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# The Impact of Shyness on Loneliness, Social Anxiety, and School Liking in Late Childhood

## Abstract

Shyness is associated with several emotional, social, and academic problems. While there are multiple difficulties that often accompany shyness, there appear to be some factors that can moderate negative effects of shyness. Research has demonstrated that certain parenting factors affect the adjustment of shy children in early childhood, but there is minimal research illuminating the effect of parenting factors in older age groups. The first purpose of this study was to examine relationships between shyness and loneliness, social anxiety, and school liking. The second purpose was to investigate whether the quality of the relationship between a parent and a 10- to 15-year-olds child influences the amount of loneliness or social anxiety a shy child experiences or how the child feels about school. Parent-child dyads served as participants and were recruited from public and private middle schools and church youth groups in Colorado and Indiana. Child participants completed several self-report surveys regarding their relationship with a parent, shyness, loneliness, social anxiety, and their attitude toward school. Parents completed a survey about their relationship with their child and responded to questions related to their perceptions of their child's shyness. Data was analyzed with a series of correlation and regression analyses. Greater degrees of self-reported shyness were found to be associated with higher levels of loneliness and social anxiety and less positive feelings about school. Due to a problem with multicollinearity during data analysis, this study was not able to explore the effect of the parent-child relationship quality on the associations between shyness and adjustment factors. Overall, these findings imply that shyness remains an important issue as children approach adolescence. Further research is needed to continue learning about the potential importance of parent-child interactions in reducing maladjustment for shy children during late childhood.

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LIKING IN LATE CHILDHOOD

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Presented to

the Faculty of the Morgridge College of Education

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In Partial Fulfillment

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by

Charity M. Walker

August 2011

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Title: THE IMPACT OF SHYNESS ON LONELINESS, SOCIAL ANXIETY, AND SCHOOL LIKING IN LATE CHILDHOOD

Advisor: Maria Riva, Ph.D.

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## ABSTRACT

Shyness is associated with several emotional, social, and academic problems. While there are multiple difficulties that often accompany shyness, there appear to be some factors that can moderate negative effects of shyness. Research has demonstrated that certain parenting factors affect the adjustment of shy children in early childhood, but there is minimal research illuminating the effect of parenting factors in older age groups. The first purpose of this study was to examine relationships between shyness and loneliness, social anxiety, and school liking. The second purpose was to investigate whether the quality of the relationship between a parent and a 10- to 15-year-olds child influences the amount of loneliness or social anxiety a shy child experiences or how the child feels about school. Parent-child dyads served as participants and were recruited from public and private middle schools and church youth groups in Colorado and Indiana. Child participants completed several self-report surveys regarding their relationship with a parent, shyness, loneliness, social anxiety, and their attitude toward school. Parents completed a survey about their relationship with their child and responded to questions related to their perceptions of their child's shyness. Data was analyzed with a series of correlation and regression analyses. Greater degrees of self-reported shyness were found to be associated with higher levels of loneliness and social anxiety and less positive feelings about school. Due to a problem with multicollinearity

during data analysis, this study was not able to explore the effect of the parent-child relationship quality on the associations between shyness and adjustment factors. Overall, these findings imply that shyness remains an important issue as children approach adolescence. Further research is needed to continue learning about the potential importance of parent-child interactions in reducing maladjustment for shy children during late childhood.

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## Chapter 1

### INTRODUCTION

Shyness puts children at risk for a broad range of adjustment problems and can have long-term implications (Kerr, 2000; Rubin, Coplan, & Bowker, 2009). Shyness is considered a potential precursor for later development of social anxiety disorder and has also been linked to a host of adjustment problems including children's internalizing problems (i.e., anxiety, loneliness), obstacles in peer relationship (i.e., peer rejection, poor friendship quality), and school difficulties (i.e., poor school liking, school avoidance) (Greco & Morris, 2001; Rubin et al., 2009). Overall, shyness can make it very problematic for children to do well in social environments because of their tendency to withdraw.

While a minority of individuals attribute positive feelings to their shyness, the majority endorse a multitude of negative effects they desire to change, such as anxiety and adjustment difficulties (Schmidt & Tasker, 2000; Zimbardo & Henderson, 2000). The prevalence of shyness appears to be increasing in our society, with over 50% of individuals endorsing shyness (Zimbardo & Henderson, 2000). Zimbardo and Henderson ascribed much of this increase to the rising occurrence of poor socialization within the family structure and increased social isolation due to reliance on technology.

This chapter begins by providing a definition of shyness and more specifically describing the negative implications shyness can have for a child's adjustment. The next section provides an overview of the current status of the literature pertaining to childhood shyness and related internalizing problems. Subsequently, the justification for this dissertation study is outlined, including the rationale as to how this study addressed limitations of prior work. The hypotheses and definitions of terms are then provided.

Shyness has been described as "one of the most central and intriguing dimensions of the human condition" (Zimbardo & Henderson, 2000, p. xiii). However, the term shyness has been used to represent very different psychological experiences in empirical literature and is not a precise term (Crozier, 2000; Leary, 1986). Leary (1986) reviewed various definitional classes of shyness and proposed that it is problematic to conceptualize shyness as simply a behavioral display (i.e., inhibition) or as an emotional, subjective experience (i.e., social anxiety). To provide a more comprehensive and accurate picture of shyness to guide research, Leary (1986) proposed that it is optimal to include both subjective social anxiety and inhibited social behavior in its definition. Thus, shyness can be defined as the experience of anxiety in social situations coupled with the avoidance of interpersonal interaction due to fear of interpersonal evaluation (Leary, 1986). This definition was adopted for the current study.

From middle childhood on, the anxiety experienced in social scenarios can be explained as "unavoidable bad feelings about one's interactions with others and the way others' think about one's self" (Kerr, 2000, p. 68). The behavioral inhibition displayed can be described as hesitance or wariness primarily in novel or threatening situations

(Crozier, 2000). Examples of inhibited behavior are “staring at the floor when asked a question by an adult,” “hovering at the periphery of a game,” and “not speaking unless spoken to” (Crozier, 1998, p. 460).

The experience of social anxiety and behavioral inhibition can be harmful for shy children in many ways. For example, the anxiety often experienced by shy children may prevent them from socializing with others as much as their non-shy peers and may cause them to feel negatively about themselves (Crozier, 1995; Fordham & Stevenson-Hinde, 1999; Kemple, 1995). The avoidance of social situations or participation due to self-conscious anxiety can feed shy children’s perceptions of themselves as inadequate (Kerr, 2000).

Consider the following examples of the effects shyness may have on a child’s functioning offered by Crozier (2001): (a) “a student may be reluctant to express an opinion in a group discussion because he wishes to avoid seeming poorly prepared or giving the impression that he does not understand the material,” (b) “a student may decline her teacher’s request to play a role in a drama lesson and be willing to forego pleasing the teacher rather than risk the embarrassment of performing in front of her peers,” and (c) “a child may endure bullying in silence because he or she does not wish to be thought weak or a ‘tattle-tale’” (p. 57). Clearly, the interplay between anxiety and inhibited behavior has significant implications for social, emotional, and academic aspects of shy children’s functioning.

## Status of the Literature

The empirical study of shyness has gained momentum over the last 30 years along with significant advancement in its theoretical understanding and methodological approaches to its study (Carducci, 2000). This was made possible by the paradigm shift within the field of psychology from a behavioral emphasis to include cognitive processes, which broadened conceptualization of social deficits in terms of social skills to include self-concept and self-evaluation (Crozier, 2000). A growing body of empirical work has contributed to efforts to clearly define shyness as well as to understand the affective, behavioral, and cognitive aspects of shyness (Carducci, 2000). Other endeavors also have been undertaken to shed light on developmental issues and biological foundations of shyness as well as to develop appropriate measurement tools and treatment techniques (Carducci, 2000). Despite these efforts, the overall understanding of childhood shyness is meager.

While there seems to be a longer history of empirical investigation of social phobia or broader definitions of social withdrawal, shyness as a distinct condition has only been given significant attention in the last few decades. Although shyness shares some similar characteristics with other forms of social anxiety or social withdrawal, there are substantial differences that disallow specific conclusions from being drawn from this broader literature. Additionally, much of the existing literature written about shyness and related forms of social withdrawal has focused on adults. Although the overall understanding of shyness in youth is deficient in many areas, recent efforts have validated some conclusions about adult shyness in child and adolescent populations.



Many negative outcomes of shyness have been found in childhood; many of these are internalizing problems. Recent empirical research concluded that self-reported shyness is associated with poor social satisfaction and loneliness (Findlay, Coplan, & Bowker, 2009). This is problematic because both theorists and researchers have advocated for the importance of connecting with others as a possible preventative and curative factor for peer victimization and a multitude of other internalizing problems, such as depression (i.e., Fordham & Stevenson-Hinde, 1999; Miller & Coll, 2007, Rubin, Bukowski, & Parker, 1998). Although interest in the impact of shyness and other forms of social withdrawal on children's social functioning is building, little is yet known (Schneider & Tessier, 2007).

A second internalizing problem that coincides with shyness is social anxiety. Empirical studies have shown an association between shyness and social anxiety as well as trait anxiety in children (Findlay et al, 2009; Fordham & Stevenson-Hinde, 1999). It seems that as shyness increases, anxiety in social situations concurrently increases. Social anxiety may be a detriment to children's social interactions as social anxiety co-exists with self-consciousness and self-deprecation related to social performance (Crozier & Alden, 2001). Other negative outcomes are associated with social anxiety as well including loneliness, school avoidance, poor school liking, and internalizing coping (Weeks, Coplan, & Kingsbury, 2009). However, knowledge about social anxiety in non-clinical samples of children is limited because most studies investigating social anxiety have focused on children with social phobia.

Shyness can also negatively affect children's school adjustment. Shyness has been linked to several observed problems in school functioning such as reticence in the classroom and poor academic achievement (i.e., Coplan, Prakash, O'Neil, & Armer, 2004; Coplan et al., 2008; Crozier & Hostettler, 2003; Evans, 2001). Minimal research has investigated shy kindergarten children's subjective feelings in the school environment. However, a recent study found an association between shyness and poor school adjustment, which included measurement of school liking (Coplan et al., 2008). Research on older children's attitudes toward school is limited. One study found that self-identified shy pre-adolescents whose shyness was not recognized by their parents had lower perceived academic competence (Spooner, Evans, & Santos, 2005), which may indicate some negative feelings about school. However, studies have not yet directly investigated the effect of shyness on school liking in later childhood or adolescence. It is valuable to gauge children's attitudes toward school because they are an important indicator of their broader school adjustment. For example, school liking has been found to be a strong predictor of children's later participation in school and achievement (Ladd, Buhs, & Seid, 2000).

While there are multiple internalizing problems and other socio-emotional difficulties that often accompany shyness, it has been demonstrated that not all shy children develop later problems (Miller & Coll, 2007). This has prompted researchers to begin exploring potential protective factors for shyness and adjustment in childhood. For example, an internalizing coping strategy (Findlay et al., 2009), high quality friendships (Rubin, Wojslawowicz, Rose-Krasnor, Booth-LaForce, & Burgess, 2006), and sports

participation (Findlay & Coplan, 2008) have been identified as moderators or mediators of adjustment. Gender has also been shown to create differing outcome for shy children. Shy or withdrawn boys seem to have more peer difficulties than girls (Coplan & Arbeau, 2008). Parenting styles and parent characteristics have been related to shy children's social adjustment, highlighting the importance of the interplay between shyness tendencies and environmental factors (Rubin, Cheah, & Fox, 2001; Rubin et al., 2009). While parenting has been found to moderate the negative effects of shyness for young children (Coplan et al., 2008), there is an absence of research about the impact of the parent-child relationship and other parenting factors in older age groups (Rubin et al., 2009). In general, much of the available research supports that many negative socio-emotional outcomes result from a poor fit between social demands and shyness. However, research rarely has focused on understanding factors that can curb the effects shyness has on internalizing problems.

#### Justification for the Study

There is a need to study shyness because of the host of immediate and long-term problems that can accompany it. The vast array of negative consequences (i.e., relationship difficulties, educational underachievement, mood disorders) and infrequency of spontaneous recovery, create a need to focus research on childhood shyness and other forms of social withdrawal with the hope of providing understanding that can guide early identification, treatment, and prevention (Erath, Flanagan, & Bierman, 2007). The first purpose of this study was to examine relationships between degrees of shyness and several internalizing problems. Internalizing problems, such as anxiety and depression,

are emotional problems characterized by inner-directed and overcontrolled symptoms (Reynolds, 1990). The second purpose was to investigate the impact of the parent-child relationship on several internalizing problems children experience. Specifically, this study explored associations between degrees of shyness and loneliness/social dissatisfaction, social anxiety, and school liking in late childhood and the relationship of these outcomes to the quality of the parent-child relationship. The correlation between parent figures' and children's perceptions of the parent-child relationship was also explored.

Among the empirical literature related to childhood shyness, there are gaps in the understanding of factors related to adjustment problems. Most relevant to this study is the lack of adequate research on moderating or mediating factors for shyness. A moderator can be explained as a “qualitative (e.g., sex, class, race) or quantitative (e.g., level of reward) variable that affects the direction/and or strength of the relationship between an independent or predictor variable and a dependent criterion variable” (Baron & Kenny, 1986, p. 1174). A mediator can be described as a variable that “accounts for the relation between the predictor and the criterion” (Baron & Kenny, 1986, p. 1176). In a recent review article, Rubin et al. (2009) called for future researchers to examine the significance of protective factors for social withdrawal and adjustment problems. While it is true that shyness is a relatively stable characteristic, some children do change (Burgess, Rubin, Cheah, & Nelson, 2001). Therefore, it is important to consider what factors are connected to change. Furthermore, given the clear knowledge that shyness is a risk factor for negative outcomes in childhood, little is known about the “conceptual mechanisms

that may underlie these associations” (Findlay et al., 2009, p. 47). Research has supported the view that parents of behaviorally inhibited children who are sensitive to their child’s needs, encourage the child to be independent, and promote peer interaction help their child develop social skills and become less inhibited in early childhood (Rubin, Burgess, & Hastings, 2002; Rubin et al., 2001). It seems apparent that parents’ behaviors toward children affect withdrawn children’s well-being. The potential buffering or harmful effects that the mutual relationship between parent figures and children has on shy or withdrawn children’s adjustment beyond early childhood needs to be better understood (Rubin et al., 2009).

Further support for the need to investigate moderating and mediating factors for negative outcomes of shyness can be drawn from the argument that children’s social and emotional problems can best be understood as multi-layered (Burgess et al., 2001). Such problems are rooted in biological factors, familial relationships, social contexts, and cultural influences. It has been suggested that research needs to progress from the focus on individual characteristics to a relational level. Therefore, it was important for this study to build upon the understanding within the literature of the impact that shyness has on children’s functioning by attempting to investigate the impact of the interaction between children’s temperament and their familial relationships.

Another weakness in previous studies of shyness has been the reliance of the majority of studies on behavioral observation of children and other-reports to measure shyness and outcomes (Spooner et al., 2005). This has created a research environment which has “generally neglected the voice of children themselves” (p. 438). It seems

critical to understand the experience of shy children from their own perspective. In a review article, Rubin et al. (2009) reported that there is moderate to high agreement between various sources in measuring shyness; however others have found more meager inter-rater correlations (Spooner et al., 2005). It has been suggested that using only others' reports of children's shyness may account for observable behavioral expression of shyness and ignore subjective feelings of shyness. It is possible that some children who experience subjective feelings of shyness do not act shy or selectively display shyness in certain situations (Spooner et al., 2005). Such children may be excluded from traditional shyness studies that rely on others' reports to identify shyness. Therefore, this study fulfilled the need to include self-report of shy children to more accurately access the subjective experiences of shyness (Crozier, 1995; Spooner, 2005; Spooner et al., 2005).

Another shortcoming of the literature is that many of the studies that investigated adjustment factors related to shyness have often focused on early childhood, particularly the kindergarten year (i.e., Coplan et al., 2004; Coplan et al., 2008). Overall, there is a need to produce more objective, quantitative data regarding the experiences of shy children in older age groups. The information about shyness in late childhood that was provided by this study was valuable because this is a critical developmental period when many children begin to place higher value on friendships and academic success.

Finally, many studies have provided rich empirical data; however, they have lacked specificity in defining the population of interest which limits the ability to generalize the results. For example, many researchers studied socially withdrawn or socially anxious children, which encompass a broad category of youth. Generally, studies

have used a variety of criteria to define social withdrawal or social anxiety which has led to confusion in the applicability of the results. Therefore, this study addressed the need to focus research on shy children, a sub-set of socially withdrawn or socially anxious youth.

The current study adds significantly to the literature because it addressed some of the described limitations in its design and built upon the groundwork established by previous studies. This study followed the recommendations of Spooner et al. (2005) and Crozier (1995) by gathering children's self-ratings of shyness and outcome variables. Furthermore, the current study explored the experiences of children from ages 10 to 15, as this may be a critical time period to identify at-risk children due to the increase in negative outcomes associated with shyness and withdrawal (i.e., loneliness and peer rejection) that occurs as children approach early adolescence (Fordham & Stevenson-Hinde, Rubin et al., 2006). The use of this age range also enabled comparisons to other studies that have measured similar constructs within comparable age ranges, such as Findlay et al. (2009) and Fordham and Stevenson-Hinde (1999). Finally, this study used a widely accepted definition of shyness (Leary, 1986) to clearly define the population of interest and allow more specific conclusions to be drawn about shyness and internalized outcomes that the broad social withdrawal or social anxiety literature cannot provide. Overall, the results of this study add new information to the understanding of shyness due to its investigation of unexplored relationships among degrees of shyness, the parent-child relationship, and adjustment problems in late childhood and additionally provided some methodological improvement over previous research.

## Hypotheses

The independent variable for the research hypotheses was the child-reported shyness level. The three dependent variables were child-reported loneliness/social dissatisfaction, social anxiety, and school liking. The child-reported parent-child relationship quality was examined as a moderating variable between the independent and dependent variables. Table 1 includes the hypotheses of the study.

