

PATHWAYS TO AND FROM SOCIAL WITHDRAWAL: ANTECEDENTS,
CORRELATES, CONSEQUENCES, AND CONSIDERATIONS FOR EVALUATING
DIMENSIONS OF SOCIAL WITHDRAWAL IN ADOLESCENTS

A dissertation submitted in partial fulfillment
of the requirements for the degree of

DOCTOR OF PSYCHOLOGY

to the faculty of the

DEPARTMENT OF PSYCHOLOGY

of

ST. JOHN'S COLLEGE OF LIBERAL ARTS AND SCIENCES

at

ST. JOHN'S UNIVERSITY

New York

by

Laura K. Cyran

Date Submitted: _____

Date Approved: _____

Laura K. Cyran

Ernest V.E. Hodges, Ph.D.

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ABSTRACT

PATHWAYS TO AND FROM SOCIAL WITHDRAWAL: ANTECEDENTS, CORRELATES, CONSEQUENCES, AND CONSIDERATIONS FOR EVALUATING DIMENSIONS OF SOCIAL WITHDRAWAL IN ADOLESCENTS

Laura K. Cyran

Research into child and adolescent social withdrawal has identified multiple forms of withdrawal behavior, most of which fall under the subtypes of shyness or preference for solitude. Social withdrawal can lead to a variety of maladjustment outcomes, though there is evidence to suggest that the trajectory might differ depending on the form and function of social withdrawal experienced. However, much of the previous research in this area has failed to account for the moderate correlation between shyness and preference for solitude, which calls into question findings on distinctions between these two forms. We investigated the antecedents, correlates, and consequences of shyness and preference for solitude with a sample of 408 adolescents over a three-year period. Each analysis examining one form of social withdrawal included the other form of withdrawal as a covariate in order to control for the impact of their shared variance. Similar concurrent and longitudinal adjustment correlates were found in shyness and preference for solitude. We discovered that controlling for the other form of social withdrawal revealed a significant decrease in numerous found effects, particularly those on or from internalizing behavior. We hope to emphasize the magnitude of this correlation between social withdrawal subtypes and encourage researchers in this area to control for this shared variance in future work, especially when examining distinctions between shyness and preference for solitude. Given the documented importance of childhood peer relationships for long-term personal and social development, accurately assessing these constructs is critical.

Keywords: Social Withdrawal, Adolescence, Shyness, Preference for Solitude.

ACKNOWLEDGEMENTS

This dissertation would not have been possible without the support of many who believed in me enough to see me through this long haul. To each I am grateful. I acknowledge the COVID-19 pandemic, which existed across two years of this project and remains ongoing. Though it was not a source of support as such, its presence offered the unexpected opportunity to discover an existential gratitude through tragic optimism; as Frankl (1985) said, “when we are no longer able to change a situation, we are challenged to change ourselves” (p. 112). I am a different person than I was when I started this.

I would like to extend my deepest appreciation and gratitude to my advisor, Ernest Hodges, whose mentorship went beyond the contents of this document. I am grateful for your support and your belief in me, and for introducing me to *The Structure of Scientific Revolutions* at the absolute most perfect time. I would like to thank my committee members, Lauren Moskowitz and Mark Terjesen, for holding me and my work to the highest academic standard throughout the winding path this project followed. I might even go so far as to say this process was fun. Thank you all for your part in that.

To Wolf and Esme, I thank you for your patience. You heard “Mom’s working” far too many times over the past five years. I thank my parents, as I may not have believed in myself enough to do this if you hadn’t believed in me all these years. Finally, I extend infinite gratitude to Rob, whose support for me did not waver, even in the trenches of pandemic parenting with me while I pushed through to complete this degree. None of it, not any of it, would have been possible without you.

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Chapter I

INTRODUCTION

Peer relationships throughout childhood and adolescence play a critical role in fostering adaptive personal and social development. From early childhood through adolescence, friendships can offer opportunities to play, learn to meet behavioral and emotional expectations, receive emotional support, develop social skills, and form personal identity (Rubin et al., 2013). However, some children refrain from participating in social activities, potentially putting them at risk for later dysfunction. The absence of appropriate and enriching social experiences during children's development is associated with personal and social maladjustment, such as internalizing problems, low self-esteem, peer rejection, victimization, poor friendship quality, and academic difficulties (Rubin et al., 2009). These negative outcomes can sometimes last a lifetime (Coplan & Bowker, 2014). While there is evidence to suggest that social withdrawal can lead to a variety of negative outcomes, some studies have also suggested that not all socially withdrawn children experience social difficulties (Rubin, 1982; Coplan et al., 2004; Gazelle, 2006; Gazelle & Ladd, 2003). It is clear that childhood social withdrawal is a complex phenomenon with multiple causes, correlates, and trajectories.

Over the last thirty years, researchers have identified multiple forms of social withdrawal, most of which fall under the subtypes of shyness or preference for solitude (Rubin et al., 2009). However, these forms are moderately correlated (Zhang & Eggum-Wilkens, 2018; Coplan et al., 2004), which can make examining the long-term implications of this behavior difficult. Given the potential risks to long-term social-emotional development that may follow childhood and adolescent social withdrawal,

accurately assessing, measuring, and studying this construct is critical. The goal of this study was to examine the correlates, antecedents, and consequences of two of the most studied forms of social withdrawal: shyness and preference for solitude. Further, we aimed to quantify the extent to which the effects of each form of social withdrawal might be accounted for by shared variance with the other form of social withdrawal. By highlighting the magnitude of the correlation between social withdrawal subtypes and the implications it may have for assessing the credibility of published research that does not account for this correlation, we hope to encourage social withdrawal researchers to begin adopting analytical strategies that incorporate this practice into future work.

Chapter II

LITERATURE REVIEW

Social Withdrawal

Solitude in and of itself is not a clinical disorder, nor is it necessarily pathological. It is merely the state of being alone, and there are many occasions in which solitary behavior is perfectly adaptive and many activities that are well suited to be performed alone. Solitude can be contemplative, clarifying, or productive; when actively chosen, it can increase relaxation and reduce stress (Nguyen et al., 2018). What distinguishes social withdrawal from temporary solitude is the motivating factors and social context around which it occurs. Social withdrawal is typically defined in the literature as the consistent display, across contexts and over time, of solitary behavior in the presence of familiar and/or unfamiliar peers (Rubin & Asendorpf, 2013; Rubin & Coplan, 2004). It is the repeated choice for solitude, or avoidance of social interaction, when presented with a social alternative. This should not be confused with children who display solitary behavior as a result of being isolated or rejected by the peer group, which indicates that the isolation was caused by external factors; rather, socially withdrawn children are isolative as a result of internal motivation. Children who are characterized as socially withdrawn tend to spend much of their time in school or other social settings playing alone on the periphery while others are playing in groups (Rubin et al., 2009).

Much of the early research on childhood social withdrawal failed to produce consistent findings, possibly because researchers did not acknowledge or differentiate among forms of social withdrawal (Rubin & Coplan, 2004). It is now suggested that socially withdrawn youth represent a heterogeneous group, with differing motivations

and feelings about their own isolation. More recent research has made specific distinctions among children's isolative patterns and the label "social withdrawal" has come to be an umbrella term for the phenomenon, containing two primary subtypes: shyness and preference for solitude (Rubin et al., 2009). Though the resulting isolative behavior can look similar in children with these two forms of withdrawal, the motivation, correlates, and trajectories may be different for a child who withdraws from shyness and a child who actively prefers to be alone.

While much of the empirical research on solitude has shown that spending time alone is less enjoyable than socializing and that solitude can increase negative moods (Larson, 1990), more recent research on solitude has shown that the experience of solitude can vary depending on situational and individual factors (Larson, 1997; Long et al., 2003). Larson (1997) coined the terms "reactive solitude" and "constructive solitude" to differentiate between two motivations for withdrawing from others. In his conceptualization, reactive solitude is driven by a response to others that results in a lack of desire to socialize (e.g., someone may avoid socializing because of perceived social judgment). Constructive solitude refers to the motivation for solitude that is not driven by a reaction to other people, but rather the perception that the time alone will be enjoyable or constructive in itself (Larson, 1997). This theorized distinction between motivations for solitude or social withdrawal may offer insight into why time spent alone can result in such a wide range of outcomes.

Shyness

Shyness is the most widely studied form of social withdrawal. The term typically refers to a socially anxious form of withdrawal characterized by conflicting motivations

of high approach and high avoidance (Asendorpf, 1990). Children who are shy can often be seen hovering around their peers, watching but not engaging in social activity (Asendorpf, 1990). This behavior may signal a desire to play with others that is inhibited by anxiety or fear (Coplan et al., 2004), particularly a fear of concern of social evaluation (Coplan, 2000). Shyness is also associated with behavioral inhibition (wariness in novel situations), social reticence (watching social activity from afar but avoiding engagement), anxious solitude (wariness among familiar peers), and self-consciousness in situations with perceived social appraisal (Rubin et al., 2009).

