00 | −.08 | $t(36) = -.56$ |
| UN Unsociable | 1.58 | −.10 | 1.68 | $t(32) = 10.14^{**}$ |
| C Unsociable | −.47 | −.27 | −.20 | $t(593) = -7.10^{**}$ |
| AS Aggressive | −.50 | −.10 | −.39 | $t(36) = -2.44^{*}$ |
| UN Aggressive | −.46 | −.28 | −.18 | $t(32) = -1.09$ |
| C Aggressive | −.43 | −.25 | −.18 | $t(594) = -5.20^{**}$ |
| AS Prosocial | .15 | −.07 | .22 | $t(36) = .64$ |
| UN Prosocial | .21 | .09 | .13 | $t(32) = .42$ |
| C Prosocial | .53 | .12 | .41 | $t(593) = 5.36^{**}$ |
| AS Sensitivity | −.06 | −.25 | .20 | $t(36) = 1.33$ |
| UN Sensitivity | −.32 | −.24 | −.08 | $t(32) = -.45$ |
| C Sensitivity | −.31 | −.14 | −.18 | $t(593) = -4.70^{**}$ |
| AS Peer acceptance | .00 | −.12 | .12 | $t(36) = .66$ |
| UN Peer acceptance | .28 | .27 | .01 | $t(32) = .05$ |
| C Peer acceptance | .65 | .27 | .38 | $t(593) = 8.89^{**}$ |
| AS Exclusion | .37 | .05 | .33 | $t(36) = 1.75$ |
| UN Exclusion | −.23 | −.13 | −.10 | $t(32) = -.86$ |
| C Exclusion | −.49 | −.23 | −.25 | $t(582) = -8.05^{**}$ |
| AS Victimization | −.06 | .10 | −.15 | $t(36) = -.81$ |
| UN Victimization | −.24 | −.22 | −.02 | $t(32) = -.10$ |
| C Victimization | −.42 | −.20 | −.21 | $t(593) = -5.93^{**}$ |

$^{*}p < .05$.

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

Anxious-Solitary ($n = 37$; 24 boys). Unsociable ($n = 33$; 17 boys). Comparison ($n = 595$; 300 boys)