Table 1

### *Hypotheses for the Study*

<b>Hypotheses</b>	<b>Measures to be Used</b>	<b>Statistical Test</b>
1. It is predicted that there will be a significant positive correlation between the child-reported shyness level and the child-reported loneliness/social dissatisfaction level.	<i>Children's Shyness Questionnaire</i> (CSQ) total score  Loneliness and Social Dissatisfaction Questionnaire total score	Pearson product-moment correlation
2. It is predicted that there will be a significant positive correlation between the child-reported shyness level and the child-reported social anxiety.	CSQ total score  <i>Social Anxiety Scale for Adolescents</i> (SAS-A) total score	Pearson product-moment correlation
3. It is predicted that there will be a significant negative correlation between the child-reported shyness level and the child-reported school liking level.	CSQ total score  <i>School Liking and Avoidance Questionnaire</i> (SLAQ) School Liking subscale score	Pearson product-moment correlation
4. It is predicted that there will be a significant positive correlation between the child-reported parent-child relationship quality and parent-reported parent-child relationship quality.	Parents' PCRQ Personal Relationship factor score  Children's PCRQ Personal Relationship subscale score	Pearson product-moment correlation
5. The child-reported parent-child relationship quality will moderate the association between child-reported shyness and child-reported loneliness/social dissatisfaction.	PCRQ Personal Relationship factor score  CSQ total score  Loneliness and Social Dissatisfaction total score	Standard multiple regression analysis



6. The child-reported parent-child relationship quality will moderate the association between child-reported shyness and child-reported social anxiety.	PCRQ Personal Relationship factor score CSQ total score SAS-A total score	Standard multiple regression analysis
7. The child-reported parent-child relationship quality will moderate the association between child-reported shyness and child-reported school liking.	PCRQ Personal Relationship factor score CSQ total score SLAQ School Liking subscale score	Standard multiple regression analysis

### Definition of Terms

*Mediator.* A mediator can be described as a variable that “accounts for the relation between the predictor and the criterion” (Baron & Kenny, 1986, p. 1176).

*Moderator.* A moderator can be explained as a “qualitative (e.g., sex, class, race) or quantitative (e.g., level of reward) variable that affects the direction/and or strength of the relationship between an independent or predictor variable and a dependent criterion variable” (Baron & Kenny, 1986, p. 1174).

*Internalizing problems.* Internalizing problems are emotional problems characterized by inner-directed and overcontrolled symptoms (Reynolds, 1990).

*Shyness.* Shyness is defined as the experience of anxiety in social situations coupled with the avoidance of interpersonal interaction due to fear of social evaluation (Leary, 1986), as measured by the *Children’s Shyness Questionnaire* (Crozier, 1995).

*Social Anxiety.* Social anxiety is defined as a cognitive and affective experience produced by a social situation that includes both physiological arousal and apprehension

about possible uncontrollable negative outcomes (Crozier & Alden, 2001), as measured by the *Social Anxiety Scale for Adolescents* (La Greca & Lopez, 1998).

*Social Phobia.* Social phobia is defined as a psychiatric diagnosis included in the *Diagnostic and Statistical Manual of Mental Disorders, Text Revision* (American Psychiatric Association [APA], 2000) which is characterized by fear and avoidance of social performance situations due to apprehension about embarrassment, the experience of anxiety in feared social situations, and impairment in daily functioning due to avoidance or distress related to social situations (APA, 2000).

### Chapter Summary

Shyness is a significant problem that affects many children, has a multi-faceted impact on functioning, and can lead to long-term negative effects. The existing literature provided the foundation for a much deeper investigation of shyness and internalizing problems in the current study. It has become clear that shyness has negative implications for a variety of internalizing problems including loneliness, anxiety, and poor school adjustment. There is evidence that moderators or protective factors for shyness exist, as not all shy children have poor prognoses (Miller & Coll, 2007). Parenting factors have been shown to moderate psychosocial outcomes in early childhood, but such relationships in later developmental periods had not previously been explored (Rubin et al., 2009). This study addressed some limitations of prior work in its endeavor to investigate the moderating effect of the parent-child relationship on internalizing problems of children with various degrees of shyness in late childhood.

Chapter 2 more deeply reviews the relevant literature on childhood shyness. It provides a more comprehensive understanding of shyness in the context of other related disorders. Factors that influence the development and maintenance of shyness are described. Next, attention is given to several internalizing problems that co-exist with childhood shyness. Finally, factors that have been shown to moderate the relationship between shyness and negative outcomes are reviewed. Discussion of moderating factors centers on the influences that parenting and the parent-child relationship have on shy children.

## Chapter 2

### LITERATURE REVIEW

Shyness presents emotional, social, and academic challenges for children.

Specifically, shy children may be at risk for many negative outcomes such as school adjustment problems, negative affect, peer rejection, and loneliness (Coplan et al., 2008; Findlay et al., 2009). However, research supports that children born with a predisposition toward shyness may be able to overcome aspects of their shyness or withdrawal through the influences of their caregivers, siblings, and peers which can act as buffers (Caspi, Elder, & Bem, 1988; Fox & Calkins, 1993). It is necessary to better understand what specific factors may be able to prevent or curb the negative effects of shyness.

This chapter reviews the impact that shyness can have on children's lives as well as factors that may moderate the negative effects. Shyness is a broad and multi-faceted term and various components of shyness may have different implications for social, emotional, and academic outcomes. Therefore, it is important to understand the range of emotions, thoughts, and behaviors that exist along the continuum of shyness. To assist this understanding, changes in shyness over the developmental course of childhood are discussed. Next, an overview of factors related to the development and maintenance of shyness is presented. This provides an understanding of the interplay between biological processes and environmental influences that may affect the outcomes of childhood

shyness. In the next section various internalizing problems that accompany shyness are reviewed. Attention is given to social anxiety, loneliness, and school adjustment. Finally, research related to factors that are known to moderate or mediate the negative effects of shyness is discussed. This shows how environmental factors, such as interactions with a parent, may be able to help a child combat his or her predisposition toward social anxiety and behavioral inhibition.

### Definition of Shyness

Shyness is a specific social phenomenon that is subsumed under the umbrella of social withdrawal (Rubin & Asendorpf, 1993b). In the empirical literature describing social competency deficits, one of the most discussed behavioral difficulties in childhood is social withdrawal (Rubin & Asendorpf, 1993b). Social withdrawal is an aspect of several *DSM-IV-TR* (APA, 2000) disorders such as social phobia and avoidant personality disorder. Given its breadth, the term social withdrawal has been used interchangeably with similar terms such as shyness, social isolation, sociometric neglect, social reticence, and inhibition (Rubin & Asendorpf, 1993a). Related concepts are intricately connected to social withdrawal; however they are uniquely distinct. The commonality among them is the “behavioral expression of solitude” (Rubin & Asendorpf, 1993b, p. 9). However, social withdrawal can be exclusively defined by its emphasis on the individual choosing to separate from the peer group, while terms reflecting isolation refer to the rejection of the individual by the peer group. Solitude by itself is not a problem; however, the underlying social and emotional problems that typically accompany solitude can be harmful (Rubin et al., 2009). Within the context of

social withdrawal, shyness is distinguished from other forms of peer separation because of its derivation from social evaluative apprehension (Rubin & Asendorpf, 1993b). Furthermore, shyness is differentiated from social disinterest due to shy children's desire and motivation to interact with others (Coplan et al., 2004).

Shyness more explicitly can be understood in the context of its relationship to the clinical diagnoses of social phobia and avoidant personality disorder. Rapee and Heimberg (1997) described a continuum of social evaluative fear that encompasses each of these problems. Shyness can be characterized as the low to middle range, social phobia as the middle to high range, and avoidant personality disorder as the high to extreme range of this social anxiety continuum. Those in support of the continuum hypothesis believe that these constructs share several features and are not qualitatively different problems (Heiser, Turner, Beidel, & Roberson-Nay, 2009).

Avoidant personality disorder causes the most functional impairment along the social evaluation continuum. It has an estimated prevalence of 0.5% to 1.0% in the general population (APA, 2000). Avoidant behaviors that characterize avoidant personality disorder can often be traced to childhood shyness or isolation (APA, 2000). Its symptoms include avoidance of significant interpersonal contact, hesitation to interact with others without guarantee of being liked, preoccupation with being criticized or rejected in social situations, and a self-image of being socially incompetent.

Social phobia has been estimated to have a prevalence of 3% to 13% in the general population (APA, 2000) and 4% to 9% among adolescents (Wittchen, Stein, & Kessler, 1999) with the negative effects shown to carry on from adolescence to adulthood

(Beidel, Turner, & Morris, 1999). Its symptoms include fear and avoidance of social performance situations due to apprehension about embarrassment, the experience of anxiety in feared social situations, and impairment in daily functioning due to avoidance or distress related to social situations. Social phobia typically has an onset in mid-adolescence and usually begins as childhood social inhibition or shyness (APA, 2000).

Shyness represents the least clinical form of social anxiety and is not a formal *DSM-IV-TR* (APA, 2000) diagnosis. It shares many symptoms with social phobia and avoidant personality disorder, though their expression is not as debilitating. It has been estimated that only 5 to 10% of the population consider themselves to never be shy and over 50% label themselves as shy people (Zimbardo & Henderson, 2000). Asendorpf (1990) described shy children as possessing the desire to interact with others, but inhibited by a persistent fear of negative outcomes. Shy children experience anxiety in social situations, particularly novel situations, that produces inhibition of social or interpersonal behavior stemming from fear of interpersonal evaluation (Leary, 1986). Shyness affects children cognitively (i.e., self-defeating thoughts), somatically (i.e., increased cortisol levels in new situations), and behaviorally (i.e., avoidance of eye contact) (Cheek & Melchior, 1990).

Some scholars proposed a different conceptualization of the relationship between shyness and more clinical forms of social anxiety. Some believe that shy individuals are more heterogeneous than socially phobic individuals and that shyness is a broader construct (see Heiser et al., 2009). This belief is based on the premise that shyness and social phobia are qualitatively distinct conditions, rather than a variation along a

continuum of symptoms. An investigation into these two differing hypotheses of the relationship between shyness and social phobia found partial support for both (Heiser et al., 2009).

In order to fully understand shyness, it is necessary to consider developmental changes in shyness that take place between early childhood and adolescence. Theoretical and empirical work has differentiated between two distinct forms of shyness: early, fear-based shyness and later-developing self-conscious shyness (see Kerr, 2000). Buss (1986) originally proposed this distinction. Fear-based shyness is said to be temperamental in nature and primarily expressed as behavioral inhibition in unfamiliar situations. Buss (1986) indicated fear-based shyness is predominant in the first four to five years of life before children develop the ability to take the perspective of others or comprehend that others have perceptions of them. Buss (1986) further explained that later-developing self-conscious shyness is cultivated when children develop perspective-taking abilities after about age five.

Crozier (2001) provided a telling description of the way shy individuals see themselves once they have developed perspective-taking abilities. Crozier stated, “They report they are self-conscious and feel awkward and ill at ease. They cannot think of what to say in conversation, and their reticence is accompanied by intense mental activity, where they rehearse, but are inhibited from making contributions, and where they typically think how inadequate they are and fear that they are creating negative impressions on others” (p. 53). This description highlights the central theme of self-deprecation that often accompanies shyness. In sum, “There seems to be too much of the



self in shyness” (Crozier & Alden, 2001, p. 187). Shy individuals are typically preoccupied with the self and evaluation of the self by others.

Empirical studies have supported the presence of self-consciousness by finding that from middle childhood onward there appears to be a link between shyness, low self-esteem, and low social self-confidence (Cheek & Melchoir, 1990; Crozier, 1995; Kemple, 1995; Miller, 1995). Additionally, Rao et al. (2007) found that adolescents experienced more intense social fear and avoidance than young children. This difference may be due to several factors. First, late childhood to early adolescence represents an important time in social development characterized by increased emphasis on close friendships, introduction to dating, and growth of the social network (La Greca & Moore Harrison, 2005). The increase in distress during early adolescence additionally may be attributed to increased cognitive maturity, which allows for more cognitive worry, more social evaluative fears, and increased self-awareness (Bennett & Gillingham, 1991; Fordham & Stevenson-Hinde, 1999). Other hypotheses suggest that problems related to shyness and social withdrawal appear to increase when peer recognition of shy and withdrawn behavior increases (Hymel, Rubin, Rowden, & LeMare, 1990; Younger & Piccinin, 1989).

#### The Development and Maintenance of Shyness

Increasingly, scholars are recognizing a biological component to shyness. Physiological correlates to shyness have been documented, such as differences in brain activity and heart rate responses (Schmidt & Fox, 1998; Schmidt & Tasker, 2000). Research has pointed to increased amygdala activation as a cause of solitary behavior

related to social anxiety (Kagan, Sindman, & Arcus, 1993). However, it has been strongly argued that both biological and environmental causes contribute to shyness. Therefore, the self-conscious anxiety and behavioral inhibition that characterize shyness from middle childhood on may be best understood as the interplay between biological and environmental influences (Schmidt, Polak, & Spooner, 2001).

Several researchers have outlined models to explain how shyness and other forms of social anxiety are developed and maintained (Beck, Emery, & Greenberg, 1985; Clark & Wells, 1995; Rapee & Heimberg, 1997; Schlenker & Leary, 1982). These models all contend that distortions in information processing, the content of thoughts, anxiety, and maladaptive responses in social situations are central in the etiology and maintenance of shyness. Prominent models (i.e., Clark & Wells, 1995; Rapee & Heimberg, 1997) are rooted in the basic notion that socially anxious individuals possess distorted and negative self-images characterized by beliefs that others have stringent standards for their social behavior, expectations of social evaluation, and unconditional beliefs about the self (Schultz & Heimberg, 2008). Negative self-images cause inaccurate beliefs that others view the individual in the same negative manner. Additionally, they place high value on being positively evaluated by others and assume that others are going to judge them negatively in a social situation. Generally, cognitive processes characterized by rigid schemas such as perfectionism and unrealistic expectations create anxiety. The resulting anxiety likely places detrimental restrictions on shy children's ability to function in social situations, such as in the context of friendships or in the classroom.

## Outcomes of Childhood Shyness

### *Loneliness and Social Dissatisfaction*

A variety of negative outcomes can result from shyness, one of which is loneliness and social dissatisfaction. This is relevant to consider because friendships become increasingly important in the preadolescent years and play a large role in children's experiences at school (Kingery & Erdley, 2007). Theory and research have generally emphasized the importance of peer relationships in children's development (Rubin & Asendorpf, 1993a). Rubin and Asendorpf (1993a) reported that "Social experiences are critical to normal developmental trajectories" and "...the lack of such experiences are worthy of compensatory attention" (p. xi).

Early psychological theories, such as those of Jean Piaget and Harry Stack Sullivan, illustrate the importance of social interaction in normal human development (Rubin & Asendorpf, 1993b; Rubin, et al., 2009). Piaget supported the role of peer relationships in the development of perspective-taking skills, social competence, and moral thinking. Peer interaction, specifically resolving disagreement with others, can aid reduction in egocentric thinking, teach children to include the perspective of others, and promote social thinking (Rubin & Asendorpf, 1993b; Rubin et al., 2009). Sullivan highlighted the role of close same-gender peer relationships in the development of identity and the notions of shared respect, equality, and reciprocity (Rubin & Asendorpf, 1993b; Rubin et al., 2009). These theoretical ideas suggest that children who do not have successful peer relationships lack the opportunities necessary for proper social development and general well-being (Rubin et al., 2006). Recent empirical work has

demonstrated the relevancy of Piaget and Sullivan's theories underscoring the importance of peer relationships in the social and emotional development of children (Fordham, & Stevenson-Hinde, 1999; Rubin et al., 1998). Specific empirical support has been gathered for the development of self-esteem, perspective-taking skills, protection from peer victimization, feelings of social support, and moral thinking through friendships (see Rubin et al., 1998). Children lacking friends were found to have deficient social skills and a tendency to be lonely. Clearly it can be detrimental for children not to have adequate social relationships.

Although friendships are often advantageous, shyness presents a potential threat to developing relationships and social competence because of shy children's relative tendency to feel anxious in social situations and avoid social contact. However, some differing perspectives on shy children's social functioning exist. Several studies have found that shy or socially withdrawn children or adolescents are equally as likely as their peers to have at least one close and stable friendship (Fordham & Stevenson-Hinde, 1999; Ladd & Burgess, 1999; Rubin et al., 2006; Schneider, 1999) while others found that shy or withdrawn children were less likely to have a close friendships than their peers (Beidel et al., 1999; La Greca & Lopez, 1998).

It also seems that shy children's friendships may be qualitatively different in some aspects than their peers. For example, Rubin et al. (2006) indicated that shy children may be more likely to form friendships with other shy or withdrawn children. This may suggest that shy children may not have the necessary social skills to form friendships with non-shy or more socially competent children (Schneider & Tessier, 2007). Rubin et

al. (2006) asserted that the maladaptive behavioral similarities between shy or withdrawn children and their best friend may lessen the positive advantages of having a friendship, particularly protection from peer victimization.

In regard to children's perceptions of their friendships, Schneider (1999) reported that shy children appear to judge the relationship to be closer and more helpful than the non-withdrawn partner, while Rubin et al. (2006) found that both shy children and their best friend judged their friendship to be of lower quality and low in helpfulness. Fordham and Stevenson-Hinde (1999) reported that although shy children regarded their friendships as high in quality, non-shy children rated their friendships as higher in quality. Overall, it seems shy children may be as likely as non-shy children to have lasting friendships, but the intimacy of their friendships may be less.

Even though shy children may be capable of having friendships, there is evidence that they often feel lonely and socially dissatisfied. Among a group of high school shy girls who were interviewed, even those who had friends reported feeling lonely (Lund, 2008). Shyness also has been positively correlated with loneliness in middle childhood (Findlay et al., 2009; Fordham & Stevenson-Hinde, 1999). Some evidence points to increased loneliness for shy children as they progress through middle childhood. Fordham and Stevenson-Hinde (1999) found a significant negative correlation between loneliness and shyness, but only for the 10-year-old children, rather than the 9-year-old children. This is congruent with evidence that these children are more likely to be rejected by their peers as they approach late childhood and early adolescence due to peers' increasing recognition of their differences (Hart et al., 2000; Rubin et al., 2006).