Shyness is a relatively stable trait both over time and across contexts, though some differing trajectories have been identified. Shyness has found to be particularly stable in in extremely shy children (Coplan & Armer, 2007). Henderson et al. (2004) found that shy, inhibited, and socially wary 24-month-olds were more likely to demonstrate shyness at age 4. In addition, Rubin et al. (2002) found that two forms of toddler inhibition (traditional inhibition and social inhibition) at age two consistently predicted socially reticent behavior at age four. Despite this stability, individual differences in shyness have been reliably predicted by many factors including attachment relationships, parenting practices, and childhood and adolescent peer relationships (Rubin et al., 2009). Results from a longitudinal study by Tang et al. (2017) examining shyness across four decades identified three trajectories of shyness over time. The first and most common trajectory involved low and stable levels of shyness over these 40 years (Tang et al., 2017). Next was a trajectory of decreasing shyness from childhood on, and then a path of increasing shyness from adolescence on (Tang et al., 2017).

Children who are shy may be more prone to internalizing symptoms, negative emotion, generalized behavioral inhibition, and avoidant coping (Eisenberg et al., 1998). Shy children may also experience peer rejection, poor social self-concept, and loneliness into adolescence (Gazelle & Ladd, 2003). Children who are found to be extremely shy are at increased risk for anxiety disorders, particularly social phobia, in adolescence (Kagan et al., 1999). Tang et al. (2017) found the strongest associations with social anxiety, mood disorders, and substance-related disorders in their increasing shyness trajectory group as compared to the low-stable group. Interestingly, Tang et al. (2017) also found a higher attentional bias to angry facial expressions, which is consistent with previous findings on attentional biases found in those with social phobia (Bögels & Mansell, 2004). Zdebik et al. (2019) also found higher levels of childhood shyness to be associated with social phobia in adolescence, especially for girls. However, very little is known about the individual- and social-level antecedents and consequences of shyness as adolescents transition from middle school to high school.

Preference for Solitude

While shy children would prefer to be engaged with peers (demonstrating a high approach motivation) and avoid socializing as a result of fear or anxiety, children with a preference for solitude choose to be alone, but not necessarily out of fear. Preference for solitude reflects a weak motivation to engage socially with peers (Coplan et al., 2004). Children with a preference for solitude can vary based on their level of avoidance motivation. Some children rarely initiate social contact, but they also do not turn down peers who initiate social contact with them (Coplan et al., 2015). For these children, the desire to be alone does not necessarily equate to a desire to be away from others.

Socially, they have a low approach and low avoidance motivation. In contrast, other children have a low approach motivation coupled with a high avoidance motivation (Wang et al., 2013). These children rarely initiate social contact and will also actively turn down peer requests for play (Coplan et al., 2015). While some children prefer to play alone but are content in the presence of others, others prefer to play alone and actively avoid their peers. All of these children withdraw socially because of a preference for solitude powered by a low approach motivation. Research into the motivational factors contributing to preference for solitude has found associations with both positive (e.g., self-reflection or creative pursuits) and reactive (e.g., social avoidance or negative affect) factors (Borg & Willoughby, 2021).

More is known about the correlates and trajectories of shy children than of children who prefer solitude. This may be a result of more complex approach-avoidant profiles in this latter group. However, like shyness, preference for solitude has been associated with maladaptive outcomes in children, particularly in early adolescence. Coplan et al. (2013) found that socially withdrawn behavior coupled with low approach motivation predicted peer difficulties in 9-to-12-year-olds. More specifically, they found that children with low approach and low avoidance motivations experienced a similar level of internalizing symptoms as their non-withdrawn peers, but children who had a low approach and high avoidance motivation experienced more pervasive socioemotional difficulties (Coplan et al., 2013; Asendorpf, 1990). Very little research has been conducted on low-approach and low-avoidance children, but it may be a relatively benign form of social withdrawal (Rubin et al. 2009; Coplan et al., 2015), particularly in early childhood (Rubin & Asendorpf, 1993). Harrist et al. (1997) found that kindergarteners

who fit the low-approach, low-avoidance profile interacted less frequently with peers but showed no other social or cognitive differences from non-withdrawn peers. On the other hand, one study examining suicidal ideation and self-harm in adolescents found increased odds of both suicidal ideation and self-harm in those with high preference for solitude (Endo et al., 2017). Those with high levels of preference for solitude who were also experiencing social isolation showed the highest risk for these outcomes (Endo et al., 2017). Barstead et al. (2017) found that differential outcomes for socially withdrawn youth who prefer solitude may depend on the level and type of maternal and peer support received. It is clear that there are still many unanswered questions regarding outcomes and trajectories for children and adolescents who have a preference for solitude.

Much of the research on preference for solitude investigates its impact during early childhood. There is very little research on preference for solitude during adolescence, and the long-term outcomes remain to be explored. Further, it is not clear from what little research exists whether this theoretical subtype of social withdrawal is distinct from shyness (Coplan & Armer, 2007). Given that preference for solitude appears to result in negative outcomes for children, it is worth exploring empirically in order to further understand this group and develop appropriate interventions.

Limitations of Previous Research

Despite evidence supporting the existence of distinct subgroups among socially withdrawn youth, shyness and preference for solitude have been found to be correlated in both parent-report and self-report measures. As part of a psychometric assessment of their Child Social Preference Scale (CSPS), which includes parent-reported subscales measuring shyness (e.g., “My child seems to want to play with others but is sometimes

nervous to.”) and social disinterest (e.g., “My child often seems content to play alone.”), Coplan and colleagues (2004) found a correlation between the two social withdrawal subscales of .29 ($p < .01$). Further evidence that shyness and preference for solitude are separate but correlated constructs was found by Zhang and Eggum-Wilkens (2018). In a questionnaire administered to rural and urban Chinese samples, participants reported on questions assessing shyness (e.g., “I am more shy and quiet than the other kids and I talk less than they do,” “Sometimes I want to play with other kids but I am nervous to.”) and unsociability (e.g., “I’m interested in what I am doing. I like playing alone,” and “Sometimes I enjoy playing alone.”). They found a correlation between shyness and unsociability of .40 ($p < .001$) in the rural sample and .32 ($p < .01$) in the urban sample (Zhang & Eggum-Wilkens, 2018). Using a modified version of the CSPS (the Child Social Preference Scale-Revised, a self-report measure) in an Indian sample of 194 adolescents, Bowker and Raja (2011) found a correlation of .33 ($p < .01$) between the two constructs (Bowker & Raja, 2011; Bowker et al., 2012).

A recent study examining the co-occurrence of social withdrawal subtypes in adolescents found that 45% of adolescents who were considered to be socially withdrawn by self and peer reports were classified as falling under more than one subtype of withdrawal; this overlap was especially strong when assessing peer reports (Eggums-Wilkens et al., 2020). The specific reasons for this co-occurrence are only hypothesized at this point, with dominant theories suggesting that peers may struggle to accurately identify motivations behind behavior, and that adolescents might be more skilled at coping with or concealing anxiety as they age (Eggums-Wilkens et al., 2020; Asendorpf, 1993). This inconsistency may also reflect context-dependent differences that result in a

wider range of withdrawal motivations and behaviors (Ladd et al., 2011). Previous research emphasizing the approach-avoidant matrix (e.g., Asendorpf, 1990) tends to place adolescents in one distinct social withdrawal category, which may fail to account for the complexity of human social behavior and the interaction of individual and social factors (Eggum-Wilkins et al., 2020).

Because shyness and preference for solitude are consistently found to be correlated, any analysis testing for unique or differential correlates of these two constructs should control for the other form. Unfortunately, most studies examining forms of social withdrawal have failed to do this. Other studies have focused on only one dimension of social withdrawal, most frequently shyness, without measuring other forms. These methodologies do not adequately differentiate forms of social withdrawal, which can make it more difficult to draw conclusions about the unique or differential correlates of each form of withdrawal. A longitudinal study performed by Kopala-Sibley and Klein (2017) is one of very few to examine shyness and preference for solitude while accounting for the covariance between the two variables and also controlling for baseline measures of these outcomes. This study had many additional strengths, including a six-year, repeated measures, longitudinal design. However, participants were evaluated from the age of three to nine years old. While this study is an important contribution to understanding long-term outcomes of shyness and preference for solitude in preschool and younger school-aged children, the relation of these variables to outcomes in older children and adolescents remains unknown.

While longitudinal and retrospective research on the antecedents, correlates, and consequences of childhood social withdrawal exists (Gazelle & Ladd, 2003; Gazelle &

Rudolph, 2004; Rubin & Asendorpf, 1993), most focus specifically on shyness and fail to assess other forms of social withdrawal. Consequently, there is little longitudinal research on preference for solitude, particularly during adolescence, and what research does exist still fails to control for other forms of social withdrawal in the analysis. Most of the current knowledge on the distinctions among subtypes of social withdrawal relies on concurrent studies (Bowker & Raja, 2011; Coplan et al., 2004; Henderson et al., 2004; Chen & Santo, 2016). Cross-sectional studies of this nature limit conclusions about direction of effects, which leaves their results open to alternative interpretations. In this study, longitudinal data on two forms of adolescent social withdrawal over the course of three years are evaluated. Examining the antecedents and consequences of shyness and preference for solitude over this length of time will help to overcome some of the limitations of previous research, namely by helping to disentangle the direction of effect and isolate the effects of each form of withdrawal without the confounding effect of its correlation with the other form.