Overall, some relational difficulties appear to exist for shy children, particularly as peer rejection increases in middle to late childhood. Loneliness may be a negative by-product of relational difficulties for shy children.

### *Social Anxiety*

A second internalizing problem to note is social anxiety. Social anxiety can be described as a cognitive and affective experience produced by a social situation that includes both physiological arousal and apprehension about possible uncontrollable negative outcomes (Crozier & Alden, 2001). Social anxiety is associated with increased self-consciousness and self-deprecation, particularly in relation to social performance (Crozier & Alden, 2001). Shyness becomes an increasing risk factor for anxiety as children progress through middle childhood and enter into the phase of self-conscious shyness, which brings increased self-awareness (Fordham & Stevenson-Hinde, 1999; Yuill & Banerjee, 2001). How anxious a shy child feels may be an important indicator of how inhibited he or she will be in a social environment. Accordingly, social anxiety has been associated with loneliness (Fordham & Stevenson-Hinde, 1999; Weeks et al., 2009) and also appears to have negative implications for school adjustment, as it has been linked to school avoidance and poor school liking (Weeks et al., 2009).

Empirical studies have linked shyness with general anxiety throughout childhood (Fordham & Stevenson-Hinde, 1999; Coplan et al., 2008). Some studies have found a connection between shyness and others' ratings of children's anxiety (Coplan et al., 2008; Fordham & Stevenson-Hinde, 1999). Specifically, Fordham and Stevenson-Hinde (1999) investigated the association between observed shyness in the presence of an unfamiliar

adult and internalizing problems, including trait anxiety. Important age differences were noted in the relationships between shyness, anxiety, and other psychosocial outcomes. Only at age 10 (versus age 9) were significant positive correlations found between anxiety and observed shyness. Coplan et al. (2008) investigated shy children's school adjustment as they transitioned to kindergarten, as this was viewed as a potentially stressful task for shy children. Entering school brings increased social demands which may heighten shy children's social fears (Coplan & Arbeau, 2008). A relationship was found between observed shyness and a composite of internalizing problems, including teacher-rated anxiety and mother-rated emotion symptoms (Coplan et al., 2008).

Most empirical studies that specifically explored social anxiety have been conducted with socially phobic, rather than shy individuals. However, mounting research suggests that social anxiety is detrimental for children even if the level of anxiety does not warrant a clinical diagnosis (Weeks et al., 2009). Among those studying sub-clinical populations, even fewer studies have specifically used a sample of shy children. However, some recent studies have found a relationship between shyness and social anxiety across various developmental periods. One recent study found a positive correlation between self-reported shyness and social anxiety in 9- to 11-year-old children (Findlay et al., 2009). Relationships between parent-reported shyness and social anxiety in young children (ages 7 and 8), and adolescents (high school) were also found (Hayward et al., 2008; Weeks et al., 2009). A significant interaction between childhood shyness and gender was noted; shyness was a stronger predictor of social anxiety for

females. This evidence collectively suggests that as shyness increases, social anxiety also increases.

### *School Liking*

A third internalizing problem that can affect shy children is poor school adjustment, which may include negative feelings about school. Attitudes toward school are of concern because doing well in the academic realm of school is largely emphasized in most contemporary societies and has a great impact on children's social and psychological adjustment (Chen et al., 2004). Several studies have identified components of shyness that may cause problems for children at school. Poor school liking could be due to the fact that many aspects of shyness do not fit well with the typical demands of the classroom, which include student participation, talkativeness, and social interaction (Lund, 2008).

Research has highlighted several specific correlates of shyness that impact children's social and academic performance. These correlates and their consequences are important to consider because they create conditions that may influence shy children's attitude toward school. First, verbal reticence has been observed in shy children and this propensity is seen frequently in the school environment. At school, shy children often feel they are the center of attention or being evaluated and face many new situations (Lund, 2008). These have been shown to be conditions that can induce communication anxiety, decrease speech, and induce inhibition (Asendorpf, 1989; Ayers, 1990). Lund (2008) concluded from interviews with adolescent girls that remaining quiet and withdrawn is a strategy often used by adolescents in the school environment, especially



when feeling uncertain of themselves. This strategy can be used to protect one's self against rejection or embarrassment. Studies have shown that shy children tend to take longer to begin speaking and talk less than non-shy peers when arriving at and leaving school, in classroom discussions, and at recess (Asendorpf & Meier, 1993; Evans, 1987; Evans, 2001). The tendency to be verbally reticent may put children at risk for poorer academic achievement than non-shy peers (Evans, 2001). Verbal reticence may also lead to peer rejection, and it is known that peer rejection is associated with poor school performance (Buhs & Ladd, 2001).

In addition to verbal reticence, a strong relationship between shyness and overall passive behavior in the school environment has been found (Paulsen, Bru, & Murberg, 2006). Passivity includes behaviors such as being a reluctant participant, lacking initiative in problem solving, and being hesitant to work with peers. Shy children can be described as being reluctant to take "initiative both verbally and non-verbally in structuring situation, in conversation, in elaborating ideas, in asking questions, and in seeking assistance" (Evans, 2001, p. 165). Shy children often stay in the background of the classroom and are not as involved with teachers and peers on a personal level. The tendency to remain on the periphery of the classroom or social scenarios may limit shy children's involvement, participation, and relationship building, as well as a host of other problems.

Furthermore, it has been found that anxiety associated with shyness negatively influences children's performance on tests. Research has supported this claim by demonstrating lower standardized achievement test scores for elementary school children

with high communication anxiety (Comadena & Prusank, 1988). Both anxiety about evaluation or social interaction and communication deficits have been hypothesized as reasons for this deficit (Evans, 1993). Crozier and Hostettler (2003) supported the anxiety-performance hypothesis by finding that the negative impact of shyness was heightened for 5<sup>th</sup> grade children when the test condition was individual face-to-face rather than a group setting. As children move into middle childhood they are more likely to have social evaluation concerns which could exacerbate test-taking deficits (Crozier & Hostettler, 2003). Other research has shown a relationship between heightened levels of self-reported social anxiety and other measures of school functioning, including poorer leadership skills, greater attention difficulties, and greater learning problems in the classroom (Bernstein, Bernat, Davis, & Layne, 2008). Undoubtedly, the characteristics of shy children can be detrimental to both social and academic performance.

In addition to performance deficits, being shy can also damage perceptions of children's academic competence. Crozier (1995) assessed children's global self-esteem, including academic competence, in relation to shyness. It was found that shyness was negatively correlated with perceived academic competence. Studies that have investigated the impact of similarity between children's and parents' perceptions of shyness have found differing effects on perceived academic competence (Spooner, 2005; Spooner et al., 2005).

Similarly, teachers tend to rate the academic performance of shy children lower. A study showed that teachers rated withdrawn children as having more learning problems (Rubin, Hymel, & Chen, 1994). Evans (2001) suggested that although there may be a

variety of characteristics shy children display that influence adults' perceptions, they are largely based on the child's verbal performance. Evans (2001) concluded that children who talk less are viewed as less competent even when objective information disputes this. Overall, it is important for educators to recognize that children's reticence in the classroom may be due to shyness rather than lack of interest or ability to understand the material (Crozier, 2001). Misinterpretation of a child's behavior may lead to consequential reinforcement of anxiety and self-consciousness surrounding classroom participation and other social interactions, such as developing friendships.

There are clearly a host of problems that shyness can cause for children at school, including actual performance deficits and perceptions of low competence. Generally, shy children's anxiety, fear of being called on, and self-consciousness may inhibit their ability to operate well in the school environment (Evans, 2001). These factors may intensify shy children's social and evaluative fears (Rubin et al., 2009) and may also lead to negative perceptions of academic competence (Crozier, 1995). It seems logical that the consequences of being shy may create negative attitudes towards school.

The way a child feels about school is a central indicator of children's broader school functioning. For example, research has found that school liking promotes classroom participation and achievement for young children significantly more than early participation and achievement increase school liking (Ladd et al., 2000). Additionally, school liking is an important indicator of current and future school adjustment (Hamre & Pianta, 2001). Poor school attitudes may cause children to experience many secondary

negative outcomes associated with this (i.e., school dropout, school avoidance, poor academic performance).

A negative correlation between shyness and school adjustment has been found in kindergarten children (Coplan et al., 2008). School adjustment was measured as a composite of four variables, including school liking. Maternal behavior was found to have a complex and somewhat unclear influence on the relationship between shyness and school adjustment. While shyness was negatively associated with the composite of school adjustment, the relationship weakened as levels of supportive parenting rose. In addition, for children with little shyness, it seemed that highly supportive parenting had a negative effect on school adjustment. Overall, the findings implicate a negative association between shyness and school liking, among other school adjustment indices. The relationship between shyness, parental influences, and school adjustment deserves further exploration (Coplan et al., 2008).

#### Moderating Factors for Shyness and Adjustment Problems

Evidence is beginning to build for the presence of several risk and protective factors for maladjustment in shy children. The *goodness-of-fit* theory proposed by Thomas and Chess (1977) provides a framework for specifically understanding the relationship between a biological predisposition toward shyness and environmental influences. The *goodness-of-fit* theory states that a child's temperament interacts with socialization to determine outcome. According to this model, various factors may be a good or bad fit for shy children (Coplan et al., 2008). Poor fit between environmental

factors and shyness may exacerbate the negative effects of shyness, while a good fit may buffer the negative effects.

There is building evidence that gender may interact with socialization effects to determine outcomes for temperamentally shy children. There have been differences documented between the adjustment of shy boys and shy girls, showing the moderating effect of gender (Coplan et al., 2004; Rubin & Coplan, 2004). Shy boys seem to have more adjustment difficulties than shy girls, such as more loneliness, poorer social skills, more peer rejection, and lower self-esteem (Coplan et al., 2004; Rubin & Coplan, 2004). According to Sadker and Sadker (1994), these heightened difficulties for boys may be attributed to more social acceptance of shyness for girls than for boys in Western cultures.

An interaction between gender and parenting was found to affect self-esteem in shy children (Spooner, 2005). While girls' self-esteem did not differ according to whether parents recognized their shyness, boys whose shyness went undetected by parents had significantly higher self-esteem than boys whose shyness was recognized by parents. Not being treated as shy may lead to higher self-esteem for boys due to shyness being less socially acceptable for boys (Spooner, 2005). Differences between the implications of shyness for boys and girls may also be caused partly by the way parents think about shyness and respond to the shy behavior of their child (Rubin et al., 2009). Spooner (2005) suggested that having shyness go unrecognized by others generally has a harmful effect on children; however, this may be less deleterious for boys.

Empirical research has documented that friendships can operate as a buffer for shyness (Caspi et al., 1988; Fox & Calkins, 1993; Miller & Coll, 2007). Some researchers found that shy children were able to counterbalance peer rejection by having a few close friendships (Fordham & Stevenson-Hinde, 1999; Rubin et al., 2006; Schneider, 1999). This finding was supported by Miller and Coll (2007) who identified friendship as an important factor that promotes overcoming shyness in early childhood and remains important in promoting social skills development, peer acceptance, and emotional well-being during late childhood and adolescence. Shy children who are able to make and maintain friendships may be able to impede the negative social and emotional effects of shyness (Fordham & Stevenson-Hinde, 1999; La Greca & Moore Harrison, 2005).

Additionally, researchers have identified several other factors that are important in deterring harmful effects of shyness. First, having strong verbal skills has been shown to assist shy children in fostering improved social interactions. Shyness was found to decrease from age 4 to age 10 for children with higher verbal IQ along with greater social competence (Asendorpf, 1994). Also, expressive vocabulary skills were identified as a moderator for social outcomes as children entered preschool (Coplan & Armer, 2005). A recent study reported that internalizing coping was a significant mediator between shyness and negative affect, loneliness, and social anxiety in middle childhood (Findlay et al., 2009). Internalizing coping strategies were deemed unhelpful for shy children and it was recommended that shy children learn alternative coping strategies, such as problem-solving strategies, to improve adjustment outcomes. Finally, participation in a sports team has been shown to help shy children decrease social anxiety (Findlay &

Coplan, 2008). There seem to be a variety of factors that can promote improved adjustment for shy children.

### *Parenting*

Significant attention has been given to parenting as a moderating factor for shyness (Rubin et al., 2009). Attention is increasing to the way parents respond to shy behavior and how the parents' responses interact with the maintenance of the child's shyness (Evans, 2001). There is evidence that positive interactions with parents or caregivers can help a shy or withdrawn child develop self-confidence, improve social skills, and curtail self-defeating thinking (Fabes, Eisenberg, Hanish, & Spinrad, 2001; Miller & Coll, 2007). Three specific facets of parenting have dominated the investigation of the protective power of parenting. These are parents' beliefs about the child's behavior, parenting style or parent characteristics, and the parent-child relationship.

First, parents' beliefs about their children's behavior have been regarded as integral influences on their behavior toward the children, particularly how they choose to socialize their children (Burgess et al., 2001). It is recognized that children's temperament and parents' beliefs have a reciprocal relationship, meaning that parental beliefs can be partly shaped by the child's temperament. Mills and Rubin (1990) generally looked at the way parents' make sense of shy-like behavior. They found that parents attributed withdrawn behavior in early childhood most often to transient states and least often to learned habits. Furthermore, the more mothers attributed the child's withdrawn behavior to a stable disposition, the less likely they indicated they were to implement strategies to deal with the behavior. In general, there is some evidence that

parental behavior stemming from their perceptions of the child's behavior can impact the child's well-being. The importance of parents' perceptions of their children's shyness was captured by Mills and Rubin (1990) who stated, "...parents' beliefs about children's social behavior guide their responses in parent-child interaction" and "...the quality of this interaction plays an important role in determining whether the child achieves social competence or develops problematic behavior" (p. 138).

Simply having a parent recognize that a child is shy may influence the child's adjustment. Recognition of shyness by a parent may dictate the nature of parent-child interactions and could subsequently affect socialization of the child. Rubin, Nelson, Hastings, and Asendorpf (1999) reported that parents' perception that their child is shy at age two was predictive of parenting strategies at age four characterized by limiting social opportunities that promote independence. It has been suggested that children who consider themselves to be shy, but whose shyness is not recognized by others (i.e., mismatched children) may feel invalidated and inadequate (Spooner et al., 2005). However, empirical investigation of this claim provided only partial support. Spooner et al. (2005) found lower global self-worth and lower perceived academic competence for mismatched children; however, Spooner (2005) found no significant difference in these variables as well as no difference between matches and mismatches in number of friends and perceived social support. Spooner (2005) noted that differences in children's ages between the studies and a limited statistical power could account for the different results.

Another domain of interest is the effects of parenting style or parent characteristics on shy children's adjustment. Several studies have looked at the



longitudinal impact of parenting characteristics on a broad categorization of socially withdrawn children. Rubin et al. (2002) found evidence that maternal behavior moderates the effect that inhibition as a toddler has on later outcomes as an older child. Maternal behavior characterized by intrusive control and derisive comments moderated the predictive relationship between inhibition with peers as a toddler and social wariness as a preschooler. Hane, Cheah, Rubin, and Fox (2008) investigated the impact of maternal characteristics on the longitudinal course of social wariness in preschool (age four) to withdrawn behavior in middle childhood (age seven). It was found that maternal positivity and negativity had differential impacts for children's social withdrawal. For seven-year-old children, maternal positivity was a protective factor against a temperamental predisposition toward social withdrawal from peers. Hence, children identified as temperamentally shy were prevented from developing significant social withdrawal in middle childhood if their mother was highly positive. Maternal hostility and control were harmful to children who had already developed a pattern of behavioral inhibition and anxiety. Based on these conclusions, Hane et al. recommended that it is important for parents to learn to identify and appropriately cope with their child's behavioral tendencies to assist the child in improving social outcomes.

Longitudinal pathways of the impact of parenting approaches on social withdrawal were also investigated by Booth-LaForce and Oxford (2008). Prediction models were developed to outline changes in teacher-identified social withdrawal from grade 1 to grade 6. Decreases or increases in withdrawn behavior over time were partially predicted by early parent-child interactions. Insensitive parenting was among factors

related to increased withdrawal for children who initially had relatively low withdrawal, but was also related to decreased withdrawal for children who initially were temperamentally shy. This evidence suggests that parenting style and parents' characteristics have important effects on withdrawn youth.

In addition to studies that have linked parenting style or characteristics to general social withdrawal, limited research has begun to establish a connection with shyness in early childhood. It has been found that shyness and maternal authoritative parenting are negatively correlated in young children (Coplan et al., 2004). An authoritative parenting style is characterized by warmth, nurturance, egalitarianism, and receptive communication (Baumrind, 1971). Additionally, Coplan et al. (2008) reported that shy children parented with a warm/supportive maternal style (i.e., maternal agreeableness and authoritative parenting style) were less likely to have internalizing problems and peer difficulties. However, maternal uninhibited parenting (i.e., maternal extraversion and high maternal behavioral activation system sensitivity) was not found to have a buffering effect for shy children's adjustment. Various hypotheses for this conclusion were offered, including that extraverted mothers might induce overstimulation for shy children and that modeling non-shy behaviors may not be enough to help shy children.

Most recent research regarding the links between shyness and parenting have focused on overprotective parenting (Coplan et al., 2008). Overprotective parents tend to "overmanage situations for their child, restrict child behaviors, discourage child independence, and direct child activities" (Coplan et al., 2008, p. 360). An example of overprotective parenting would be a parent trying to intervene when there is a chance the

child might fail at something. Rubin et al. (2009) asserted that some parents try to help their withdrawn or socially anxious children achieve more social success by using an overprotective parenting style. Empirical studies have found a positive association between overprotective parenting and shyness outcomes (Coplan et al., 2004; Rubin et al., 2001). For example, Rubin et al. (2001) found that preschoolers' shy or socially reticent behavior during a free play task was associated with the degree of over-solicitous maternal behavior. Maternal behavior was found to moderate shyness/reticence in the company of peers for emotionally dysregulated children. Coplan et al. (2004) found that the relationship between overprotective maternal behavior and shyness interacted with gender; the association was particularly strong for boys.