Little is known about the antecedents and consequences of social withdrawal as adolescents transition from middle school to high school. To date, no longitudinal research exists that investigates shyness and preference for solitude over the course of this transition while controlling for the other form of withdrawal and baseline measures of the outcome. Thus, in this study, we intend to account for the demonstrated correlation between shyness and preference for solitude by controlling for the other form while examining the antecedents and consequences of these two dimensions of social withdrawal (e.g., while assessing the antecedents of shyness, we will control for preference for solitude). This study will further contribute to the emerging literature on

dimensions of social withdrawal and their maladjustment correlates, antecedents, and outcomes. Examining social withdrawal with an approach that considers the correlation between these two identified subtypes of the construct should lead us to a more nuanced understanding of these children.

The Present Study

Children who are socially withdrawn have been shown to be at risk for a range of maladaptive outcomes. However, their individual experience may depend on underlying motivations for withdrawal such that differing combinations of social approach and avoidance motivations may lead to different trajectories and outcomes. The aim of the present study is to investigate the correlates, antecedents, and consequences of shyness and preference for solitude in a large sample of adolescents followed from middle school to high school. This analysis will be performed with an archival dataset that includes data collected at two time-points over three years. Variables were chosen from this dataset based on the body of research in this area, which suggests several pertinent individual (internalizing, global self-worth, prosocial behavior, peer-reported aggression, self-reported aggression) and social (rejection, acceptance, perception of social competence, peer-reported victimization, self-reported victimization) antecedents and consequences of shyness and preference for solitude. Further, we will highlight and examine the impact of the correlation between these two forms of social withdrawal in an attempt to encourage future researchers to control for one form of withdrawal when analyzing the other.

Chapter III

HYPOTHESES

In accordance with previous research examining shyness and preference for solitude, it is hypothesized that, in analyses not controlling for the other form of social withdrawal, higher baseline levels of shyness and preference for solitude will predict increases in negative social and personal consequences at time 2. Similarly, individual risk factors, such as internalizing behaviors, will be associated with increases in shyness and preference for solitude three years later. Given the evidence for similar adjustment outcomes among adolescents demonstrating shyness and preference for solitude, as well as the correlation between the two constructs, there is no theoretical reason why we might expect more or stronger effects involving the antecedents and/or consequences of one form of social withdrawal when failing to control for the other. In the next set of analyses, we aim to clarify the degree to which these correlates, antecedents, and consequences of each form of social withdrawal are unique or shared. It is hypothesized that the correlation between shyness and preference for solitude is strong enough that comparing the results of the first set of analyses with identical analyses controlling for the other form of social withdrawal will reveal a statistically significant difference in the observed effect.

Chapter IV

METHODS

Participants

A total of 408 adolescents (212 female) who were in the 6th ($n = 124$), 7th ($n = 152$), and 8th ($n = 132$) grades in two urban middle schools in the spring of 2001 participated in the study at time 1. In the spring of 2004, 362 students (204 female) in the 9th ($n = 144$), 10th ($n = 110$), and 11th ($n = 108$) grades were included at time 2. The longitudinal sample, consisting of participants who completed measures at both time 1 and time 2, included 239 participants. The mean age of participants at time 1 was 12.9 years; at time 2, 15.7 years. This was a diverse sample of adolescents, primarily identifying, at time 1, as Hispanic/Latino ($n = 224$), Black/African American ($n = 57$), or White/Caucasian ($n = 38$). Additionally, many students identified as biracial, with 54 reporting as Black/Hispanic or White/Hispanic. All participants received parental consent and signed assent forms before beginning the study. Although this sample consisted mainly of Hispanic adolescents, all of the participants had sufficient English skills to complete the questionnaires included in the study. Tables including demographic data for all participants can be found in Table 1.

An attrition analysis was completed in order to determine whether there were any significant differences between the participants who participated at time 1 but who dropped out of the study by time 2 ($n = 170$) vs. those that remained in the study at both time points in the study ($n = 239$). An independent samples t-test was used to determine whether there was a significant difference between the means in these two groups on the following variables assessed at time 1: shyness, preference for solitude, acceptance,

rejection, perception of social competence, peer-reported victimization, self-reported victimization, internalizing, peer-reported aggression, self-reported aggression, global self-worth, and prosocial behavior. Significant differences between the two groups were found only for acceptance ($t_{407} = -2.847, p = 0.005; d = -0.286$), rejection ($t_{407} = 2.057, p = 0.04; d = 0.206$), and prosocial behavior ($t_{401} = -2.620, p = 0.009; d = -0.266$). Thus, the longitudinal sample is slightly biased in that they are more accepted, less rejected, and less prosocial than those that discontinued the study before time 2. However, these differences were relatively small in magnitude.

Procedure

Participating adolescents attended two 45-minute testing sessions, in the spring of the 2001 school year and the spring of the 2004 school year. These testing sessions were small (6-10 participants in each) and were led by trained graduate and undergraduate students. The examiners read all instructions and most items of the measures aloud while participants completed the questionnaires. Assistance was provided to participants with questions about the items.

Measures

Participating adolescents completed a sociometric measure, peer nomination inventory, modified Harter Scale, and self-reports of victimization and aggression. Each instrument is described below.

Sociometric Measure

A sociometric questionnaire (Appendix A) was used to assess acceptance and rejection by peers. Adolescents were first asked to circle the names of three same-sex participating grade-mates with whom they most liked to work or play. To obtain a peer

acceptance score, the positive nominations are tallied for each individual and then divided by the possible number of nominators. The peer acceptance score, then, represents the proportion of peers who indicate they like the target individual. Peer rejection was measured by asking participants to circle the names of the three same-sex participating grade-mates with whom they least liked to work or play. To obtain the peer rejection score, the nominations are tallied for each participant and then divided by the possible number of nominators. Similar to the acceptance score, the peer rejection score represents the proportion of peers who indicate that they dislike the target individual. For the primary analyses, acceptance and rejection scores were converted to z-scores in order to account for variations in nomination pools across grade and gender combinations.

Peer Nomination Inventory (PNI)

Peer-reported shyness, preference for solitude, victimization, aggression, internalizing, and prosocial behavior were measured using the PNI (Appendix B). Participants identified all same-sex peers in their grade who they believed fit the descriptions below (boys' form used masculine pronouns and girls' form used feminine pronouns):

1. Shyness: "He would like to play with others but is shy."
2. Preference for Solitude: "She would rather play alone than with others."

Scales for the following constructs were calculated by taking the proportion of same-sex classmates who checked the participant's name on each item of the scale, multiplying by 100 to create a percentage, and then averaging these percentages for the scale, producing a score ranging from 0 to 100. Scores for each variable were then standardized by school, grade, and sex.

1. Peer-reported Victimization: Three items: “He gets hit and pushed by other kids;” “Kids make fun of him;” “He gets picked on by other kids.”
2. Peer-reported Aggression: Three items: “She hits and pushes others around;” “She makes fun of people;” “She’s just plain mean.”
3. Internalizing Problems: Two items: “He seems unhappy and looks sad often;” “He is afraid to do things.”
4. Prosocial Behavior: Two items: “She shares things with others;” “She is always friendly.”

Modified Harter Scale

A modified version of Harter’s Self-Perception Profile for Children (1985) was used to measure participants’ perception of social competence (six items) and global self-worth (six items) (Appendix C). In this scale, the domain of social competence includes items referring to knowing how to make friends, having the skills to get others to like oneself, knowing what to do to have others like or accept you, and understanding what it takes to become popular. Global-self-worth reflects a general perception of the self, including how much one likes oneself as a person, is happy with the way one is leading one’s life, and is generally happy with the way one is as a human being (Harter, 1985). The questions include four response options in a structured alternative format (Harter, 1982), pictured below. Each item was scored on a four-point scale and scores for each scale were obtained by averaging the items on the scale.

Some kids find it
hard to make friends.

BUT

Other kids find it pretty
easy to make friends.

Really true Sort of true

Sort of true Really true

For me for me

for me for me

The following items were presented in the Harter scale format (Harter, 1985) to measure perception of social competence:

- “Some kids would like to have a lot more friends. **BUT** Other kids have as many friends as they want.”
- “Some kids have *a lot* of friends. **BUT** Other kids *don't* have a lot of friends.”
- “Some kids find it *hard* to make friends. **BUT** Other kids find it pretty *easy* to make friends.”
- “Some kids are always doing things with *a lot* of friends. **BUT** Other kids usually do things by *themselves*.”
- “Some kids wish that more people their age liked them. **BUT** Other kids feel that most people their age *do* like them.”
- “Some kids are *popular* with others their age. **BUT** Other kids are *not* very popular.”

The following items were presented in the Harter scale format (Harter, 1985) to measure global self-worth:

- “Some kids are often *unhappy* with themselves. **BUT** Other kids are pretty *pleased* with themselves.”

- “Some kids *don’t* like the way they are leading their life. **BUT** Other kids *do* like the way they’re leading their life.”
- “Some kids are very *happy* being the way they are. **BUT** Other kids with they were *different*.”
- “Some kids are *happy* with themselves as a person. **BUT** Other kids are often *not* happy with themselves.”
- “Some kids *like* the kind of person they are. **BUT** Other kids with they were someone else.”
- “Some kids are *not* very happy with the way they do things. **BUT** Other kids think the way they do things is *fine*.”

Self-reports of Victimization and Aggression

Items to assess self-reported victimization (four items) and aggression (four items) were also included in the modified Harter Scale (Appendix C). Items used to assess self-perceived victimization were modified versions of the ones used by Graham and Juvonen (1998), which measured perceptions of being picked on, laughed at, called bad names, and pushed around by others. This questionnaire was adapted to follow the structured alternative format of the Harter Self-Perception Profile for Children (Harter, 1985) described above. To report on self-perceived aggression, participants viewed two statements describing two types of adolescents (e.g., one who is aggressive and one who is not) and selected the statement that best described themselves. They then indicated whether the statement was “really true” or “sort of true” for them.

The following items were presented in the Harter scale format (Harter, 1985) to measure self-perceived victimization:

- “Some kids are *not* called bad names by other kids. **BUT** Other kids are *often* called bad names by other kids.”
- “Some kids are *not* hit and pushed around by other kids. **BUT** Other kids are *often* hit and pushed around by other kids.”
- “Some kids are *often* picked on by other kids. **BUT** Other kids are *not* picked on by other kids.”
- “Some kids are *not* made fun of by other kids. **BUT** Other kids are *often* made fun of by other kids.”

The following items were presented in the Harter scale format (Harter, 1985) to measure self-perceived aggression:

- “Some kids *often* pick on other kids. **BUT** Other kids *don't* pick on other kids.”
- “Some kids *often* call other kids bad names. **BUT** Other kids *don't* call other kids bad names.”
- “Some kids *don't* hit and push other kids around. **BUT** Other kids *often* hit and push other kids around.”
- “Some kids *often* make fun of other kids. **BUT** Other kids *don't* make fun of other kids.”

Statistical Analyses

Concurrent and longitudinal analyses were performed with the archival data from this study. Concurrent differential correlates as well as two directions of effect were tested in order to examine antecedents and consequences of shyness and preference for solitude. The following individual variables were included: internalizing, global self-worth, prosocial behavior, peer-reported aggression, self-reported aggression. The

following social variables were included: rejection, acceptance, perception of social competence, peer-reported victimization, self-reported victimization. Further mediation analyses were performed in order to examine the extent to which the effect of these social withdrawal variables was influenced by shared variance with the other form. Analyses revealing statistically significant ($p < 0.05$) indirect effects were considered to indicate that the shared variance influenced the observed effect; of those, a greater total effect estimate than direct effect estimate would suggest that controlling for the shared variance in the two forms of withdrawal significantly decreases the observed effect. Analyses were performed using SPSS Statistics for Windows, Version 26.0, and JASP (Version 0.14.1).

Concurrent Analyses

Concurrent mediation analyses were performed for time 1 and time 2 in order to examine the total effect estimates of shyness and preference for solitude on all social and individual variables. After examining the total effect of each social withdrawal predictor, additional analyses were performed to determine the extent to which the found effect was accounted for by shared variance with the other form of social withdrawal. In these analyses, one form of social withdrawal acted as the predictor and the other form acted as the mediator (e.g., time-1 shyness acted as the predictor while time-1 preference for solitude acted as the mediator; these were reversed in the next set). The full set of social and personal variables acted as outcome variables. Participant gender and grade were held constant in each analysis.

Testing Antecedents

Antecedent analyses were used to determine whether each social and personal variable significantly predicts subsequent changes in shyness and preference for solitude

from time 1 to time 2. In these analyses, the time-2 level of one form of social withdrawal (e.g., shyness) served as the outcome variable, while the time-1 level of each individual and social variable served as a predictor. If a significant change in the social withdrawal outcome was found, an additional analysis was performed by including the other form of social withdrawal (e.g., preference for solitude) at Times 1 and 2 as mediators in order to determine the extent to which the observed antecedent effect was unique, or redundant with the other form of withdrawal. Gender, grade, and the time-1 level of the dependent variable were held constant.

Testing Consequences

Longitudinal analyses were used to determine whether changes in social and personal variables were significantly predicted by initial levels of shyness and preference for solitude. In each analysis, one form of social withdrawal (e.g., shyness) at time 1 acted as a predictor while time-2 levels of each social and personal variable were measured as outcomes. As in previous analyses, the role of the other form of withdrawal was examined by including it as a mediator in order to determine the extent to which any found effect was accounted for by this other variable. Gender, grade, and the time 1 level of the dependent variable were held constant.

RESULTS

Descriptive Statistics

Descriptive statistics were collected for baseline social withdrawal variables, as well as all personal and social variables. Baseline levels of all peer nomination variables (shyness, preference for solitude, victimization, aggression, internalizing, and prosocial behavior), as well as acceptance and rejection, are represented as proportion scores, which represent how many students, out of the total number of students, rated a particular participant for this variable. On average, adolescent participants received nominations for being shy from 3% ($SD = 0.054$) of their peers. Participants, on average, received nominations for preferring solitude from 4.5% ($SD = 0.076$) of peers. Notably, shyness and preference for solitude were moderately positively correlated at time 1, $r(406) = .33$, $p < .001$; and at time 2, $r(369) = .47$, $p < .001$. On average, children received nominations for victimization from 6.1% ($SD = 0.091$) of peers; for aggression, 6.6% ($SD = 0.072$) of peers; for internalizing, 6.5% ($SD = 0.061$) of peers; and for prosocial behavior, 22.7% ($SD = .091$) of peers. Baseline mean number of nominations received for acceptance was 2.941 ($SD = 2.207$) and for rejection was 2.856 ($SD = 2.958$). At baseline, the mean value of participants' perception of social competence was 3.182 ($SD = 0.654$), and for global self-worth, the mean baseline score was 3.210 ($SD = 0.795$). Tables including descriptive statistics for all personal and social variables, as well as shyness and preference for solitude, can be found in Table 2.

Concurrent Analyses

Examining the total effect estimates of social withdrawal predictors on social and individual dependent variables concurrently at time 1 and time 2 revealed several significant effects. Total effect estimates for all concurrent analyses can be found in Tables 4-7.

Correlates of Time-1 Shyness

At time 1, shyness was associated with significantly lower levels of perceived social competence ($\beta = -.118$; $p = .019$), as well as less peer- ($\beta = -.210$; $p < .001$) and self-reported aggression ($\beta = -.148$; $p = .003$). Shyness at time 1 was also associated with increased observed levels of prosocial behavior ($\beta = .194$; $p < .001$), as well as peer-reported victimization ($\beta = .249$; $p < .001$) and internalizing behaviors ($\beta = .547$; $p < .001$). However, concurrent time-1 analyses including preference for solitude as an additional covariate (i.e., mediator) revealed that several of these adjustment correlates of shyness were partially accounted for by preference for solitude. In particular, associations between shyness and perceived social competence and self-reported aggression were significantly reduced when participants' preference for solitude at time 1 was included in the models. Similarly, the effect of shyness as a predictor in these analyses was significantly reduced when including preference for solitude as an additional covariate when predicting internalizing and peer-reported victimization. Please refer to Table 4: column 1 entries report total effects of time-1 shyness; column 2 entries report the direct effects of shyness with preference for solitude controlled; and column 3 entries report the test of the indirect effect, which if significant indicates that the drop from the total to direct effect was statistically significant.

Correlates of Time-1 Preference for Solitude

Preference for solitude at time 1 was associated with significantly higher levels of rejection ($\beta = .147$; $p = .011$), peer-reported victimization ($\beta = .435$; $p < .001$), and internalizing behaviors ($\beta = .586$; $p < .001$). Time-1 preference for solitude was also associated with lower levels of peer acceptance ($\beta = -.229$; $p < .001$), perception of social competence ($\beta = -.242$; $p < .001$), and peer- ($\beta = -.125$; $p = .001$) and self-reported ($\beta = -.151$; $p = .001$) aggression. However, when including shyness as an additional covariate, the effect of preference for solitude on internalizing behaviors was significantly reduced. Similarly, the effect of preference for solitude on peer-reported aggression was significantly reduced when including shyness as an additional covariate. Please refer to Table 5: column 1 entries report total effects of time-1 preference for solitude; column 2 entries report the direct effects of preference for solitude with shyness controlled; and column 3 entries report the test of the indirect effect, which if significant indicates that the drop from the total to direct effect was statistically significant.