Coplan et al. (2008) also found a moderating influence of overprotective parenting, in addition to other maternal characteristics, on kindergarten children's psychosocial adjustment. It was found that shy children of mothers higher in fretful parenting (i.e., high maternal neuroticism, maternal behavioral inhibition system sensitivity, and overprotective parenting style) and lower in warm/supportive parenting (i.e., agreeable, authoritative style) had significantly more internalizing problems, social dissatisfaction, and peer difficulties. This was especially pronounced at higher levels of shyness. The researchers deemed fretful parenting to be a bad fit for shy children according to the *goodness-of-fit* theory (Thomas & Chess, 1977). In general, evidence that parenting style acts as a moderator for several indices of maladjustment in childhood is growing.

Additionally, some research has investigated the impact the relationship quality between the parent and child has on socially withdrawn children. Research in this domain has typically been rooted in the theoretical framework of attachment theory (Burgess et al., 2001). Attachment theorists believe that the primary attachment relationship develops in the first year of life, usually between the mother and child (Rubin et al., 2009). Due to attachment theory's focus on the mother-child relationship in infancy and early childhood, most studies have also been limited to this developmental period. Research has found that secure attachment in infancy promotes social success for children in early and middle childhood (Shamir-Essakow, Ungerer, & Rapee, 2005; Shulman, Elicker, & Stroufe, 1994; van Brakel, Muris, Bogels, & Thomassen, 2006) while insecure attachment can predict social withdrawal due to learned fear of rejection (Booth, Rose-Krasnor, McKinnon, & Rubin, 1994; Rose-Krasnor, Rubin, Booth, & Coplan, 1996).

While it seems clear that the early parent-child relationship is important to social outcomes and may play some causal role in the development of shyness and social withdrawal, the importance of the parent-child relationship in later development was unexamined prior to this study. No known previous studies have explored how the concurrent quality of the parent-child relationship may influence shy or socially withdrawn children's adjustment in later developmental periods. However, Sui (2008) provided some general evidence that the contemporaneous parent-child relationship remains important for older children. It was found that several aspects of the parent-child relationship correlated with the degree of internalizing problems displayed by 2<sup>nd</sup> through 4<sup>th</sup> graders in Hong Kong. Although these children were not identified as shy or

withdrawn, it was found that maternal-reported use of verbal punishment and rejection as well as possessiveness and protection were positively correlated with children's internalizing problems while maternal-reported nurturance of and intimacy with their children were negatively correlated with internalizing problems. This suggests that the parent-child relationship may continue to play an important role in children's well-being as they progress through childhood.

Overall, parenting may impact the opportunities the child has to learn coping skills, develop self-confidence, and strengthen social skills. Rubin et al. (2009) summed the findings of recent studies of early childhood withdrawal by stating, "Parents who are sensitive to their behaviorally inhibited children's characteristics and needs, who encourage independence, and who provide opportunities for peer interaction (e.g., by arranging play dates) help their children to become less inhibited and more socially skilled during early childhood" (p. 162). However, research has not yet explored the importance of parent-child interactions in later childhood.

### Chapter Summary

The current literature demonstrates the many potential risks that shyness presents to socio-emotional adjustment. Empirical studies have validated links between shyness and internalizing problems such as social anxiety, loneliness, and poor school adjustment. Based on the body of literature, there is reason to suspect that several central variables may moderate the relationships between shyness and these problems. Due to the significant role that parent figures typically play in children's lives, it was of interest to better understand the role that parent-child interactions play in either helping children

overcome their shyness or exacerbating their difficulties. Overall, little is known about how the parent-child relationship quality impacts the association between shyness and internalizing problems in late childhood. Identifying factors that can help moderate children's negative experiences is important in promoting shy children's general well-being and future success. The next chapter outlines this study's research methodology and design.

## Chapter 3

### METHODOLOGY

This study was designed to explore associations between children's self-reported shyness level and self-reported social anxiety, loneliness, and school liking levels as well as whether the parent-child relationship quality moderates the relationship between degrees of shyness and these internalized outcomes in late childhood. The relationships between parent figures' and children's perceptions of the parent-child relationship and the child's shyness were also explored. Research has supported that shy children are more likely to have social and emotional maladjustment than their non-shy peers, although there has been very little empirical study of what factors may create differences in these outcomes in late childhood.

#### *Participants*

Child/parent figure dyads served as participants ( $n = 260$ ). Participants were drawn from six sites: (a) a public middle school in Colorado, (b) a public middle school in Indiana (c) a private Christian middle school in Colorado, (d) a private Christian middle school in Indiana, (e) a church youth group in Colorado, and (f) a church youth group in Indiana. Male and female 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students (ages 10-15) served as participants. One parent figure per student also participated. Children ranging from not shy to highly shy were included.

Participants were invited to participate if they met the following inclusion criteria:

1. The child was in 6<sup>th</sup>, 7<sup>th</sup>, or 8<sup>th</sup> grade.
2. The child was willing to complete a *Demographic Questionnaire* and five assessment measures.
3. The child's parent figure was willing to complete a *Demographic Questionnaire* and one assessment measure.

Participants would have been excluded for the following reasons; however no participants met these criteria:

1. The child expressed current suicidal or homicidal ideation during contact with the researcher.
2. The child showed visible signs of or reported experiencing active psychotic symptoms, including delusions, paranoia, or hallucinations during contact with the researcher.

### *Instruments*

*Demographic Questionnaires.* A Demographic Questionnaire (Appendix C) was completed by parent figures and children to provide richer data about the participants. Information collected from children included: age, gender, ethnicity, grade level, and primary language. Children were also asked to rate the degree to which they feel shy on a 5-point Likert scale ranging from "I am never shy" to "I am always shy" and the degree that being shy is a problem for him or her on a 5-point Likert scale ranging from "Shyness is never a problem" to "Shyness is always a problem." Parent figures' forms assessed: relationship to the child, gender, ethnicity, education level, primary language,



and a report of special accommodations the child receives at school. Additionally, parent figures' beliefs about their child's behavior were assessed. Parent figures were asked to rate the degree to which their child is shy on a 5-point Likert scale ranging from "My child is never shy" to "My child is always shy." Parent figures were also asked how much they believe that being shy is a problem for their child on a 5-point Likert scale ranging from "Shyness is never a problem" to "Shyness is always a problem." The purpose of the demographic questionnaires was to gather relevant descriptive information about the sample collected for this study.

*Parent-Child Relationship Questionnaire.* The *Parent-Child Relationship Questionnaire* (PCRQ; Furman, 2001; Appendix D) consists of parallel child and parent versions to assess the parent-child relationship. The PCRQ measures five factors, which are Warmth, Personal Relationship, Disciplinary Warmth, Power Assertion, and Possessiveness. The five factors can be further dissected into 19 subscales. Furman (2001) recommended that items from the short version consisting of 40 total items be used when the factor scores, rather than the subscale scores, are of interest. Therefore, items from the PCRQ short version were used because the Personal Relationship factor was administered to parent figures and children for this study. The Personal Relationship factor consists of 10 items. Items were rated on a 5-point Likert scale ranging from "Hardly at all" to "Extremely much" in terms of how prominent certain characteristics were in the parent-child relationship. Items were summed to create a total Personal Relationship factor score. Scores on the Personal Relationship factor can range from 10 to 50. Higher scores indicate more intimacy, companionship, and nurturance. Gerdes,

Hoza, and Pelham (2003) reported satisfactory internal consistency for the PCRQ subscales with Cronbach's alpha scores for children's reports ranging from .63 to .88 for mothers' behavior and from .63 to .91 for fathers' behaviors. Furthermore, alphas ranged from .71 to .83 for mothers' self-report of their behaviors and from .73 to .90 for fathers' self-reports. Sui (2008) reported satisfactory reliability for mothers' report of the Personal Relationship factor ( $\alpha = .75$ ). Psychometric data for children's reports was based on a sample of boys ages 7 to 12, including a majority of Caucasian and a minority of African American participants. Psychometric data for mother's reports was derived from a sample of mothers of children between ages 7-11 in Hong Kong.

*Children's Shyness Questionnaire.* The *Children's Shyness Questionnaire* (CSQ; Crozier, 1995; Appendix E) is a self-report measure of shyness for children. Its items were derived from 8- to 11-year old children's descriptions of shyness. The CSQ assesses children's distress during social interactions, discomfort with being the center of attention, and general embarrassment. The CSQ consists of 26 items to which children respond "Yes," "No," or "Don't Know." Children were instructed to answer "Don't Know" if he or she was not sure or the statement applies to him or her sometimes. One item that has been found not to contribute any unique variance (Crozier, 1995) was not included ("I enjoy singing aloud when others can hear me"), following the work of Spooner (2005) and Spooner et al. (2005). Twenty-one items worded in a positive direction toward shyness were scored 2 for "Yes," 1 for "Don't Know," and 0 for "No." Four items that are worded negatively for shyness were reverse scored (Items 9, 14, 15, 22). For this study, items were summed to create a total shyness score, which can range

from 0 to 50. Higher scores indicate greater shyness and lower scores indicate less shyness. The CSQ has been shown to have face and concurrent validity as well as satisfactory to good internal consistency with Cronbach's alpha coefficients ranging from .77 to .88 (Crozier, 1995; Findlay et al., 2009, Spooner, 2005; Spooner et al., 2005). Psychometric data for the CSQ was based on samples of urban and rural children ranging from grades 4 to 8 in Canada and the United Kingdom. Only one study (Spooner et al., 2005) reported the ethnic make-up of the sample, which was largely Caucasian.

*Loneliness and Social Dissatisfaction Questionnaire.* The *Loneliness and Social Dissatisfaction Questionnaire* (Asher, Hymel, & Renshaw, 1984; Appendix F) is a self-report measure of loneliness and social dissatisfaction. The questionnaire has 24 items, 8 of which are filler items (Items 2, 5, 7, 11, 13, 15, 19, 23). Items assess children's feelings of loneliness, feelings of social adequacy or inadequacy, and subjective perceptions of peer status. Revisions of the original Loneliness and Social Dissatisfaction Questionnaire (Asher, Hymel, & Renshaw, 1984) were used in this study which include the following modifications: 15 of the 16 core items were rewritten to focus on the school setting (Asher & Wheeler, 1985) and items were rewritten as questions rather than statements (Cassidy & Asher, 1992). Following the method of Fordham and Stevenson-Hinde (1999), responses to the questions were measured by a 5-point Likert scale similar to the original questionnaire. Response choices ranged from "Definitely yes" to "Definitely no." Items were summed to create a total loneliness and social dissatisfaction score based on the 16 core items, ranging from 16 (low loneliness) to 80 (high loneliness). Reverse scoring was applied to six items (6, 9, 12, 17, 20, 21). Items have

been shown to load onto one factor (Asher & Wheeler, 1985). The questionnaire has been shown to have good to excellent internal consistency with Cronbach's alpha scores ranging from .74 to .94 (Asher, et al., 1984; Asher & Wheeler, 1985; Findlay et al., 2009; Kingery & Erdley, 2007). Psychometric data was derived from samples of 3<sup>rd</sup> through 6<sup>th</sup> grade students in the United States and Canada. The children were mostly Caucasian and a minority were African American, Oriental, or Hispanic.

*Social Anxiety Scale for Adolescents.* The *Social Anxiety Scale for Adolescents* (SAS-A; La Greca & Lopez, 1998; Appendix G) is a self-report measure of social anxiety. It was adapted from the *Social Anxiety Scale for Children-Revised* (La Greca & Stone, 1993) to include wording developmentally appropriate for middle school and high school students. The SAS-A is suitable for use with non-clinical samples. The SAS-A has 22 items, 4 of which are filler items (Items 2, 7, 11, 16). Items assess fear of negative evaluation (FNE, 8 items), social avoidance and distress specific to new situations (SAD-New, 6 items), and generalized social avoidance and distress (SAD-General, 4 items). Questions are rated on a 5-point Likert scale ranging "Not at all" to "All the time." Subscales are interrelated and a total score can be used to represent social anxiety (La Greca & Lopez, 1998). The total score was used in this study and scores can range from 18 to 90. Higher scores represent greater social anxiety. The SAS-A has been shown to be valid and to have satisfactory internal consistency with Cronbach's alpha scores for each subscale as follows: FNE,  $r = .91$ , SAD-New,  $r = .83$ , SAD-G,  $r = .76$  (La Greca & Lopez, 1998). Psychometric data was derived from a sample of adolescents in grades 10 to 12 in the United States. A majority of these adolescents were middle class and of

Caucasian heritage, with a minority of Hispanic, African American, and Asian participants.

*School Liking and Avoidance Scale.* *The School Liking and Avoidance Scale* (SLAQ; Ladd et al., 2000; Appendix H) has been adapted from the work of Ladd and Price (1987). The original SLAQ is a 14-item self-report measure of children's feelings about school. The SLAQ consists of two subscales: (a) School Liking, and (b) School Avoidance. The SLAQ has been modified for use with grades 6 to 12 and revisions included changing wording to be developmentally appropriate and adding two items to the scale (G. W. Ladd, personal communication, June 25, 2009). Items from this 16-item version for 6-12 grades were used for this study. Only the School Liking subscale was administered for this study, which consists of 11 items. Items on the School Liking subscale have been shown to factor separately from the School Avoidance subscale (Ladd et al., 2000). Items were measured on a 5-point Likert scale with choices ranging from "Almost never" to "Almost always" in regard to how often the statement applies to the child. A School Liking score was calculated by averaging scores across items. Six items (2, 4, 6, 8, 9, 11) that are worded negatively toward school liking were reverse scored. Scores can range from 1 to 5 and higher scores represent a more favorable attitude toward school. The School Liking subscale has been shown to be valid and have good internal consistency with Cronbach's alpha scores ranging from .83 to .91 (Coplan et al., 2008; Ladd & Price, 1987; Ladd et al., 2000; Weeks et al., 2009). Psychometric data for the School Liking subscale was gathered from samples of preschool and 2<sup>nd</sup> grade children in

the United States and Canada from a range of socioeconomic statuses. A majority of participants were Caucasian and a minority were African American, Hispanic, and Asian.

### *Procedure*

*Recruitment of participants.* Approval was obtained from the Institutional Review Board for Human Subjects at the University of Denver (Appendix I). Following, recruitment of participants began. The first step was to contact several school principals and teachers as well as church leaders to gain access to possible participants. They were contacted by phone or email and if interest was expressed, a letter was sent by email describing the study in more detail (Appendix A). Procedures outlined by each participating school or church's research department were followed.

*Informed consent.* Once access was granted, consent forms (Appendix B) were completed by parent figures. The consent form briefly described the study and its goals, requirements of the participants, methods of data collection, an explanation of confidentiality and its limitations, and any potential risks included in participation. The consent form requested the parent's and child's participation. The consent form provided parent figures the choice to complete the parent figure questionnaires by phone if preferred. If this method of participation was preferred, parent figures were asked to provide a phone number that they could be reached at. No parent figure chose this method. The consent form, as well as all subsequent measures and information, were available in both English and Spanish. The parent figures were asked to return the signed parental consent form to allow participation of his or her child. An assent form (Appendix B), as well as a verbal description of the study, was given to children that

received consent to participate from his or her parent figure. These children were asked to sign the assent form.

*Data collection.* If assent was given, children were asked to complete the child version of the *Demographic Questionnaire* (Appendix C), the child version of the PCRQ Personal Relationship factor (Appendix D), the CSQ (Appendix E), the *Loneliness and Social Dissatisfaction Questionnaire* (Appendix F), the SAS-A (Appendix G), and the SLAQ School Liking subscale (Appendix H). For five sites, the child assessment measures were administered in a group setting. Children from the private middle school in Indiana completed the measures in an individual setting. The order of questionnaires given to children was randomized. Parent figure and child data were assigned corresponding code numbers that were used to maintain confidentiality. Code numbers were also used to match parent figure and child data upon completion. Children were compensated for their participation with a \$5 gift card, except for the children from the public middle school in Indiana and the private Christian middle school in Indiana. The principles of these schools did not allow compensation. In exchange for the schools' cooperation and assistance, a summary of the results will be provided to staff from participating schools and churches if desired upon completion of the study. Parent figures' participation took approximately 5 to 10 minutes. Children's participation took approximately 15 to 20 minutes. Site-specific procedures for obtaining consent and administering surveys are individually described below.

For the Colorado public school the parent figure informed consent form and parent figure questionnaires were sent home with students from choir, band, and

orchestra classes. Parent figures completed the informed consent form and questionnaires at home and sealed them in a provided envelope. Students returned the parent figure forms by a specified date to their school. The choir, band, and orchestra teachers were trained to administer the student surveys. Once consent forms and parent figure materials were returned, the data was collected from students during their choir, band, or orchestra class.

At the public middle school in Indiana, the parent figure informed consent form and questionnaires were emailed to parent figures with internet access by the school principal. The materials were mailed to parents without internet access. Parent figures completed the informed consent form and questionnaires at home. Those who received the electronic copy of forms printed the materials at home in order to complete them. Students returned the parent figure materials in a sealed envelope to the middle school administrative office by a specified date. The school principal was trained to administer the student measures. Once consent forms were returned, the principal administered the student materials to those that received consent during a school-wide daily advisory period.

In order to contact parents regarding participation at the private Colorado Christian middle school, the researcher made face-to-face contact with parents during a parent-teacher conference day. The parent figures were asked to complete the parent figure informed consent form and questionnaires during the parent-teacher conference day. Four students were present at the parent-teacher conference and completed the student materials on that day. To gather data from remaining students that received parent



figure consent, the researcher subsequently returned to the school to administer the student surveys during a designated class period.

The parent figure and child consent forms and questionnaires were sent home from school with children from the private Christian middle school in Indiana. Parent figures and children were asked to complete the consent forms and questionnaires at home, without sharing information with one another. Children returned the completed data in a sealed envelope to the school administrative office by an allotted date.

In order to gather data from the Colorado youth group, the researcher was present at youth meetings on two occasions. The researcher administered the parent figure and student materials concurrently. The parent figures were first asked to complete the parent figure consent form. Once consent was given, the parent figure and child completed all measures.