Correlates of Time-2 Shyness

Identical analyses were performed for shyness and preference for solitude at time 2. Shyness at time 2 was associated with significantly higher levels of observed internalizing behaviors ($\beta = .828$; $p < .001$), as well as peer- ($\beta = .515$; $p < .001$) and self-reported ($\beta = .200$; $p = .004$) victimization. Participants who were shy at time 2 were also less accepted by peers ($\beta = -.116$; $p = .007$), reported lower perceived social competence ($\beta = -.381$; $p < .001$), and were reported to be less aggressive by peer- ($\beta = -.233$; $p < .001$) and self-report ($\beta = -.116$; $p = .025$). When including preference for solitude as an additional covariate, we found that only the effect of shyness on internalizing at time 2

was significantly reduced, indicating that the degree to which shy children exhibit higher concurrent levels of internalizing behaviors is somewhat accounted for by their preference for solitude. Please refer to Table 6: column 1 entries report total effects of time-2 shyness; column 2 entries report the direct effects of shyness with preference for solitude controlled; and column 3 entries report the test of the indirect effect, which if significant indicates that the drop from the total to direct effect was statistically significant.

Correlates of Time-2 Preference for Solitude

Preference for solitude was associated with reduced perception of social competence ($\beta = -.191$; $p = .001$) and peer-reported aggression ($\beta = -.100$; $p = .024$) at time 2, and with increased peer-reported victimization ($\beta = .329$; $p = .005$), internalizing behaviors ($\beta = .758$; $p < .001$), and pro-social behavior ($\beta = .204$; $p < .001$). However, when shyness was included as an additional covariate, the effect of preference for solitude on internalizing, perceived social competence, and peer-reported victimization was significantly reduced. Please refer to Table 6: column 1 entries report total effects of time-2 preference for solitude; column 2 entries report the direct effects of preference for solitude with shyness controlled; and column 3 entries report the test of the indirect effect, which if significant indicates that the drop from the total to direct effect was statistically significant.

Summary of Findings from Concurrent Analyses

It was consistently found across concurrent analyses that outcomes in internalizing behavior were significantly reduced when controlling for the other form of social withdrawal. This was found to be the case in analyses including shyness as the

predictor as well as those including preference for solitude as predictor, in both time-1 and time-2 analyses. In all of these analyses, higher concurrent levels of internalizing behaviors were found to be partially accounted for by the effect of the other form of social withdrawal. Yet each form of withdrawal continued to be independently associated with internalizing. Aside from internalizing, several other variables were found to demonstrate reduced effect when controlling for the other form of social withdrawal, though with less consistency.

Antecedents of Social Withdrawal

An examination of the total effects from this set of mediation analyses indicated that several social and personal variables significantly predicted subsequent changes in shyness and preference for solitude over the three-year period of the study. Total effect estimates for all longitudinal analyses can be found Tables 8 and 9.

Antecedents of Shyness

Those who were accepted by peers ($\beta = -.133$; $p = .02$), held higher perceptions of social competence ($\beta = -.307$; $p < .001$), and were reported by their peers to demonstrate aggression ($\beta = -.114$; $p = .02$) at time 1 showed significant decreases in shyness at time 2. Those who were victimized according to both peer- ($\beta = .237$; $p = .008$) and self-reports ($\beta = .16$; $p = .013$), and manifested greater internalizing difficulties ($\beta = .466$; $p < .001$) demonstrated significant increases in shyness at time 2. However, when including preference for solitude at Times 1 and 2 as covariates, many of these antecedent effects on changes in shyness were significantly reduced. This held true when the antecedent was peer acceptance, perception of social competence, peer-reported victimization, internalizing, and peer-reported aggression. Please refer to Table 8: column 1 entries

report total effects of antecedents to shyness; column 2 entries report the direct effects on shyness with preference for solitude controlled; and column 3 entries report the test of the indirect effect, which if significant indicates that the drop from the total to direct effect was statistically significant.

Antecedents of Preference for Solitude

Those who held higher perceptions of social competence ($\beta = -.179$; $p = .004$) and were reported by their peers to demonstrate more aggression ($\beta = -.135$; $p = .005$) at time 1 showed significant decreases in preference for solitude at time 2. Participants who demonstrated internalizing behaviors ($\beta = .318$; $p = .001$) at time 1 demonstrated increases in preference for solitude at time 2. However, adding shyness as a covariate reduced the effects for the following antecedents of preference for solitude: perception of social competence, internalizing, and peer-reported aggression. Please refer to Table 9: column 1 entries report total effects of antecedents to preference for solitude; column 2 entries report the direct effects on preference for solitude with shyness controlled; and column 3 entries report the test of the indirect effect, which if significant indicates that the drop from the total to direct effect was statistically significant.

Consequences of Social Withdrawal

An examination of the total effects from this set of longitudinal mediation analyses indicated that changes in several social and personal variables were significantly predicted by initial levels of shyness and preference for solitude. Total effect estimates for all longitudinal analyses can be found in Tables 10 and 11.

Consequences of Shyness

Participants who were identified as shy at time 1 were significantly less accepted by peers ($\beta = -.113$; $p = .015$) and were reported by peers to be significantly less aggressive ($\beta = -.117$; $p = .016$) at time 2. Shyness at time 1 was also associated with significant increases in internalizing behaviors ($\beta = .155$; $p = .01$) and peer- ($\beta = .229$; $p = .025$) and self-reported ($\beta = .106$; $p = .021$) victimization at time 2. When preference for solitude was included in these models as a covariate (i.e., mediator), it was found that the effect of shyness on changes in peer-reported victimization was significantly reduced. Please refer to Table 10: column 1 entries report total effects of consequences of shyness; column 2 entries report the direct effects of shyness with preference for solitude controlled; and column 3 entries report the test of the indirect effect, which if significant indicates that the drop from the total to direct effect was statistically significant.

Consequences of Preference for Solitude

Preference for solitude at time 1 predicted significant reductions in perceptions of social competence ($\beta = -.168$; $p = .029$) and peer-reported aggression ($\beta = -.085$; $p = .07$) at time 2. Those who preferred solitude at time 1 were also reported to demonstrate more internalizing behaviors ($\beta = .193$; $p = .025$), and were more victimized as revealed by peer- ($\beta = .244$; $p = .007$) and self-reports ($\beta = .13$; $p = .028$). The inclusion of time-1 shyness as a covariate only reduced the effect of preference for solitude on changes in peer-reported aggression. Please refer to Table 11: column 1 entries report total effects of consequences of preference for solitude; column 2 entries report the direct effects of preference for solitude with shyness controlled; and column 3 entries report the test of the

indirect effect, which if significant indicates that the drop from the total to direct effect was statistically significant.

Chapter VI

DISCUSSION

In prior work, childhood and adolescent social withdrawal has been found to be associated with a range of adjustment difficulties, including internalizing problems, low self-esteem, peer rejection, victimization, poor friendship quality, and academic difficulties (Rubin et al., 2009). Despite identified differences in the etiology, maintenance, and trajectories for adolescents whose social withdrawal behaviors are driven by shyness or preference for solitude, a broad overview of the published literature in this area reveals that each form of social withdrawal has been connected to similar adjustment outcomes at one time or another. This raises the question of how distinct these sub-forms of social withdrawal truly are, and whether effects showing distinctions among these forms are accurate.

We too have found remarkably similar correlates when examining these two forms of social withdrawal in our adolescent group. Both shyness and preference for solitude were found to be associated with elevated levels of internalizing behaviors and victimization in concurrent time-1 and time-2 analyses. These two forms of social withdrawal were also found to be associated with lower levels of aggression and perceived social competence in these analyses. Shyness and preference for solitude also held similar patterns in longitudinal analyses, with internalizing behaviors at time 1 leading to increases in both shyness and preference for solitude three years later. Both forms of withdrawal in turn led to increases in internalizing behaviors and peer victimization. One would think, given this consistency, that internalizing behaviors and

victimization appear to be strongly associated with both shyness and preference for solitude in adolescents.

The fact that these two forms of withdrawal have been found to be highly positively correlated in prior studies (Zhang & Eggum-Wilkens, 2018; Coplan et al., 2004), and again in this study, suggests that previously published effects may be larger than the reality. Indeed, it was found that controlling for the other form of social withdrawal in every single concurrent and antecedent analysis involving internalizing behaviors revealed a significant decrease in the effect on or from internalizing. This was the case for all analyses including shyness and preference for solitude. Further, several other effects were attenuated by inclusion of the other form as a covariate, though less consistently or predictably. It is clear that the impact of this shared variance should be accounted for in all analyses involving social withdrawal.

In analyses accounting for this correlation, several patterns emerged. Interestingly, at time 1, preference for solitude, often referred to as the more benign form of social withdrawal, was associated with increased rejection, lower levels of acceptance, lower perception of social competence, more peer-reported victimization, more internalizing, and less prosocial behavior. Shyness, on the other hand, was associated with both positive and negative correlates at time 1, including less rejection and greater prosocial behavior, as well as more peer-reported victimization and internalizing behaviors. When examined at time 2, however, shyness came to be associated with more maladaptive outcomes while preference for solitude did seem to become, in fact, more benign. At time 2, shyness was concurrently associated with lower levels of acceptance, perception of social competence, global self-worth, and prosocial behavior. Shyness was

also associated with increased internalizing and victimization at this time. While preference for solitude was still linked to internalizing behaviors at time 2, it was not associated with any other maladaptive outcomes and was simultaneously associated with increased prosocial behavior.

It is possible that a developmental shift may occur in the way that shyness and preference for solitude are viewed by peers. Over time, shyness may come to be increasingly perceived by peers and adults as an ineffective or maladaptive social behavior, whereas a true preference for solitude that is not rooted in anxiety may become more widely accepted as adolescents mature. Chen (2012) identified contextual-developmental relationships between shyness and adjustment, such that in cultures where shyness is undesirable, children who demonstrate shyness are consistently met with negative social feedback, which in turn leads to future maladjustment. In cultures that value shyness, however, shy children receive social approval, which is associated with positive adjustment correlates such as social competence and psychological wellbeing (Chen, 2019). The transaction between shyness and the social feedback may serve to increase maladjustment over time for shy adolescents.

Investigation into the antecedents and consequences of each form of social withdrawal also revealed a clear pattern of results. Early perceptions of social competence, self-reported victimization, and internalizing predicted changes in shyness over time. In analyses examining preference for solitude, the initial effects of internalizing, peer-reported aggression, and perception of social competence that were linked to changes in preference for solitude dropped significantly, and to a nonsignificant level, when controlling for shyness. It is possible that preference for solitude is derived

more from within whereas shyness is more transactional with peers' reactions. Examining the consequences of these forms of social withdrawal reveal a slight advantage of shyness over preference for solitude. Shyness was found to be linked to decreases in peer acceptance, yet an accompanying decrease in perception of social competence was not found. Both shyness and preference for solitude were linked to higher levels of internalizing, but preference for solitude was also found to be linked to increases in peer-reported victimization and decreases in perception of social competence.

Strengths and Limitations

In addition to examining the antecedents and consequences of two forms of social withdrawal in a large sample of adolescents, this study was the first to investigate the impact of the correlation between shyness and preference for solitude on the resulting found effects. This was examined in both concurrent and longitudinal analyses, offering us the opportunity to examine the direction of influence and stability of these effects. This may serve to improve future research in the area of childhood and adolescent social withdrawal, along with other areas of psychology that may include overlapping constructs. For example, research on peer victimization has experienced a similar confound in examining overt and relational victimization, wherein there is debate surrounding whether these two constructs are distinct or represent the same phenomenon (Casper and Card, 2017).

Despite its strengths, this study has some noteworthy limitations. One critical limitation is the fact that shyness and preference for solitude were each measured with only one peer-reported item. These two items involved inferring another student's reason for playing alone (i.e., "He would like to play with others but is shy," or "She would

rather play alone than with others.”). Though peer reports can offer multiple perspectives on observations in multiple contexts, they lack the ability of self-reporting to reflect an individual’s motivation (Eggum-Wilkens et al., 2020). There is currently no research on agreement between self- and peer-reporting on shyness and preference for solitude in a North American adolescent sample; however, research in other age groups and from other locations have suggested a moderate self- and peer-report agreement in shyness and much less agreement in preference for solitude (Eggum-Wilkens et al., 2020). Measuring these constructs with multiple validated items and using multiple informants (including self-report) would have strengthened the internal validity of the study.

As discussed previously, some researchers have identified additional subgroups under the dimension of preference for solitude, which capture youth with differing levels of avoidance motivation (Coplan et al., 2015; Wang et al., 2013). It is possible that our sample contained a heterogeneous preference-for-solitude group, with some comfortably solitary and others actively avoiding their peers, which may have had an impact on our analyses in the preference-for-solitude group. Further, the sample was not screened for autism spectrum disorder, which can be characterized in part by deficits in social functioning, including absence of interest in peers (American Psychiatric Association, 2013). Given that the motivations behind adolescents’ social behaviors are not always known without self-report, consideration to these possible variations in our study sample should be made when drawing conclusions.

Another limitation of this study was a noteworthy history effect. This was a longitudinal study conducted in the greater New York City metropolitan area with baseline data collected in the spring of 2001, and time-2 data collected three years later.

The attack on September 11, 2001, occurred not far from these middle schools. It is possible that the experience of this event had a long-term impact on these adolescents, which may have had an impact on the behaviors observed and data collected at time 2 independent of the baseline variables we examined, presenting another challenge to the internal validity of this study.

Future Work

Based on the results of our analyses examining the impact of the correlation between shyness and preference for solitude, future research in the area of social withdrawal should use similar statistical methodology in order to account for the correlation between these two forms. Failing to do so may cloud our understanding of which forms of social withdrawal are truly detrimental for long-term adjustment, which may have little or no impact, or which may actually serve a positive function. Further, researchers in this area may want to consider using a different approach altogether when examining these behaviors, such as the trajectory approach taken by Tang et al. (2017) or Barzeva et al. (2019). A meta-analytic review of the overlap of identified sub-forms of childhood and adolescent social withdrawal would be a valuable addition to the research in this area. We know that shyness and preference for solitude are correlated, yet each form has been associated with distinct adjustment outcomes in the published research. It therefore seems necessary to identify the unique and common elements of sub-forms of social withdrawal.

Chapter VII

IMPLICATIONS FOR THE PROFESSION OF SCHOOL PSYCHOLOGY

Adolescents spend the majority of their time among peers. In the United States, this equates to approximately 33 hours per week in a school setting (U.S. Department of Education, 2007-2008). In an analysis of time use among 606 adolescents, it was found that, on average, adolescents spend an additional 23.3 hours per week in out-of-school social activities with peers, 11.7 hours engaged in extracurricular activities, and 5.6 hours involved in sports (Barnes et al., 2007). During this developmental stage, peer relationships play a critical role in long-term social and emotional development. Maladaptive social functioning, including some forms of social withdrawal, can result in individual and social maladjustment, such as internalizing problems, low self-esteem, peer rejection, victimization, poor friendship quality, and academic difficulties. Given the extent to which adolescents are among their peers in school-based activities, school psychologists, counselors, and teachers are in a unique position to identify maladaptive social behavior and foster more adaptive socializing.

Previous studies have provided evidence to suggest that distinct subtypes of social withdrawal exist, and that motivation and consequences can vary depending on the subtype of withdrawal experienced. The results from this study call into question some of the findings surrounding these distinctions and offer more clarity on the antecedents, correlates, and consequences of shyness and preference for solitude among adolescents. This can serve to support the development of more accurately targeted social-emotional support programming for students displaying varying patterns of social withdrawal. This more nuanced approach may reduce the over- or under- pathologizing of social

withdrawal behaviors, as well as identify differential types and levels of support depending on socio-contextual factors and the developmental period of the student. Further, given the uncertainties that remain about social withdrawal in children and adolescents, calling attention to these issues can raise awareness among school staff of the complexity of these behaviors and encourage them to assess and conceptualize students carefully and comprehensively before proceeding to intervention.

Tables

Table 1

Demographic Data for All Study Participants at Time 1

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max
Grade	408	7	0.79	6	8
Age	403	12.86	1.07	11	16
Gender	408				
Male	196				
Female	212				
Race	403				
White/Caucasian	38				
Black/African American	57				
Hispanic/Latino	224				
East Asian	9				
Black/Hispanic	27				
White/Hispanic	27				
White/Black	3				
Other	17				
Missing	1				

Table 2*Descriptive Statistics of All Study Variables at Time 1*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max
Shyness	408	.03	.05	0	.4
Preference for Solitude	408	.05	.08	0	.43
Rejection	409	2.86	2.96	0	20
Acceptance	409	2.94	2.21	0	12
Perception of Social Competence	407	3.18	.65	1	4
Peer-reported Victimization	408	.06	.09	0	.72
Self-reported Victimization	407	1.99	.78	1	4
Internalizing	408	.06	.06	0	.39
Global self-worth	407	3.21	.80	1	4
Prosocial Behavior	408	.23	.12	0	.61
Peer-reported Aggression	408	.07	.07	0	.4
Self-reported Aggression	407	2.21	.76	1	4

Table 3

Correlations for All Study Variables at Time 1

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1.Shyness												
2.Preference for Solitude	.33***											
3.Rejection	-.06	.15**										
4.Acceptance	-.08	-.23***	-.23***									
5.Perception of Social Competence	-.12*	-.24***	-.15**	.26***								
6.Peer-reported Victimization	-.02	.081	.17***	-.14**	-.38***							
7.Self-reported Victimization	.25***	.44***	.44***	-.27***	-.24	.30***						
8.Peer-reported Aggression	-.15**	-.15**	.09	.05	-.04	-.01	-.01					
9.Self-reported Aggression	-.21***	-.13*	.46***	.11*	.13*	-.01	-.01	.28***				
10.Internalizing	.55***	.59***	.08	-.22***	-.28***	.53***	.53***	-.18***	-.24***			
11.Global Self-worth	.05	-.007	-.17***	.08	.42***	-.13*	-.13*	-.27***	-.11*	-.02		
12.Prosocial Behavior	.20***	-.06	-.38***	.45***	.06	-.17***	-.17***	-.21***	-.21***	.04	.14**	