To collect data from the Indiana youth group, the parent figure informed consent form and questionnaires were sent home with children from a youth group meeting. Parent figures completed the informed consent form and questionnaires at home. Students return the parent figure materials in a sealed envelope to the youth group leader by a specified date. The youth group leader was trained to administer the student measures. Once consent forms were returned, student data was collected during a youth group meeting.

### Chapter Summary

Methods of data collection, including procedures for gathering participants, providing informed consent, and the measures that were used were reviewed. The parent

and child versions of the *Demographic Questionnaire*, the parent figure and child versions of the PCRQ Personal Relationship factor, the CSQ, the SAS-A, the *Loneliness and Social Dissatisfaction Questionnaire*, and the SLAQ School Liking subscale were used in this study's quantitative research design. Information gathered with these measures was used to determine associations between degrees of shyness and loneliness/social dissatisfaction, social anxiety, and school liking as well as to attempt to look at whether the parent-child relationship quality moderates these outcomes for children in late childhood. The measures also provided data to investigate the relationship between parent figures' and children's perceptions of the parent-child relationship quality. Chapter 4 outlines the results of the preliminary, primary, and follow-up data analysis procedures.

## Chapter 4

### RESULTS

This chapter presents the statistical analyses associated with this study. First the preliminary results are outlined, followed by the primary analyses which relate to the seven hypotheses. Results of follow-up analyses are also presented. All statistical analyses were performed with the use of the Statistical Package for the Social Science version 18 (PASW Statistics 18). Alpha levels were set at .05 for all analyses. The size of correlation coefficients was considered slight if  $r$  was .00 to .10, small if  $r$  was .20 to .39, moderate if  $r$  was .40 to .69, large if  $r$  was .70 to .89, and very large if  $r$  was .90 to 1.

#### Preliminary Analyses

This section includes details of the survey response rate, an analysis of missing data and multiple responses and how they were managed, the participants' demographic information and descriptive statistics, mean comparisons of variables between groups, an examination of study variables, and an overview of power and sample size associated with this study.

#### *Survey Details and Response Rate*

This study used a confidential survey method. Students from two public middle schools, two private middle schools, and two church youth groups as well as one parent per student were invited to participate in the study. The number of dyads that were

invited to participate is difficult to precisely estimate due to the various procedures that were used to recruit participants from the sites. For example, to recruit participants from the Colorado private middle school, the researcher invited all parents that attended a parent-teacher conference to participate in the study. The number of parents that attended a parent-teacher conference, as well as the number of parents that declined participation, is unknown. At the Colorado public middle school and Indiana youth group, the study was introduced to all students present on a given day and the students were asked whether they would like to take the parent figure materials home. Those that stated yes by raising their hand were given study materials by the researcher. Information is not available regarding the number of students that declined as well as the number of students that followed through in delivering the parent figure materials that were distributed. Due to such restrictions, the number of individuals that were invited to participate is not exact, but roughly 1400 dyads were invited to be a part of the study. The number of surveys that were distributed among the approximately 1400 dyads that were invited to be part of the study must also be estimated. It is projected that 1000 parent figures or children were given study materials. Out of approximately 1000 students and parent figures that received study materials, 260 dyads completed the surveys. One parent figure provided data and the corresponding student was unavailable to complete the surveys; therefore this case was discarded. The response rate was 260 out of approximately 1000 parent/child dyads (26%).

*Reliability of measures.* Reliability of the measures was calculated to ensure that the current sample was comparable to the norm samples. Chronbach's alpha was .85 for

the Parent PCRQ, .88 for the Child PCRQ, .88 for the CSQ, .93 for the LSDQ, .94 for the SAS-A, and .81 for the SLAQ. These values are all comparable to or greater than the reliability values obtained with norm samples for each measure used in this study; therefore it can be assumed that the sample for this study was similar to the samples used to norm the data.

#### *Analysis of Missing Data and Multiple Responses*

Two hundred-sixty dyads were included in the final data set. The data set was examined in an attempt to understand possible patterns that might explain missing data. An inspection of the data did not reveal a systematic pattern in the missing data.

There were three scenarios that required data manipulation. See Table 2 for an overview of missing data and multiple responses. The first scenario occurred when a participant skipped one or multiple items on a measure. Of the 520 participants, 61 participants skipped at least one item on a measure. The number of skipped items per participant on a given measure ranged from one to four. The sample mean for the item was used to replace the missing data.

The second scenario that required data manipulation occurred when a participant circled more than one response for an item and the responses were adjacent on the item, such as circling two and three. Of the 520 participants, 18 participants circled adjacent multiple responses on a measure. The number of adjacent multiple responses per participant on a given measure ranged from one to four. Each item with multiple responses was inspected to determine whether the participant answered the items before and after this item. This step was taken to determine if multiple responses were due to

random responding or if they were intentional. There were no cases with missing data before or after the item with adjacent multiple responses. Therefore, it was assumed that participants intentionally provided the multiple responses. The mean of the two adjacent responses was used for these items.

The final scenario occurred when participants circled more than one response for an item and the responses were not adjacent on that item, such as circling two and four. Of the 520 participants, 13 participants responded to one or more items with dichotomous multiple responses. The number of items with dichotomous responses on a single measure given by a participant ranged from one to three. It was not possible to determine the participant's intent in answering the question if dichotomous responses were given; therefore the sample mean for these items was used.

Table 2

*Overview of Missing Data and Multiple Responses*

Type of Data Problem	Total Number of Participants	Total Number of Measures	Total Number of Items in Sample	Maximum Items per Measure	Maximum Items per Participant
Missing Data	61	80	108	4	10
Adjacent Multiple Responses	18	18	21	4	4
Dichotomous Multiple Responses	13	20	20	3	3

*Demographic Information*

A Demographic Questionnaire (Appendix C) designed for the study was used to collect information regarding participants' demographic characteristics. See Table 3 for a summary of child participants' demographic characteristics. See Table 4 for a summary

of parent figure participants' demographic characteristics. See Table 5 for a summary of the frequency of participants by site.

Table 3

*Overview of Child Demographic Characteristics*

Demographics	Frequency	Percentage
Total Participants	260	100.00
Child Age Range		
11	43	16.6
12	98	37.8
13	86	33.2
14	31	11.9
15	1	0.4
Child Gender		
Male	75	28.8
Female	185	71.2
Child Race/Ethnicity		
Caucasian	167	65.2
Hispanic, Latino/a	70	27.3
African American	4	1.6
Asian/Pacific Islander	11	4.2
Child Grade Level		
6 <sup>th</sup>	115	44.4
7 <sup>th</sup>	75	29.0
8 <sup>th</sup>	69	26.6
Child Primary Language		
English	237	92.2
Spanish	20	7.8
School Special Assistance		
Free/Reduced Lunch	87	33.6
Special Education	4	1.5
Extra Tutoring	3	1.2
None	165	63.7

*Note.* Some demographic categories do not sum to 260 due to missing data.

Table 4

*Overview of Parent-Figure Demographic Characteristics*

Demographics	Frequency	Percentage
Total Participants	260	100.00
Parent Gender		
Male	56	21.6
Female	203	78.4
Parent Relationship to Child		
Biological Parent	248	95.8
Step-parent	0	0
Adoptive parent	3	1.2
Grandparent	2	0.8
Foster parent	2	0.8
Guardian	3	1.2
Other	1	0.4
Parent Race/Ethnicity		
Caucasian	172	66.4
Hispanic, Latino/a	71	27.4
African American	2	0.8
Asian/Pacific Islander	11	4.2
Parent Education Level		
Some High School	41	16.3
High School Diploma/GED	38	15.1
Some College	45	17.9
College Degree	87	34.7
Graduate Degree	40	15.9
Parent Primary Language		
English	195	77.4
Spanish	52	20.6
Other	5	2.0

*Note.* Some demographic categories do not sum to 260 due to missing data.



Table 5

*Frequency of Participants by Site*

	Frequency	Percentage
Total Parent/Child Dyads	260	100
<b>Site</b>		
Colorado public middle school	182	70.0
Indiana public middle school	18	6.9
Colorado private middle school	30	11.5
Indiana private middle school	6	2.3
Colorado church youth group	10	3.8
Indiana church youth group	14	5.4

*Mean Comparisons for Variables Between Groups*

Analyses were conducted to examine whether any significant differences existed between participants according to site, age, and gender. There was a substantially larger number of female ( $n = 185$ ) than male ( $n = 75$ ) child participants. The majority of children were age 12 ( $n = 98$ ) or 13 ( $n = 86$ ). Also, the majority of participants were from a Colorado public middle school ( $n = 182$ ), with 78 participants drawn from the remaining five sites. Before combining male and female child participants, child age groups, and dyads from various sites for data analysis it was important to determine if any differences in the study variables existed among them. A series of one-way between subjects Analyses of Variance (ANOVA) and t-tests were conducted to examine differences in: (a) child-reported parent-child relationship quality, (b) shyness, (c) loneliness/social dissatisfaction, (d) social anxiety, and (e) school liking.

*Mean comparisons by site.* Levene's test showed that the assumption of homogeneity of variance was not violated for any study variable for the first set of one-way ANOVAs comparing study variables according to participants' sites.

Results of the one-way ANOVAs indicated that participants did not significantly differ by site on four primary study variables: (a) child-reported parent-child relationship quality,  $F(5, 254) = 1.83, p > .05$ , (b) shyness,  $F(5, 254) = 1.48, p > .05$ , (c) loneliness/social dissatisfaction,  $F(5, 254) = 1.06, p > .05$ , and (d) social anxiety,  $F(5, 254) = .81, p > .05$ . However, there was a significant difference in school liking level according to site,  $F(5, 254) = 2.67, p < .05$ . Post hoc testing was conducted to determine where these differences existed. Tukey's HSD did not reveal any significant differences between sites, indicating that the magnitude of differences was quite small. This finding suggests that differences between sites are not sizable enough to impact the prediction of school liking. Therefore, participants from the six sites were grouped together for data analyses.

*Mean comparisons by age.* Levene's test showed that the assumption of homogeneity of variance was not violated for any study variable for the second set of one-way ANOVAs comparing differences in the study variables according to the child participants' age.

Results of the one-way ANOVAs indicated that participants did not significantly differ according to age on any of the primary study variables: (a) child-reported parent-child relationship quality,  $F(4, 254) = .92, p > .05$ , (b) shyness,  $F(4, 254) = 1.92, p > .05$ , (c) loneliness/social dissatisfaction,  $F(4, 254) = 1.52, p > .05$ , (d) social anxiety,  $F(4,$

254) = 1.11,  $p > .05$ , and (e) school liking,  $F(4, 254) = 1.44$ ,  $p > .05$ . Therefore, all ages were grouped together for data analysis.

*Mean comparisons by gender.* Independent sample t-tests were conducted to compare the scores for male and female child participants on the primary study variables. Levene's Test for Equality of Variance indicated that equal variance was not assumed for shyness,  $F = 11.11$ ,  $p < .005$ , loneliness/social dissatisfaction,  $F = 7.57$ ,  $p < .01$ , and social anxiety,  $F = 4.92$ ,  $p < .05$ . Equal variance was assumed for school liking  $F = 0.33$ ,  $p > .05$ .

Independent sample t-tests showed that male and female children did not significantly differ on scores for child-reported parent-child relationship quality,  $t(258) = -1.16$ ,  $p > .05$ , or loneliness/social dissatisfaction,  $t(110.70) = .47$ ,  $p > .05$ . A significant difference was found in shyness scores for males,  $M = 15.02$ ,  $SD = 8.17$ , and females,  $M = 19.59$ ,  $SD = 11.57$ ;  $t(192.11) = -3.6$ ,  $p < .0005$ . Females reported more shyness than males. The magnitude of the difference in the means was moderate (eta squared = .05). A difference was also found in social anxiety scores for males,  $M = 39.17$ ,  $SD = 12.26$ , and females,  $M = 46.78$ ,  $SD = 15.53$ ;  $t(172.21) = -4.19$ ,  $p < .0005$ , with females reporting greater social anxiety. The difference between means on social anxiety scores was moderate (eta squared = .06). Additionally, a significant difference was found in school liking scores for males,  $M = 3.63$ ,  $SD = 0.69$ , and females,  $M = 3.87$ ,  $SD = 0.72$ ;  $t(258) = -2.50$ ,  $p < .05$ . Females reported liking school more. The difference between the means was small (eta squared = .02).

Due to the small to moderate effect sizes in differences between males and females, the results of correlation and regression analyses involving shyness, social anxiety, or school liking scores are reported for male and female child participants grouped together as well as separated.

*Exploration of Study Variables*

Descriptive analyses of the independent and dependent variables included in the study were performed to determine if the data showed sufficient variability within this sample (see Table 6). An examination of the data suggested that the variability was sufficient. Descriptive statistics are presented separately for males and females (see Table 7). Histograms showing the variability in shyness scores according to CSQ scores as well as children’s ratings on a Likert scale (1 = “Never shy,” 5 = “Always shy”) are included (see Figures 1 and 2). Table 8 also provides the correlation coefficients for the independent and dependent variables utilized in the study.

Table 6

*Descriptive Statistics for Independent and Dependent Variables (N = 260)*

Variable	Mean	SD	Measure Range	Sample Range
<b>Independent variables</b>				
Shyness	18.27	10.88	0-50	0-50
Child-reported parent-child relationship quality	35.28	7.28	10-50	11-50
Parent-reported parent-child relationship quality	36.36	5.62	10-50	15-50
<b>Dependent variables</b>				
Loneliness/social dissatisfaction	31.41	10.63	16-80	16-80
Social Anxiety	44.58	15.04	18-90	18-89
School Liking	3.80	0.72	1-5	1.27-5

Table 7

## Descriptive Statistics for Independent and Dependent Variables by Gender

Variable	N	Mean	SD	Range
Independent variables				
Male shyness	75	15.02	8.17	0-39
Female shyness	185	19.59	11.57	0-50
Male child-reported parent-child relationship quality	75	34.48	7.52	11-50
Female child-reported parent-child relationship quality	185	35.61	7.17	11-49
Male parent-reported parent-child relationship quality	75	35.71	5.73	15-47
Female parent-reported parent-child relationship quality	185	36.63	5.57	21-50
Dependent variables				
Male loneliness/social dissatisfaction	75	31.96	12.69	16-80
Female loneliness/social dissatisfaction	185	31.19	9.70	16-66
Male social anxiety	75	39.17	12.26	18-74
Female social anxiety	185	46.78	15.53	18-89
Male school liking	75	3.63	0.69	1.82-5
Female school liking	185	3.87	0.72	1.27-5