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

Table 4

*Effect Estimates for all Time-1 Concurrent Analyses with Shyness as Predictor,
Preference for Solitude as Mediator*

Outcome Variable	Total Effect Estimate	Direct Effect Estimate	Indirect Effect
Rejection	-.056 (<i>p</i> = .228)	-.117 (<i>p</i> = .018)	.062 (<i>p</i> = .006)
Acceptance	-.081 (<i>p</i> = .053)	-.006 (<i>p</i> = .894)	-.075 (<i>p</i> < .001)
Perception of Social Competence	-.118 (<i>p</i> = .019)	-.042 (<i>p</i> = .409)	-.076 (<i>p</i> = .001)
Peer-reported Victimization	.249 (<i>p</i> < .001)	.117 (<i>p</i> = .022)	.131 (<i>p</i> < .001)
Self-reported Victimization	-.018 (<i>p</i> = .727)	-.050 (<i>p</i> = .332)	.032 (<i>p</i> = .078)
Internalizing	.547 (<i>p</i> < .001)	.396 (<i>p</i> < .001)	.151 (<i>p</i> < .001)
Global Self-worth	.048 (<i>p</i> = .298)	.056 (<i>p</i> = .259)	-.008 (<i>p</i> = .614)
Prosocial Behavior	.194 (<i>p</i> < .001)	.242 (<i>p</i> < .001)	-.048 (<i>p</i> = .011)
Peer-reported Aggression	-.210 (<i>p</i> < .001)	-.189 (<i>p</i> < .001)	-.021 (<i>p</i> = .169)
Self-reported Aggression	-.148 (<i>p</i> = .003)	-.111 (<i>p</i> = .037)	-.038 (<i>p</i> = .044)

Table 5

Effect Estimates for all Time 1 Concurrent Analyses with Preference for Solitude as Predictor, Shyness as Mediator

Outcome Variable	Total Effect Estimate	Direct Effect Estimate	Indirect Effect
Rejection	.147 (<i>p</i> = .011)	.186 (<i>p</i> = .002)	-.039 (<i>p</i> = .028)
Acceptance	-.229 (<i>p</i> < .001)	-.227 (<i>p</i> < .001)	-.002 (<i>p</i> = .894)
Perception of Social Competence	-.242 (<i>p</i> < .001)	-.228 (<i>p</i> < .001)	-.014 (<i>p</i> = .419)
Peer-reported Victimization	.435 (<i>p</i> < .001)	.396 (<i>p</i> < .001)	.039 (<i>p</i> = .061)
Self-reported Victimization	.081 (<i>p</i> = .110)	.097 (<i>p</i> = .057)	-.017 (<i>p</i> = .349)
Internalizing	.586 (<i>p</i> < .001)	.455 (<i>p</i> < .001)	.131 (<i>p</i> < .05)
Global Self-worth	-.007 (<i>p</i> = .886)	-.025 (<i>p</i> = .616)	.019 (<i>p</i> = .271)
Prosocial Behavior	-.064 (<i>p</i> = .171)	-.145 (<i>p</i> = .003)	.08 (<i>p</i> < .001)
Peer-reported Aggression	-.125 (<i>p</i> = .001)	-.063 (<i>p</i> = .156)	-.063 (<i>p</i> < .001)
Self-reported Aggression	-.151 (<i>p</i> = .001)	-.114 (<i>p</i> = .022)	-.037 (<i>p</i> = .055)

Table 6

*Effect Estimates for all Time 2 Concurrent Analyses with Shyness as Predictor,
Preference for Solitude as Mediator*

Outcome Variable	Total Effect Estimate	Direct Effect Estimate	Indirect Effect
Rejection	.04 (<i>p</i> = .497)	.029 (<i>p</i> = .682)	.011 (<i>p</i> = .745)
Acceptance	-.116 (<i>p</i> = .007)	-.134 (<i>p</i> = .009)	.018 (<i>p</i> = .484)
Perception of Social Competence	-.381 (<i>p</i> < .001)	-.375 (<i>p</i> < .001)	-.006 (<i>p</i> = .83)
Peer-reported Victimization	.515 (<i>p</i> < .001)	.464 (<i>p</i> < .001)	.51 (<i>p</i> = .187)
Self-reported Victimization	.2 (<i>p</i> = .004)	.206 (<i>p</i> = .01)	-.007 (<i>p</i> = .763)
Internalizing	.828 (<i>p</i> < .001)	.606 (<i>p</i> < .001)	.222 (<i>p</i> < .001)
Global Self-worth	-.123 (<i>p</i> = .077)	-.151 (<i>p</i> = .045)	.028 (<i>p</i> = .35)
Prosocial Behavior	.005 (<i>p</i> = .917)	-.118 (<i>p</i> = .018)	.124 (<i>p</i> < .001)
Peer-reported Aggression	-.233 (<i>p</i> < .001)	-.239 (<i>p</i> < .001)	.007 (<i>p</i> = .791)
Self-reported Aggression	-.116 (<i>p</i> = .025)	-.104 (<i>p</i> = .082)	-.013 (<i>p</i> = .565)

Table 7

Effect Estimates for all Time 2 Concurrent Analyses with Preference for Solitude as Predictor, Shyness as Mediator

Outcome Variable	Total Effect Estimate	Direct Effect Estimate	Indirect Effect
Rejection	.037 (<i>p</i> = .534)	.023 (<i>p</i> = .748)	.014 (<i>p</i> = .682)
Acceptance	-.025 (<i>p</i> = .593)	.038 (<i>p</i> = .47)	-.064 (<i>p</i> = .013)
Perception of Social Competence	-.191 (<i>p</i> = .001)	-.013 (<i>p</i> = .829)	-.179 (<i>p</i> < .001)
Peer-reported Victimization	.329 (<i>p</i> = .005)	.108 (<i>p</i> = .205)	.221 (<i>p</i> = .001)
Self-reported Victimization	.084 (<i>p</i> = .069)	-.014 (<i>p</i> = .761)	.098 (<i>p</i> = .033)
Internalizing	.758 (<i>p</i> < .001)	.469 (<i>p</i> < .001)	.289 (<i>p</i> < .001)
Global Self-worth	-.013 (<i>p</i> = .833)	.059 (<i>p</i> = .322)	-.072 (<i>p</i> = .095)
Prosocial Behavior	.204 (<i>p</i> < .001)	.26 (<i>p</i> < .001)	-.056 (<i>p</i> = .023)
Peer-reported Aggression	-.1 (<i>p</i> = .024)	.014 (<i>p</i> = .791)	-.114 (<i>p</i> < .001)
Self-reported Aggression	-.076 (<i>p</i> = .085)	-.027 (<i>p</i> = .567)	-.049 (<i>p</i> = .110)

Table 8

Effect Estimates for Antecedents of Shyness in Adolescents, with Preference for Solitude as Mediator

Predictor Variable	Total Effect Estimate	Direct Effect Estimate	Indirect Effect
Rejection	.089 (<i>p</i> = .388)	.04 (<i>p</i> = .668)	.049 (<i>p</i> = .094)
Acceptance	-.133 (<i>p</i> = .02)	-.066 (<i>p</i> = .211)	-.067 (<i>p</i> = .009)
Perception of Social Competence	-.307 (<i>p</i> < .001)	-.182 (<i>p</i> = .004)	-.125 (<i>p</i> < .001)
Peer-reported Victimization	.237 (<i>p</i> = .008)	.108 (<i>p</i> = .196)	.129 (<i>p</i> = .005)
Self-reported Victimization	.16 (<i>p</i> = .013)	.116 (<i>p</i> = .037)	.044 (<i>p</i> = .09)
Internalizing	.466 (<i>p</i> < .001)	.26 (<i>p</i> < .001)	.206 (<i>p</i> < .001)
Global Self-worth	.000 (<i>p</i> = .992)	.008 (<i>p</i> = .901)	-.007 (<i>p</i> = .779)
Prosocial Behavior	-.111 (<i>p</i> = .092)	-.056 (<i>p</i> = .356)	-.056 (<i>p</i> = .031)
Peer-reported Aggression	-.114 (<i>p</i> = .02)	-.064 (<i>p</i> = .137)	-.049 (<i>p</i> = .036)
Self-reported Aggression	-.004 (<i>p</i> = .961)	.041 (<i>p</i> = .545)	-.044 (<i>p</i> = .106)

Table 9

Effect Estimates for Antecedents of Preference for Solitude in Adolescents, with Shyness as Mediator