Figure 1

*The Frequency of Scores at Different Levels of the CSQ*

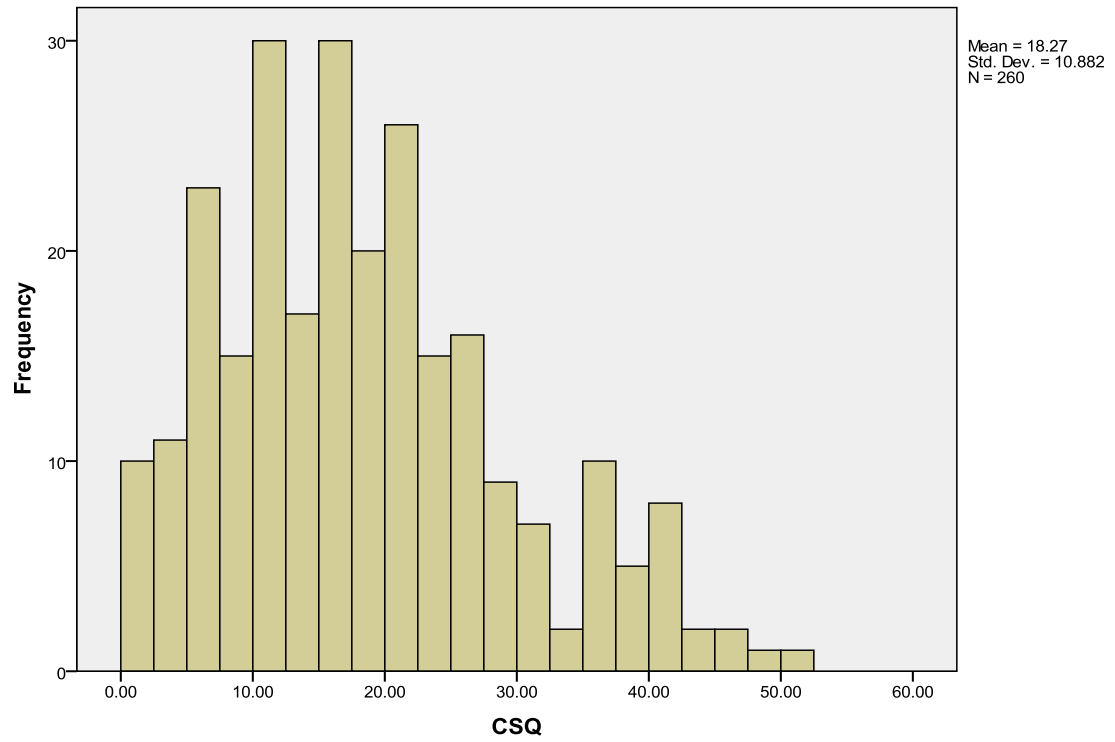


Figure 2

*For Child-Rated Item “How shy are you?” (Range = 1 to 5)*

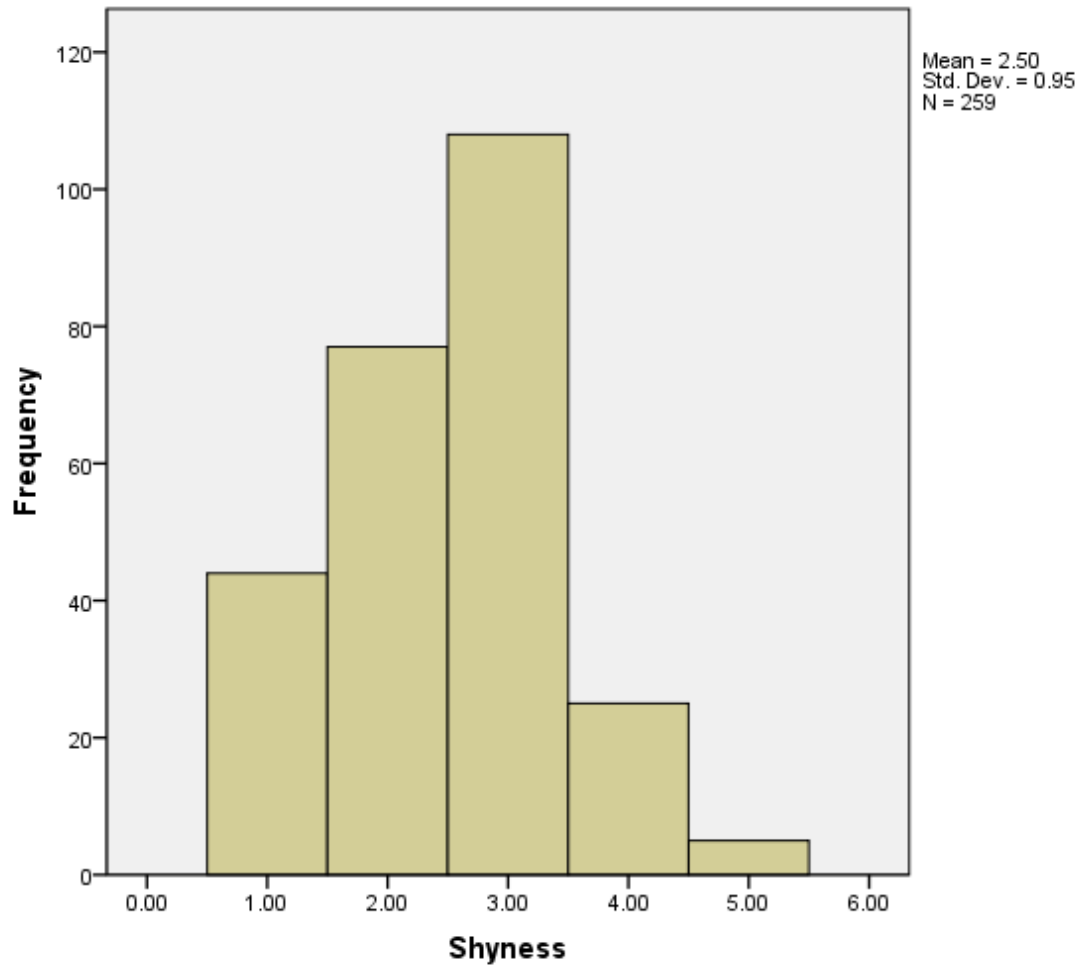


Table 8

*Correlation Coefficients*

Variable	1	2	3	4	5	6
1. Parent-reported parent-child Relationship quality						
2. Child-reported parent-child relationship quality	.53**					
3. Shyness	-.18**	-.22**				
4. Loneliness	-.26**	-.32**	.51**			
5. Social anxiety	-.12**	-.19**	.79**	.60**		
6. School liking	.19**	.36**	-.37**	-.63**	-.44**	
Mean	36.36	35.28	18.27	31.41	44.58	3.80
Standard Deviation	5.62	7.28	10.88	10.63	15.04	0.72

*Note.* \*\* $p < .01$  level, two-tailed

The study variables were also explored to ensure that assumptions for correlation and multiple regression analyses were met. First, scatterplots of the data were examined to determine whether the assumptions of independence, linearity, and homoscedasticity were upheld; the visual analysis suggested no violations.

Next, the independent variables were examined for the presence of multicollinearity. The independent variables were shyness, child-reported parent-child relationship quality, and the interaction between shyness and the parent-child relationship quality. The Variance Inflation Factor (VIF) for the child-reported parent-child relationship quality was 3.89 and the Tolerance value was .26, which indicated that multicollinearity was not present for this variable. However, data suggested the presence of multicollinearity for child-reported shyness (VIF = 23.82, Tolerance = .04) and the



interaction between child-reported shyness and the parent-child relationship quality (VIF = 23.05, Tolerance = .04). Due to this finding the regression models were also conducted with parent-reported parent-child relationship quality, rather than the child-reported parent-child relationship quality, as a predictor to see if multicollinearity remained a problem. Multicollinearity was still found between shyness (VIF = 40.03, Tolerance = .03) and the parent-reported parent-child relationship quality (VIF = 39.01, Tolerance = .03). Due to the presence of multicollinearity, the interaction term was removed from the models and the regression analyses were conducted again with only shyness and child-reported parent-child relationship quality as predictors.

The study variables were explored in the second set of models that did not include the interaction term to check that assumptions for statistical analyses were met. Assumptions of independence, linearity, and homoscedasticity were still upheld. Next, the independent variables were examined for the presence of multicollinearity. The independent variables were shyness and child-reported parent-child relationship quality. The Variance Inflation Factor (VIF) for both child-reported shyness and the child-reported parent-child relationship quality was 1.05 and the Tolerance value for both was .95, which indicates no multicollinearity in these models. Therefore, the results of these models predicting loneliness/social dissatisfaction, social anxiety, and school liking are presented in the primary analyses section.

Normality was then assessed by plotting the residuals for each model. A visual inspection indicated that the residuals followed a normal distribution reasonably well; however a few outliers appeared to be present in each model. Further inspection of

normality was conducted using the Kolmogorov-Smirnov statistic. Examination of the Kolmogorov-Smirnov statistic suggested violation of normality by the child-reported parent-child relationship quality ( $p < .0005$ ), shyness ( $p < .01$ ), loneliness/social dissatisfaction ( $p < .0005$ ), and social anxiety ( $p < .05$ ). The Kolmogorov-Smirnov statistic indicated that normality was upheld for school liking ( $p > .05$ ). Therefore, outliers were further examined to determine their effect on the prediction models. Careful subsequent examination of the boxplots revealed that approximately two to three outliers existed for each model. Outliers were examined to ensure that data entry or coding mistakes did not produce them and no evidence of this was found. To assess whether the outliers had any undue influence on the regression models, Cook's Distance was examined (Tabachnick & Fidell, 2001). The maximum value for Cook's Distance was equal to .15 for the model predicting loneliness/social dissatisfaction, .08 for the model predicting social anxiety, and .20 for the model predicting school liking. These maximum values are below 1, indicating that the outliers had no undue influence on the results of any model (Tabachnick & Fidell, 2001). To further ensure that outliers did not have unwarranted influence on the models, the outliers were removed for each model and the analyses were conducted without them. The models without outliers did not substantially differ. Due to their limited number and minimal impact on the results, outliers were retained in the data set. Normality for the study variables would be upheld with outliers removed. Since outliers were shown to have minimal impact and were retained, potential violations of normality did not need to be further addressed.

### *Power and Sample Size*

The G\*Power 3.1 power analysis program (Faul, Erdfelder, & Lang, 2009) was used to determine the needed sample size for data analysis. A priori analysis suggested that a minimum sample size of 129 parent figure/child dyads would be sufficient to detect medium effects with an alpha level of .05 and power of .80. Based on estimates that approximately 50% of individuals endorse some degree of shyness (Zimbardo & Henderson, 2000), this study aimed to gather 258 participants so that an adequate number of shy children would be included in analyses. The sample size for this study was 260. Therefore, the sample size was sufficient for all statistical analyses.

Furthermore, the number of children who endorsed some degree of shyness was determined to ensure that an adequate number of shy children were included in this sample. The shyness scale was divided into three arbitrary categories created by the researcher based on scores from the CSQ. These categories were formed by dividing the CSQ scores into thirds. The categories represent: (a) low shyness (CSQ = 0-16), (b) moderate shyness (CSQ = 17-33), and (c) high shyness (CSQ = 34-50). In this sample, 48% of children ( $n = 125$ ) scored in the low shyness range, 40% of children ( $n = 105$ ) scored in the moderate shyness range, and 12% of children ( $n = 30$ ) scored in the high shyness range. Therefore, 52% of children ( $n = 135$ ) reported at least a moderate degree of shyness. This indicates that the percentage of shy children in this study was at an expected level based on Zimbardo and Henderson's (2000) estimate of shyness prevalence.

## Primary Analyses

### *Statistical Analyses Addressing Research Hypotheses*

This section includes the results of the primary analyses related to the seven hypotheses. Results of follow-up analyses that were conducted to explore other interesting findings based on primary analyses are also presented.

*Hypothesis 1.* The first hypothesis predicted that there would be a significant positive correlation between the child-reported shyness level and the child-reported loneliness/social dissatisfaction level. To examine the relationship between child-reported shyness (as measured by the CSQ) and child-reported loneliness/social dissatisfaction (as measured by the LSDQ) a Pearson product-moment correlation coefficient was computed. There was a moderate, positive correlation between the two variables ( $r = .51, n = 260, p < .01$ ). As shyness level increased, so did the loneliness/social dissatisfaction level. Hypothesis 1 was supported.

Gender differences in the correlation between shyness and loneliness/social dissatisfaction were explored. The positive correlation between child-reported shyness and loneliness/social dissatisfaction was slightly stronger for males ( $r = .56, n = 75, p < .0005$ ) than females ( $r = .54, n = 185, p < .0005$ ). The R values were converted into standard scores ( $z$  scores) and the  $z_{\text{obs}}$  score was computed to determine whether a significant gender difference existed in the strength of the correlation coefficients for males and females. No significant difference was present in the strength of the correlation between child-reported shyness and loneliness/social dissatisfaction ( $z_{\text{obs}} = 1.00$ ).

*Hypothesis 2.* The second hypothesis predicted that there would be a significant positive correlation between the child-reported shyness level and the child-reported social anxiety level. To examine the relationship between child-reported shyness (as measured by the CSQ) and child-reported social anxiety level (as measured by the SAS-A) a Pearson product-moment correlation coefficient was computed. There was a large, positive correlation between the two variables ( $r = .79, n = 260, p < .01$ ). As shyness level increased, social anxiety also increased. Hypothesis 2 was supported.

The strength of the correlation between shyness and social anxiety was compared for males and females. The positive correlation between child-reported shyness and social anxiety was slightly higher for females ( $r = .79, n = 185, p < .0005$ ) than males ( $r = .72, n = 75, p < .0005$ ). The  $z_{\text{obs}}$  score was examined to determine whether a significant gender difference in the strength of the correlation between shyness and social anxiety was significant. No significant difference was found in the correlation between child-reported shyness and social anxiety ( $z_{\text{obs}} = -.41$ ).

*Hypothesis 3.* The third hypothesis predicted that there would be a significant negative correlation between the child-reported shyness level and the child-reported school liking level. To examine the relationship between child-reported shyness (as measured by the CSQ) and child-reported school liking (as measured by the SLAQ) a Pearson product-moment correlation coefficient was computed. There was a small, negative correlation between the two variables ( $r = -.37, n = 260, p < .01$ ). As shyness level increased, school liking level decreased. Hypothesis 3 was supported.

Gender differences in the correlation between shyness and school liking were explored. A stronger negative correlation between child-reported shyness and school liking was found for males ( $r = -.47, n = 75, p < .01$ ) than females ( $r = -.41, n = 185, p < .01$ ). The  $z_{\text{obs}}$  score showed that no significant gender difference existed in the strength of the correlation for shyness and school liking ( $z_{\text{obs}} = .53$ ).

*Hypothesis 4.* The fourth hypothesis stated that there would be a significant positive correlation between the child-reported parent-child relationship quality and the parent-reported parent-child relationship quality. To examine the relationship between child-reported parent-child relationship quality (as measured by the Child PCRQ Personal Relationship factor) and parent-reported parent-child relationship quality (as measured by the Parent PCRQ Personal Relationship factor) a Pearson product-moment correlation coefficient was computed. There was a moderate, positive correlation between the two variables ( $r = .53, n = 260, p < .01$ ). As the child-reported parent-child relationship quality increased, the parent-reported parent-child relationship quality also increased. Hypothesis 4 was supported.

*Hypothesis 5.* The fifth hypothesis predicted that the child-reported parent-child relationship quality would moderate the association between the child-reported shyness level and child-reported loneliness/social dissatisfaction level. To examine the predictive ability of child-reported shyness (as measured by the CSQ) for loneliness/social dissatisfaction (as measured by the LSDQ) and whether this ability is moderated by the child-reported parent-child relationship (as measured by the Child PCRQ Personal Relationship factor), standard multiple regression was conducted. The original model

included child-reported shyness, child-reported parent child relationship quality, and the interaction between these variables as predictors for loneliness/social dissatisfaction.

However, due to the presence of multicollinearity between child-reported shyness and the interaction between child-reported shyness and child-reported parent-child relationship quality, the interaction term was excluded from the model. A second model was tested, which included child-reported shyness and the child-reported parent-child relationship quality as predictors. The dependent variable was loneliness/social dissatisfaction.

The regression coefficient for the model with child-reported shyness and child-reported parent-child relationship quality as predictors was significantly different from zero,  $F(2, 257) = 56.02, p < .0005$ .  $R^2$  was equal to .30 in this model, which suggests that child-reported shyness and the child-reported parent-child relationship quality accounted for approximately 30% of the variance in loneliness/social dissatisfaction scores.

Examination of the part correlations revealed that after controlling for the other predictor child-reported shyness (part correlation = .45) uniquely explained 20% of the variance and the child-reported parent-child relationship quality (part correlation = -.21) uniquely explained 4% of the variance in loneliness/social dissatisfaction scores. Child-reported shyness,  $\beta = .46, p < .0005$ , made a unique and statistically significant contribution to the prediction of the child-reported loneliness/social dissatisfaction level. Ninety-five percent confidence limits were .35 to .55 for shyness. The child-reported parent-child relationship quality,  $\beta = -.21, p < .0005$ , also made a significant contribution to the prediction. Ninety-five percent confidence limits were -.47 to -.16 for the child-reported parent-child relationship quality. This shows that shyness made a stronger unique contribution than

parent-child relationship quality to the model. Table 9 provides a summary of the statistical findings.

Table 9

*Standard Multiple Regression of Shyness and Child Reported Parent-Child Relationship Quality on Loneliness/Social Dissatisfaction (N = 260)*

Variable	Loneliness/Social Dissatisfaction		
	<i>B</i>	<i>SE B</i>	$\beta$
Shyness	.45	.05	.46***
Parent-Child Relationship Quality	-.31	.08	-.21***

*Note.*  $R^2 = .30$ ; \*\*\* $p < .0005$

Gender differences were also explored in the prediction of loneliness/social dissatisfaction. A hierarchical regression analysis was conducted with child gender entered in the first block of the model. Child-reported shyness and the child-reported parent-child relationship quality were entered in the second block. The dependent variable was loneliness/social dissatisfaction.

Block 1 of the model explained 0.1% of the variance in loneliness/social dissatisfaction scores ( $R^2 = .001$ ) and the model was not significant,  $F(1, 258) = .28, p > .05$ . Gender did not have a noteworthy effect on loneliness social/dissatisfaction scores when the other predictors were controlled for. After child-reported shyness and child-reported parent-child relationship quality were entered in Block 2 along with gender, the model explained 32% of the variance in loneliness/social dissatisfaction scores ( $R^2 = .32$ ). The model explained an additional 31% of the variance in loneliness/social



dissatisfaction when shyness and the child-reported parent-child relationship quality were included with child gender as predictors ( $\Delta R^2 = .31$ ). In Block 2, the model significantly predicted children's loneliness/social dissatisfaction,  $F(3, 256) = 39.31, p < .0005$ .

Child-reported shyness,  $\beta = .49, p < .0005$ , child-reported parent-child relationship quality,  $\beta = -.20, p < .0005$ , and child gender,  $\beta = -.11, p < .05$  made unique and statistically significant contributions to the prediction of the child-reported loneliness/social dissatisfaction level in the second block. Shyness was the strongest unique predictor. Table 10 displays a summary of the statistical findings.

Table 10

*Hierarchical Regression of Gender, Shyness, and Child Reported Parent-Child Relationship Quality on Loneliness/Social Dissatisfaction (N = 260)*

Variable	Loneliness/Social Dissatisfaction		
	<i>B</i>	<i>SE B</i>	$\beta$
Block 1.			
Gender	-.77	1.46	-.03
Block 2.			
Gender	-2.61	1.24	-.11*
Shyness	.47	.05	.49***
Parent-Child Relationship Quality	-.29	.08	-.20***

*Note.*  $R^2 = .00$  for Block 1;  $\Delta R^2 = .31$  for Block 2; \*  $p < .05$ , \*\*\*  $p < .0005$

*Hypothesis 6.* The sixth hypothesis predicted that the child-reported parent-child relationship quality would moderate the association between the child-reported shyness

level and child-reported social anxiety level. To examine the predictive ability of child-reported shyness (as measured by the CSQ) for social anxiety level (as measured by the SAS-A) and whether this ability is moderated by the child-reported parent-child relationship (as measured by the Child PCRQ Personal Relationship factor), standard multiple regression was conducted. The original model included child-reported shyness, child-reported parent child relationship quality, and the interaction between these variables as predictors for loneliness/social dissatisfaction. However, due to the presence of multicollinearity between child-reported shyness and the interaction between child-reported shyness and child-reported parent-child relationship quality, the interaction term was excluded from the model. Child-reported shyness and the child-reported parent-child relationship quality were then entered as predictors for social anxiety. The dependent variable was social anxiety.

The regression coefficient for the model was significantly different from zero,  $F = 210.45 (2, 257), p < .0005$ .  $R^2$  was equal to .62 in this model, which suggests that child-reported shyness and child-reported parent-child relationship quality accounted for approximately 62% of the variance in social anxiety scores. The part correlations indicated that after controlling for the other predictor child-reported shyness (part correlation = .77) uniquely explained 59% of the variance and the child-reported parent-child relationship quality (part correlation = -.02) uniquely explained less than 1% of the variance in social anxiety scores. Child-reported shyness,  $\beta = .78, p < .0005$ , made a unique and statistically significant contribution to the prediction of child social anxiety level. Ninety-five percent confidence limits were .98 to 1.19. The child-reported parent-

child relationship quality did not have a significant influence in the prediction of social anxiety,  $\beta = -.02, p > .05$ . Ninety-five percent confidence limits were .19 to .13.

Therefore, shyness made a much larger contribution to the prediction of social anxiety.

Table 11 provides a summary of the statistical findings.

Table 11

*Standard Multiple Regression of Shyness and Child Reported Parent-Child Relationship Quality on Social Anxiety (N = 260)*

Variable	Social Anxiety		
	<i>B</i>	<i>SE B</i>	$\beta$
Shyness	1.08	.054	.78***
Parent-Child Relationship Quality	-.03	.08	-.02

*Note.*  $R^2 = .62$ ; \*\*\* $p < .0005$

Gender differences were also explored in the prediction of social anxiety. A hierarchical regression analysis was conducted with child gender entered in the first block of the model. Child-reported shyness and the child-reported parent-child relationship quality were entered in the second block. The dependent variable was social anxiety.

When child gender was entered, the model explained 5% of the variance in social anxiety scores ( $R^2 = .05$ ). The model was significant in Block 1,  $F(1, 258) = 14.39, p < .0005$ . Gender was a meaningful predictor of social anxiety, even when the effects of shyness and the parent-child relationship quality were controlled. After child-reported shyness and the interaction between child-reported shyness and child-reported parent-child relationship quality were entered in Block 2, the model explained 63% of the

variance in social anxiety scores ( $R^2 = .63$ ). The model explained an additional 58% of the variance in social anxiety when the predictive abilities of child-reported shyness and the parent-child relationship quality were added to child gender ( $\Delta R^2 = .58$ ). Although gender alone had a significant impact on social anxiety scores, a substantial increase in the predictive ability occurred when the shyness and the child-reported parent-child relationship quality were entered in Block 2 and model remained significant,  $F(3, 256) = 143.00, p < .0005$ .

Child-reported shyness,  $\beta = .77, p < .0005$ , and child gender,  $\beta = .09, p < .05$  made unique and statistically significant contributions to the prediction of children's social anxiety level in Block 2. Shyness was the strongest unique predictor. The child-reported parent-child relationship quality did not have a unique significant effect on the prediction of social anxiety,  $\beta = -.03, p > .05$ . Table 12 displays a summary of the statistical findings.

Table 12

*Hierarchical Regression of Gender, Shyness, and Child Reported Parent-Child Relationship Quality on Social Anxiety (N = 260)*

Variable	Social Anxiety		
	<i>B</i>	<i>SE B</i>	$\beta$
Block 1.			
Gender	7.61	2.01	.23***
Block 2.			
Gender	2.84	1.30	.09*
Shyness	1.06	.06	.77***
Parent-Child Relationship Quality	-.05	.08	-.03

*Note.*  $R^2 = .05$  for Block 1;  $\Delta R^2 = .58$  for Block 2; \*  $p < .05$ , \*\*\*  $p < .0005$

*Hypothesis 7.* The seventh hypothesis predicted that the child-reported parent-child relationship quality would moderate the association between the child-reported shyness level and child-reported school liking level. To examine the predictive ability of child-reported shyness (as measured by the CSQ) for school liking level (as measured by the SLAQ) and whether this ability is moderated by the child-reported parent-child relationship (as measured by the Child PCRQ Personal Relationship factor), standard multiple regression was conducted. The original model included child-reported shyness, child-reported parent child relationship quality, and the interaction between these variables as predictors for loneliness/social dissatisfaction. However, due to the presence of multicollinearity between child-reported shyness and the interaction between child-reported shyness and child-reported parent-child relationship quality, the interaction term

was excluded from the model. Subsequently, child-reported shyness, the child-reported parent-child relationship quality, and the interaction term were entered as predictors. The dependent variable was school liking.

The regression coefficient for the model was significantly different from zero,  $F(2, 257) = 35.67, p < .0005$ .  $R^2$  was equal to .22 in this model, which suggests that child-reported shyness and the child-reported parent-child relationship quality accounted for approximately 22% of the variance in school liking scores. Examination of the part correlations revealed that after controlling for the other predictor child-reported shyness (part correlation =  $-.29$ ) uniquely explained approximately 8% of the variance and the child-reported parent-child relationship quality (part correlation =  $.29$ ) uniquely explained approximately 8% of the variance in school liking scores. Child-reported shyness,  $\beta = -.30, p < .0005$ , and the child-reported parent-child relationship,  $\beta = .30, p < .0005$ , made unique and statistically significant contributions to the prediction of the child-reported school liking level. Ninety-five percent confidence limits were  $-.03$  to  $-.01$  for shyness and  $.02$  to  $.04$  for the child-reported parent-child relationship quality. This shows that shyness level and the child-reported parent-child relationship quality made equal unique contributions to the prediction of school liking. Table 13 provides a summary of the statistical findings.

Table 13

*Standard Multiple Regression of Shyness and Child Reported Parent- Child Relationship Quality on School Liking (N = 260)*

Variable	School Liking		
	<i>B</i>	<i>SE B</i>	$\beta$
Shyness	-.02	.00	-.30***
Parent-Child Relationship Quality	.03	.01	.30***

*Note.*  $R^2 = .204$ ; \*\*\* $p < .0005$

Gender differences were also explored in the prediction of school liking level. A hierarchical regression analysis was conducted with child gender entered in the first block of the model. Child-reported shyness and the child-reported parent-child relationship quality were entered in the second block. The dependent variable was school liking.

When child gender was entered, the model explained approximately 2% of the variance in school liking scores ( $R^2 = .02$ ) and the model was significant,  $F(1, 258) = 6.27, p < .05$ ). Even after controlling for the effects of shyness and the parent-child relationship quality, gender predicted school liking levels. After the predictive abilities of child-reported shyness and child-reported parent-child relationship quality were entered in addition to gender in Block 2, the model explained approximately 25% of the variance in school liking scores ( $R^2 = .25$ ). This model explained an additional 23% of the variance in school liking than did child gender alone ( $\Delta R^2 = .23$ ). Therefore, there was a large increase in the predictive ability of the model when child-reported shyness and

child-reported parent-child relationship quality were entered in Block 2 and the model remained significant  $F(1, 258) = 29.26, p < .0005$ ).

Child-reported shyness,  $\beta = -.35, p < .0005$ , child-reported parent-child relationship quality,  $\beta = .27, p < .0005$ , and child gender,  $\beta = .27, p < .0005$  made unique and statistically significant contributions to the prediction of children's school liking level in Block 2. The strength of prediction was not substantially different among the independent variables; however, shyness remained the strongest predictor. Table 14 displays a summary of the statistical findings.

Table 14

*Hierarchical Regression of Gender, Shyness, and Child Reported Parent-Child Relationship Quality on School Liking*

Variable	School Liking		
	<i>B</i>	<i>SE B</i>	$\beta$
Block 1.			
Gender	.24	.10	.15*
Block 2.			
Gender	.32	.09	.20***
Shyness	-.02	.00	-.35***
Parent-Child Relationship Quality	.03	.01	.27***

*Note.*  $R^2 = .02$  for Block 1;  $\Delta R^2 = .23$  for Block 2; \*  $p < .05$ , \*\*\*  $p < .0005$

*Additional Analyses*

*Correlations among shyness ratings.* Additional Pearson product-moment correlations were used to compare parent figures' and children's perceptions of the



child's shyness. As a supplement to the ratings of shyness children provided on the CSQ, children and parent figures were also asked to rate the level of the child's shyness and the degree to which shyness is a problem on a Likert scale (1 = "Never shy" and "Shyness is never a problem," 5 = "Always shy" and "Shyness is always a problem").

Overall, there was a moderate, positive correlation between parent figures' and children's ratings on the Likert scale of how shy the child is ( $r = .56, n = 258, p < .01$ ). The mean of children's ratings,  $M = 2.50, SD = .95$ , was slightly different than the mean of parent figures' ratings,  $M = 2.64, SD = .81$ . An independent sample t-test was conducted to determine whether the difference between parent figures' and children's shyness ratings was significant. Levene's Test for Equality of Variance indicated that equal variance was not assumed,  $F = 9.96, p < .005$ . The difference was not significant,  $t(504.13) = 1.89, p > .05$ .

There was a small, positive correlation between parent figures' and children's ratings of how much of a problem shyness is for the child ( $r = .35, n = 257, p < .01$ ). There was a slight difference between the mean of children's ratings,  $M = 2.07, SD = .88$ , and parents' ratings,  $M = 2.14, SD = .84$ . Means were compared with an independent sample t-test. Levene's Test for Equality of Variance indicated that equal variance was assumed,  $F = .05, p > .05$ . The difference between parent figures' and children's ratings of how great of a problem shyness is for the child was not significant,  $t(515) = .85, p > .05$ .

The correlation between parent figures' ratings of how shy their child is as measured by the rating on the Likert scale and the child's rating of his or her shyness

level as measured by the CSQ was also calculated. A moderate, positive correlation was found between these ratings ( $r = .47, n = 259, p < .01$ ). The correlation between parent figures' and children's ratings was smaller than when measured by the same scale.

Additionally, children's ratings of their own shyness as measured by ratings on the Likert scale and scores on the CSQ were strongly correlated ( $r = .70, n = 259, p < .01$ ). This supports the validity of the CSQ in measuring shyness.

*Correlation between shyness and the parent-child relationship.* The relationship between shyness (as measured by the CSQ) and the child-reported parent-child relationship was explored. A small, negative correlation existed ( $r = -.22, n = 260, p < .01$ ). There was a slight tendency for children with greater shyness to perceive being less close with their parent.

#### Chapter Summary

Chapter Four provided the results of the preliminary analyses, primary analyses, and additional analyses conducted for this study. The presentation of primary analyses included results from statistical tests performed to address the seven research hypotheses.

Relationships between shyness, loneliness/social dissatisfaction, social anxiety, and school liking were explored. Correlation coefficients showed that higher levels of child-reported shyness were associated with greater loneliness/social dissatisfaction and social anxiety and less school liking.

Together, child-reported shyness and child-reported parent-child relationship quality significantly predicted levels of self-reported loneliness/social dissatisfaction, social anxiety, and school liking. The impact of gender was also explored. Although

gender significantly predicted social anxiety and school liking after controlling for the effects of other predictors, there was a considerable increase in the predictive power of the models when the shyness and the parent-child relationship were included. Of the independent variables, child-reported shyness had the strongest unique predictive capacity for loneliness/social dissatisfaction, social anxiety, and school liking levels. The moderating effect of the parent-child relationship quality was not able to be investigated due to a problem with multicollinearity between shyness and the parent-child relationship quality. Analyses also explored the agreement between parent figures' and children's perceptions. A significant correlation was found between the child-reported parent-child relationship quality and parent-reported parent-child relationship quality. There was substantial agreement between parent figures and children regarding how shy the child is and how much of a problem shyness is for the child.

Chapter 5 further discusses these results and their implications. Limitations of the results are outlined and recommendations for future research are given.

## Chapter 5

### DISCUSSION

This chapter includes a brief summary of the study, a discussion of the overall findings related to the seven research hypotheses and their implications, the limitations of the study, recommendations for future research, and conclusions.

#### Summary of the Study

Past research has demonstrated that shyness is an important phenomenon to study because shyness can cause both immediate and long-term problems (Caspi et al., 1988; Coplan et al., 2008; Crozier, 1995). Studies have shown associations between shyness and many problems in well-being including social anxiety, loneliness, and poor school adjustment (Coplan et al., 2008; Findlay et al., 2009; Fordham & Stevenson-Hinde, 1999). However, there are noticeable gaps in the understanding of shyness that necessitate continued investigation. Due to mounting evidence that shyness can be associated with poor adjustment, interest is growing in exploring moderating and mediating variables that may curb negative effects of shyness. Some research has shown an influence of parenting factors on shy children's adjustment and level of social withdrawal in early to middle childhood (Booth La-Force & Oxford, 2008; Coplan et al., 2008; Rubin et al., 2002). Yet, the impact of parenting factors in later developmental periods has not been addressed by previous research.

The overall purpose of the study was to deepen the knowledge about how shyness is experienced in late childhood and to begin exploring the impact of the parent-child relationship on shy children's well-being during this developmental period. More specifically, this study was designed to explore associations between levels of shyness and loneliness, social anxiety, and school liking as well as how the parent-child relationship quality relates to these variables in late childhood.

#### Specific Findings and Implications for Hypotheses

There were several important findings in this study. Overall, this study supported previous research that has shown that shyness has several negative correlates (Coplan et al., 2008; Findlay et al., 2009; Fordham & Stevenson-Hinde, 1999). As predicted, shy children reported greater loneliness and social anxiety. Shyer children also asserted less positive feelings about school. This study added to the limited body of work that has explored shyness in late childhood and demonstrated that shyness remains a significant problem for children during the middle school years. Additionally, this study was the first known to establish a specific relationship between school liking and shyness in this age group. Although shyness was related to several adjustment problems, this study was not able to establish an impact of the parent-child relationship quality on shy children's adjustment due to a limitation in data analysis. These findings make important contributions to the understanding of shyness in late childhood in several areas described in detail below.

### *Shyness and Loneliness/Social Dissatisfaction*

There are some important factors to consider that may explain the relationship between the current finding and those of previous research regarding the presence of loneliness/social dissatisfaction in shy children. Some studies that used others' (i.e., teachers, parents) ratings to determine shyness levels did not find a significant relationship between shyness and loneliness/social dissatisfaction (Coplan et al., 2008; Fordham & Stevenson-Hinde, 1999). A significant correlation between shyness and loneliness/social dissatisfaction was found in the present study, as well as by Findlay et al. (2009). These two studies assessed shyness through child self-report. The differences among results of these studies suggest that shyness may be perceived differently depending on the respondent. Perhaps children who perceive themselves as shy do not appear shy to others; this may explain why loneliness was found more in self-identified shy children. This suggests that including children's perceptions may be the best option to identify children who are at risk for loneliness and social dissatisfaction.

In addition to the potential impact of the way that shyness is measured, the age of participants may also have some effect on the relationship between shyness and loneliness/social dissatisfaction. Some studies have not found a connection between loneliness and shyness during early and middle childhood (Coplan et al., 2008; Fordham & Stevenson-Hinde, 1999). However, self-reported shyness and loneliness were found to be moderately correlated in a sample of 4<sup>th</sup> and 5<sup>th</sup> grade children (Findlay et al., 2009). Using a slightly older age group (6<sup>th</sup>-8<sup>th</sup> grade), this study found an even stronger correlation between self-reported shyness and loneliness/social dissatisfaction than did

Findlay et al. (2009). Taken together, these results may suggest that the risk for loneliness/social dissatisfaction for children who self-identify as shy becomes even stronger as they approach adolescence.

Based on a comprehensive review of current social withdrawal literature, Rubin et al. (2009) provided a transaction model of social withdrawal that provides support for this assertion. Rubin et al.'s (2009) model suggests that several internalizing problems, including loneliness, appear in the middle childhood and early adolescence stage. Perhaps navigating the social environment of middle school may be more difficult than elementary school for shy children. This highlights the importance of including interventions that target social success for shy children in middle school.

#### *Shyness and Social Anxiety*

The strong correlation found in this study between shyness and social anxiety supported similar findings for 7- to 8-year-olds (Weeks et al., 2009), 9- to 11-year-olds (Findlay et al., 2009), and high school students (Hayward et al., 2008). Together with the current result, this evidence shows that social anxiety is a problem for shy children from middle childhood through adolescence.

These findings are consistent with other developmental evidence showing that cognitive maturity that tends to develop in middle childhood also brings increased self-consciousness (Bennett & Gillingham, 1991; Fordham & Stevenson-Hinde, 1999). The fear of negative evaluation that is integral in social anxiety may also be greatly heightened as self-consciousness increases (Crozier & Alden, 2001). Given this evidence, it is logical that this study and others that have researched social anxiety in middle

childhood and older age groups have noted a significant relationship between shyness and social anxiety (Findlay et al., 2009; Weeks et al., in press). Overall, the current finding is consistent with the empirical view that shyness carries a risk for anxiety in social scenarios, particularly as children develop more self-awareness and self-consciousness during middle childhood (Fordham & Stevenson-Hinde, 1999; Yuill & Banerjee, 2001). This information suggests the utility of implementing early interventions for social anxiety and also calls attention to the need to consider developmental changes when devising interventions. Although gender differences are not well understood, girls endorsed more social anxiety than boys in this study and gender significantly predicted social anxiety levels. This raises the possibility that social anxiety may be experienced or expressed differently for boys and girls in late childhood and this should also be considered in regard to interventions.

The current study also adds to the small, but growing, body of work that has studied social anxiety in non-clinical or non-socially phobic samples. The current findings are connected with the idea that social anxiety remains an important problem for individuals whose social impairment is not severe enough to qualify as a clinical disorder. This study found associations between social anxiety and shyness, loneliness, and poor school liking and this supports similar findings by Weeks et al. (2009). Overall, it seems that social anxiety remains detrimental even at non-clinical levels.

#### *Shyness and School Liking*

Previous studies have not directly explored the link between shyness and attitudes toward school. However, Coplan et al. (2008) reported that an aggregate variable labeled



school adjustment, which included school liking as a component, was negatively correlated with shyness in a kindergarten sample. There is some qualitative evidence that the school environment is difficult for shy students (Lund, 2008) and this could contribute to negative feelings about school. However, this study is the first known to directly and quantitatively explore shy children's feelings about school in late childhood. The results of the current study support the inverse relationship between school adjustment and shyness found by Coplan et al. (2008) and suggest a specific link between shyness and less positive feelings about school in late childhood.

The finding that shyer children have fewer positive feelings about school fits with other evidence that shy children struggle in the school environment. Past research has documented propensities of shy children to be verbally reticent (Asendorpf, 1989; Ayers, 1990, Evans, 2001), feel they are the center of attention at school (Lund, 2008), and perceive lower academic competence than less shy peers (Crozier, 1995). This study provides some evidence that the difficulties shy children tend to experience in the school environment due to subjective social anxiety and behavioral inhibition may lead to negative feelings about school. This study did not determine causation; therefore further investigation of this potential relationship is necessary. However, it seems important for schools to recognize the connection between shyness and attitudes toward school and to address this relationship to improve shy children's engagement and success in the school environment.