Predictor Variable	Total Effect Estimate	Direct Effect Estimate	Indirect Effect
Rejection	-.102 (<i>p</i> = .067)	-.078 (<i>p</i> = .117)	-.024 (<i>p</i> = .541)
Acceptance	.054 (<i>p</i> = .245)	.074 (<i>p</i> = .099)	-.02 (<i>p</i> = .386)
Perception of Social Competence	-.179 (<i>p</i> = .004)	-.093 (<i>p</i> = .066)	-.085 (<i>p</i> = .007)
Peer-reported Victimization	-.013 (<i>p</i> = .857)	-.086 (<i>p</i> = .176)	.072 (<i>p</i> = .072)
Self-reported Victimization	.015 (<i>p</i> = .799)	-.017 (<i>p</i> = .765)	.032 (<i>p</i> = .236)
Internalizing	.318 (<i>p</i> = .001)	.104 (<i>p</i> = .252)	.214 (<i>p</i> < .001)
Global Self-worth	.023 (<i>p</i> = .704)	.004 (<i>p</i> = .942)	.018 (<i>p</i> = .511)
Prosocial Behavior	.063 (<i>p</i> = .182)	.019 (<i>p</i> = .683)	.044 (<i>p</i> = .12)
Peer-reported Aggression	-.135 (<i>p</i> = .005)	-.056 (<i>p</i> = .184)	-.079 (<i>p</i> < .001)
Self-reported Aggression	-.028 (<i>p</i> = .608)	-.014 (<i>p</i> = .792)	-.015 (<i>p</i> = .608)

Table 10

Effect Estimates for Consequences of Shyness in Adolescents, with Preference for Solitude as Mediator

Outcome Variable	Total Effect Estimate	Direct Effect Estimate	Indirect Effect
Rejection	.034 (<i>p</i> = .594)	.041 (<i>p</i> = .412)	-.007 (<i>p</i> = .785)
Acceptance	-.113 (<i>p</i> = .015)	-.116 (<i>p</i> = .014)	.004 (<i>p</i> = .822)
Perception of Social Competence	-.103 (<i>p</i> = .132)	-.058 (<i>p</i> = .356)	-.045 (<i>p</i> = .069)
Peer-reported Victimization	.229 (<i>p</i> = .025)	.183 (<i>p</i> = .077)	.046 (<i>p</i> = .044)
Self-reported Victimization	.106 (<i>p</i> = .021)	.071 (<i>p</i> = .116)	.035 (<i>p</i> = .111)
Internalizing	.155 (<i>p</i> = .01)	.152 (<i>p</i> = .009)	.003 (<i>p</i> = .8)
Global Self-worth	-.065 (<i>p</i> = .354)	-.039 (<i>p</i> = .56)	-.026 (<i>p</i> = .322)
Prosocial Behavior	-.035 (<i>p</i> = .479)	-.075 (<i>p</i> = .155)	.04 (<i>p</i> = .101)
Peer-reported Aggression	-.117 (<i>p</i> = .016)	-.1 (<i>p</i> = .022)	-.017 (<i>p</i> = .188)
Self-reported Aggression	-.008 (<i>p</i> = .878)	-.031 (<i>p</i> = .577)	.023 (<i>p</i> = .256)

Table 11

Effect Estimates for Consequences of Preference for Solitude in Adolescents, with Shyness as Mediator

Outcome Variable	Total Effect Estimate	Direct Effect Estimate	Indirect Effect
Rejection	-.007 (<i>p</i> = .934)	-.021 (<i>p</i> = .789)	.014 (<i>p</i> = .425)
Acceptance	-.027 (<i>p</i> = .617)	.012 (<i>p</i> = .823)	-.038 (<i>p</i> = .035)
Perception of Social Competence	-.168 (<i>p</i> = .029)	-.15 (<i>p</i> = .04)	-.018 (<i>p</i> = .358)
Peer-reported Victimization	.244 (<i>p</i> = .007)	.194 (<i>p</i> = .031)	.05 (<i>p</i> = .115)
Self-reported Victimization	.13 (<i>p</i> = .028)	.106 (<i>p</i> = .077)	.023 (<i>p</i> = .136)
Internalizing	.193 (<i>p</i> = .025)	.191 (<i>p</i> = .025)	.003 (<i>p</i> = .801)
Global Self-worth	-.092 (<i>p</i> = .234)	-.079 (<i>p</i> = .295)	-.013 (<i>p</i> = .562)
Prosocial Behavior	.086 (<i>p</i> = .166)	.112 (<i>p</i> = .092)	-.026 (<i>p</i> = .164)
Peer-reported Aggression	-.085 (<i>p</i> = .07)	-.054 (<i>p</i> = .208)	-.031 (<i>p</i> = .034)
Self-reported Aggression	.064 (<i>p</i> = .277)	.074 (<i>p</i> = .226)	-.01 (<i>p</i> = .588)

Appendix A

Sociometric Measure

SOCIOMETRIC KEY

ID # _____

Do not put your name on this paper. Please cross out your name from both lists.

Circle the names of three kids you like to work or play with the most:

1.

2.

3.

From the list above, name your first, second, and third best friends:

First best friend: _____

Second best friend: _____

Third best friend: _____

Circle the names of three kids you like to work or play with the least:

1.

2.

3.

Appendix B

Peer Nomination Inventory

PNI Fall 1999
 Form A (Agg + Reactive)
 Boys Version

	Name													
1														
2														
3														
4														
5														
6														
7														
8														
9														

PNI Fall 1999.
 Form B (Vic & Proactive)
 Boys Version

	Name												
10													
11													
12													
13													
14													
15													
16													
17													
18													

Appendix C

Modified Harter Scale

WHAT AM I LIKE?

PRACTICE QUESTION

Some kids find it *easy* to do math.

Really true
for me

Sort of true
for me

BUT

Other kids find it *hard* to do math.

Really true
for me

Sort of true
for me

Some kids are *not* called bad names by other kids.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

Other kids are *often* called bad names by other kids.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

Some kids would like to have a lot more friends.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

Other kids have as many friends as they want.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

Some kids *often* pick on other kids.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

Other kids *don't* pick on other kids.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

Fighting is *hard* for some kids.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

For other kids, fighting is *easy*.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

Some kids *often* call other kids bad names.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

Other kids *don't* call other kids bad names.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

Some kids have *a lot* of friends.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

Other kids *don't* have a lot of friends.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

On the playground, a kid bumps into you.

Some kids *would not* be able to call the kid nasty names.

BUT

Other kids *would* be able to call the kid nasty names.

Really true
for me

Sort of true
for me

Really true
for me

Sort of true
for me

A kid won't let you play with a game you want to.

Pushing the kid and grabbing the game is *easy* for some kids.

BUT

Other kids would find it *difficult* to push the kid and grab the game.

Really true
for me

Sort of true
for me

Really true
for me

Sort of true
for me

Some kids *don't* hit and push other kids around.

BUT

Other kids *often* hit and push other kids around.

Really true
for me

Sort of true
for me

Really true
for me

Sort of true
for me

A kid gets in your way while trying to get on the bus.

It is *easy* for some kids to shove the kid out of the way.

BUT

For other kids, it is *hard* to shove the kid out of the way.

Really true
for me

Sort of true
for me

Really true
for me

Sort of true
for me

Some kids are often *unhappy* with themselves.

BUT

Other kids are pretty *pleased* with themselves.

Really true
for me

Sort of true
for me

Really true
for me

Sort of true
for me

Some kids *don't* like the way they are leading their life.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids *do* like the way they're leading their life.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids are *not* hit and pushed around by other kids.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids are *often* hit and pushed around by other kids.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids are very *happy* being the way they are.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids wish they were *different*.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids are *often* picked on by other kids

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids are *not* picked on by other kids.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids *often* make fun of other kids.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids *don't* make fun of other kids.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids are *happy* with themselves as a person.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids are often *not* happy with themselves.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids find it *hard* to make friends.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

Other kids find it pretty *easy* to make friends.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

Some kids *are not* able to tease other kids and call them nasty names.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

Other kids *are* able to tease other kids and call them nasty names.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

You are racing with a kid to get to the water fountain.

Some kids *are not* able to trip the kid so they can get to the water fountain first.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

Other kids *are* able to trip the kid so they can get to the water fountain first.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

Some kids are always doing things with *a lot* of friends.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

Other kids usually do things by *themselves*.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

A kid makes you mad.

Some kids *are really good* at yelling at the kid.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

BUT

Other kids *are not really good* at yelling at the kid.

Really true for me <input type="checkbox"/>	Sort of true for me <input type="checkbox"/>
---	--

Some kids wish that more people their age liked them.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids feel that most people their age *do* like them.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids are *not* made fun of by other kids.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids are *often* made fun of by other kids.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids *like* the kind of person they are.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids with they were someone else.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids are *popular* with others their age.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids are *not* very popular.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids are *not* very happy with the way they do things.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids think the way they do things is *fine*.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

Some kids *are* good at hurting others.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

BUT

Other kids *aren't* so good at hurting others.

Really true for me	Sort of true for me
<input type="checkbox"/>	<input type="checkbox"/>

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Vita

Name	Laura Cyran
Baccalaureate Degree	Bachelor of Arts, Barnard College of Columbia University, New York, NY, Major: Psychology
Date Graduated	October 2003
Other Degree	Master of Social Work, Fordham University, New York, NY
Date Graduated	May 2006
Other Degree	Master of Science, St. John's University, New York, NY
Date Graduated	May 2020