### *Parent-Child Relationship Quality as a Moderator*

Although significant relationships between shyness and loneliness, social anxiety, and school liking were found, it was not possible to test the moderating effect of the parent-child relationship quality due to a problem with multicollinearity in the prediction models. It remains a possibility that the parent-child relationship quality may play an important role in shy children's lives in this age group, particularly in light of previous findings that some aspects of parenting style and parent characteristics (Booth-LaForce & Oxford, 2008; Coplan et al., 2004; Coplan et al., 2008; Rubin et al., 2001) impact a variety of adjustment problems that accompany shyness.

Most of the research that has explored moderating or mediating effects of parenting factors for shy or withdrawn children has been conducted with young children (Booth-LaForce & Oxford, 2008; Coplan et al., 2004; Coplan et al., 2008; Rubin et al., 2001). While there is mounting data showing that factors, such as overprotective parenting, may affect young children's adjustment a lack of evidence that parent-child interactions relate to shy children's well-being in late childhood remains. This possibility requires further investigation; however it is interesting to consider social development literature that suggests that children in this age group begin to rely more on their peer group for support than their parents (La Greca & Moore Harrison, 2005). Therefore, it is possible that children may continue to experience loneliness, social anxiety, and dislike school despite having a close relationship with a parent figure if they do not feel connected to peers. In spite of this, it is also feasible that feeling close to a parent remains an important influence on shy children during middle school years. Unfortunately, this

study was not able to determine whether a connection exists. Additionally, it is possible that other aspects of parenting may affect shy early-adolescents' adjustment. It has been found that different parenting factors, such as parenting style, impact young shy children; parenting factors other than the relationship quality could also be critical during late childhood. Furthermore, it is possible that even if a child feels close to a parent, this may not be the key variable that shapes the child's social interactions outside of the home. More specific interventions by the parent, such as encouraging independence or providing opportunities for peer interactions, may be helpful to shy children in this age group as well.

The discovery of a small, but significant correlation between children's reports of higher shyness and a less close or intimate parent-child relationship raises some interesting considerations regarding how shyness, parenting behaviors, and the parent-child relationship may intertwine. Some understanding may be drawn from the supposition of previous research that parents who perceive their child to be socially anxious or vulnerable attempt to support their child through being overly assertive or directive in regard to the child's social behavior (Rubin et al., 1999). This study did not assess parenting style; therefore it is not possible to draw conclusions about the potential relationships between shyness, parenting behaviors, and the quality of the parent-child relationship. However, it is feasible that there may be connections among these factors and shy children's well-being.

Finally, the way in which parent-child relationship quality was measured may have influenced the results. Parent-child relationship quality has been assessed by other

researchers with different measures including the Relational Support Inventory (Scholte, van Lieshout, & van Aken, 2001) and the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987). It is possible that if this study had utilized an alternative measure or a more comprehensive method to evaluate the quality of the parent-child relationship quality, it may have produced different data and viably allowed specific conclusions about its moderating effect to be drawn.

As this was the first known study to attempt to determine the influence of the parent-child relationship quality on several adjustment problems associated with shyness in late childhood, further exploration and validation of the results is necessary. These topics will be further explored in the recommendations for future research below.

#### *Gender Differences*

Gender differences existed among several study variables. It was discovered that females reported being shyer, having greater social anxiety, and liking school more than males. Overall, most previous research has not found gender differences in the prevalence of shyness or social withdrawal (Rubin et al., 2009). However, most of these studies have used others' reports or observations to assess shyness or withdrawal. It seems that when self-reports are used, gender differences may appear. In the present study, 10- to 15-year old girls reported more shyness than boys and this pattern was also present when shyness was self-reported by 9- to 12-year-old children (Crozier, 1995).

It is interesting to consider that while girls reported being shyer and having greater social anxiety, they reported liking school more than boys. This fits with the notion that shyness or withdrawal may be more socially acceptable for girls (Sadker &

Sadker, 1994), which could potentially buffer shy girls' experiences in a large social environment like school.

### *Implications for Assessment and Treatment of Shyness*

The results of this study raised some important considerations regarding how shyness should be assessed and treated. First, results of this study suggest that it is important to identify and treat shyness as early as possible. Fifty-two percent of the children in this study reported a moderate or high degree of shyness. It was also found that social anxiety remained a significant problem in late childhood and, in light of previous research, it seems that loneliness may actually become more of a problem as shy children approach adolescence. Clearly shyness does not appear to be a problem that disappears with age. Therefore, helping children learn to cope with shyness or even overcome their shyness in early childhood may reduce some of the harmful effects that persist into later years. This study also provided evidence that girls report more shyness and social anxiety than boys. However, some evidence suggests that shy boys have more adjustment problems than shy girls (Coplan et al., 2004; Coplan & Arbeau, 2008). Therefore, it may be helpful to target both genders in early identification and intervention efforts and consider the impact of gender differences on responses to interventions.

Even though shyness is not a clinical disorder, it is clear that interventions may be beneficial to many shy children that are plagued with social and emotional struggles. Greco and Morris (2001) asserted that shy adolescents may profit more from peer-mediated interventions than those involving parents. However, the possibility that parenting factors may be influential for pre-adolescents still remains. Continued

investigation of the response of older children to both parent-focused and peer-focused interventions is needed.

Results of this study also show that it is important for parents, teachers, and others who are invested in children's academic success to be aware of the impact of shyness. The knowledge that shyness is related to less positive feelings about school may be helpful for schools to consider. Even though shy children often struggle in the school environment, they do not often draw as much attention to themselves as other children that cause problems or act disruptively. Therefore, it is assumed that their problems in the classroom or other academic settings may not receive the deserved attention. Causal relationships were not established in this study; however problems related to shyness, such as social anxiety and loneliness, may contribute to shy children's tendency to dislike school more than their less shy peers. It would be beneficial for schools to understand the connection between shyness and school success and use this knowledge to design effective strategies within the school to assist shy children. For example, including group work and encouraging all students to participate in group discussion may help shy children not only combat social anxiety and behavioral inhibition, but also better engage in their learning experiences. It is hoped that these changes would result in more positive feelings toward school. Generally, it is essential that others do not discount the impact that shyness can have a child's ability to engage in social situations, such as school.

There are also meaningful implications based on the way that parent figures perceived their child's shyness. It was found that there was moderate agreement between parents and children in regard to how shy the child is and how much of a problem

shyness is. The comparability in ratings is consistent with Rubin et al.'s (2009) assertion in a recent review article that there is moderate to high agreement between various sources in measuring shyness. If it is true that parent figures are fairly adept at identifying shyness and recognizing that it can be a problem, this notion has positive implications. If parent figures are aware of shyness and its potential impact, they may be more likely to seek help for their shy child. However, in light of previous research suggesting that overprotective parenting (i.e., over-managing and controlling the child) can be harmful to shy children's adjustment, there seems to be a delicate line in parent figures' sensitivity to shyness. It may be advantageous for intervention efforts to include training for parent figures on appropriate ways to parent a shy child. However, it is encouraging that this study found that parents are fairly aware of shyness, which may promote amenability to seeking interventions when needed.

This study provided further evidence to suggest the utility and importance of gathering children's self-reports of shyness. It has been argued that others' ratings of shyness may have limited value because they do not account for the emotional and cognitive components of shyness that are hidden from others (Spooner et al., 2005). An examination of the results of studies that used self-report, including the current study, compared to results of studies that did not use self-report maintains Spooner et al.'s (2005) assertion. Some interesting patterns were discovered through this comparison. For example, loneliness was more prevalent in samples in which shyness was self-reported (the current study; Findlay et al., 2009) and gender differences in shyness were more often found when shyness was self-reported (the current study, Crozier, 1995). It seems

that there are some important disparities in conclusions that emerge when children's own perspectives of their experiences are taken into account. It appears that it is vital to pay attention to children's perspectives of their shyness. While there is benefit in information gathered by observing shy children in social situations or by asking parents about their children's behavior, there is no substitute for the unique and subjective perspective that children can provide. Overall, it seems important for parents, researchers, and others to understand a shy child's experience from his or her own perspective.

#### *Summary of Study Implications*

This study adds to the current literature linking shyness to several adjustment difficulties (i.e., Coplan et al., 2008; Findlay et al., 2009; Fordham & Stevenson-Hinde, 1999). This study specifically supported positive associations between shyness and loneliness/social dissatisfaction and social anxiety and a negative association between shyness and school liking in late childhood. These findings extend previous literature and further illuminate the effects shyness can have on children in a slightly older sample than was used in many prior studies.

This study was not able to determine whether the parent-child relationship quality can help explain why shyer children reported more loneliness/social dissatisfaction and social anxiety and less school liking. Continued research is needed to learn how integral being close with a parent is in shaping shy children's social success and emotional health during late childhood. However, it is also possible that other aspects of parenting or parent-child interactions may also be relevant to intervention efforts for pre-adolescents. Since this was an initial attempt to explore the role of the parent-child relationship, its



potential importance in shy children's lives should not yet be discounted. Continued examination of explanatory models including various components of parent-child interactions would provide clearer knowledge.

In sum, this study indicated that shy children are at great risk for a variety of adjustment problems. Shyness has negative implications for children's social success, emotional health, and school adjustment, and therefore deserves attention by teachers, parents, and mental health workers. Early treatment interventions may be beneficial to curb negative effects of shyness that persist into late childhood.

#### Limitations of the Study

This study addressed important gaps in the childhood shyness literature; however some limitations in its design remained. First, this study gathered self-ratings of shyness from children. In support of using self-ratings, some researchers have argued that shyness may not be expressed behaviorally and that observable inhibited behavior may be an indication of introversion rather than shyness (Crozier, 1995). Additionally, Asendorpf (1986) noted that shyness is harder to detect from middle childhood on because children become more adept at controlling self-presentation. Although there is strong evidence supporting the utility of self-ratings, this method has some limitations. Some researchers have advocated for the use of behavioral observation in addition to self-report in order to provide the most comprehensive assessment of shyness. It was not within the scope of this study to conduct behavioral observations; therefore attempts were made to account for observable shyness through using the CSQ to measure shyness which includes items that address behavioral symptoms.

Another limitation is that it did not provide longitudinal data of shy children's adjustment problems. Other studies have suggested a potential benefit of gathering longitudinal data to provide a more comprehensive understanding of developmental changes in shyness and its outcomes. This was a preliminary study and initial exploration of the role of the parent-child relationship quality was necessary before embarking on longitudinal research. Future research may benefit from longitudinal data to build upon the results of this study.

It is possible that using group administration to gather most child data impinged on the accuracy of the information reported. During data collection some children were distracted by one another, which could have caused some carelessness in responding. Additionally, although data was confidential, being in a group setting may have induced some impression management in children's response style if they were fearful that others may have access to their data. It is possible that children may have been more honest and thoughtful in their responses if all data had been gathered in an individual setting.

Also, using only one short subscale of the PCRQ to measure the parent-child relationship quality may have been a methodological limitation. It may have been beneficial to include more subscales from the PCRQ or use a more comprehensive measure to more broadly assess the relationship quality.

Finally, this study also relied on correlational data which did not allow for determination of cause. The goal of this study was to help identify children that may be at risk for poor adjustment. It is likely that risk relates to a combination of variables and the first step was to attempt to establish a relationship between degrees of shyness, the

parent-child relationship, and outcomes in this age group. It may be beneficial for future studies to explore causal mechanisms of outcomes related to shyness. Other recommendations for future research that may address some of the limitations of the current study are discussed below.

#### Recommendations for Future Research

This study was designed to explore the role of the parent-child relationship quality in moderating negative effects of shyness. This study was not able to determine whether a close parent-child relationship may negate poor adjustment. However, previous research has shown that not all shy children have poor prognoses (Miller & Coll, 2007) and some moderating variables have been identified (i.e., gender, friendships, parenting style) (Coplan et al., 2004; Coplan et al., 2008; Fordham & Stevenson-Hinde, 1999; Miller & Coll, 2007; Rubin & Coplan, 2004). Due to the implication that moderating variables, including variables related to parenting exist, it may be useful for future research to continue exploring how various facets of parent-child interactions connect to children's adjustment during the middle school years.

It would also be beneficial to investigate potential relationships between adjustment variables and other parenting factors in this age group. For example, based on findings that parenting style seems to influence outcomes for young shy children (Coplan et al., 2004; Coplan et al., 2008; Rubin et al., 2001), it would be beneficial to further explore the role of parenting style in older samples. However, in light of developmental research, it is possible that the parent-child relationship may be less important to children in older age groups than it is to younger children. Therefore, further focus on the

moderating effects of friendships, in addition to parenting factors, may also be warranted for this age group.

Finally, gathering a larger sample size to explore moderating variables for shyness outcomes would expand the opportunities to understand potential relationships. A larger sample size would provide more statistical power to utilize more complex statistical models, such as structural equation modeling, and this would allow testing of more intricate relationships between shyness, adjustment variables, and potential moderators and mediators.

### Conclusions

Overall, shy children reported more loneliness and social anxiety and less positive feelings about school. The current study also found that shyness level and the parent-child relationship quality together significantly predict levels of loneliness/social dissatisfaction, social anxiety, and school liking. This study was not able to establish that the parent-child relationship has bearing on the amount of loneliness/social dissatisfaction, social anxiety, or school liking that children experienced; however this remains plausible as this study also did not dispute this notion.

Collectively, these findings highlight that shyness is a significant phenomenon in late childhood that is associated with several facets of poor adjustment. This study helped to expand the existing shyness literature, which is mainly focused on young children and clinical samples, to a pre-adolescent non-clinical sample. This study also continued the growing investigation of moderating and mediating factors that may help curb harmful effects of shyness. Even though the parent-child relationship quality was not established

as a moderator for children's adjustment in late childhood, this as well as many other important moderating factors for this age group may exist and further exploration of this possibility is warranted.

This study created a better understanding of the experiences of shy middle school students. Learning about the outcomes associated with shyness (i.e., increased social anxiety, loneliness, and school dislike) in this age group may assist school staff, parents, and mental health clinicians in better understanding how shyness can impact children's success in the classroom and other social situations. For example, findings indicate that shy children tend to feel more anxious in social situations, which may impact being able to ask a teacher for help or make a new friend. Shy children also reported more loneliness, which may cause them to disengage at school or feel unconnected to peers. Understanding the impacts of shyness may help increase others' sensitivity to the various struggles that shy children face, particularly during the already difficult developmental period of the middle school years. This knowledge may also be used to assist the development and implementation of effective interventions that may increase shy children's social, emotional, and academic welfare.

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**APPENDIX A**  
**LETTER TO SCHOOLS**

Dear XXXX:

Shyness is a form of social withdrawal that negatively affects many children, particularly in social settings such as school. I am a doctoral candidate in Counseling Psychology at the University of Denver under the supervision of Dr. Maria Riva. I am conducting research on the effects of shyness. Previous research has shown that several characteristics of shy children, such as self-consciousness and reluctance to participate can cause problems for shy children at school. The discord between shy children's characteristics and the social demands of school can also cause problems such as social anxiety and loneliness. Most importantly, these conditions can cause children to have negative attitudes about school. Poor attitudes toward school can be detrimental to classroom participation and academic achievement. Much more research is needed to better understand what factors might be able to help prevent or curb such harmful effects. Parent figures are known to be an important influence on shy children and their adjustment. Therefore, this research will explore whether having a close relationship with a parent figure affects problems shy children might experience in social environments, such as social anxiety, loneliness, and poor school liking. This information may be helpful to clinicians, parent figures, and teachers who seek to improve children's functioning at school and general well-being.

My goal is to assess a group of children on these variables. I would appreciate your help in gathering a group of children and their parent figures to participate in this study. I would like permission to send a letter to parents of 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students at your school to invite them to participate. Once permission forms have been returned I will schedule visits to your school to gather information from 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students who have been granted permission to participate. I recognize that children's academic time is extremely important; therefore I will plan to meet with students at times your school designates as appropriate (possibly including lunch hours, after school hours, or class time). Children's participation can be done in a group setting and is expected to take less than one hour. Parent figures will be asked to complete two short questionnaires at home or by phone. All information and questionnaires provided to parent figures and students will be available in Spanish if necessary. Your students' privacy is extremely important; therefore all identifying information gathered during this study, including names, will remain confidential. I would like to thank your school for providing access to students and their parent figures by presenting the results of this study to interested faculty, which may provide valuable information that faculty members may use to better identify and understand the shy children they work with. Students that participate will be compensated with a \$5 gift card.

I would greatly appreciate your assistance with this study. Please contact me if you have any questions or concerns. Once I have your permission and my study has been approved by the Institutional Review Board for the Protection of Human Subjects in Research at the University of Denver, I will contact you again to begin gathering participants. The following page will provide you with more detailed information about this study. Thank you for your consideration of this research. My contact information is listed below. I hope to hear from you soon.

Sincerely,

Charity Walker, M.A.

Email: XXXXXXXX

Phone: XXXXXXXX



## Description of the Study

Participants will be gathered on a voluntary basis if they meet the following inclusion criteria:

1. The child is in 6<sup>th</sup>, 7<sup>th</sup>, or 8<sup>th</sup> grade.
2. The child is willing to complete a *Demographic Questionnaire* and five assessment measures.
3. The child's parent figure is willing to complete a *Demographic Questionnaire* and one assessment measure.

Participants will be excluded for the following reasons:

1. The child expresses current suicidal or homicidal ideation during contact with the researcher.
2. The child shows visible signs of or reports experiencing active psychotic symptoms, including delusions, paranoia, or hallucinations during contact with the researcher.

### Child Participants:

Participants will be asked to complete a *Demographic Questionnaire*, the *Children's Shyness Questionnaire* (CSQ), the Personal Relationship factor of the *Parent-Child Relationship Questionnaire* (PCRQ), the *Loneliness and Social Dissatisfaction Questionnaire*, the *Social Anxiety Scale for Adolescents* (SAS-A), and the School Liking subscale of the *School Liking and Avoidance Questionnaire* (SLAQ). Measures will be group administered at the child's school.

### Parent Participants:

Parent figures will be asked to complete a *Demographic Questionnaire* and the Personal Relationship subscale of the PCRQ. The parent figures will complete the measure at home and mail it to the researcher in a provided envelope along with the consent form for the child to participate. If a parent figure prefers to answer questions over the phone rather than in written form, the parent figure will be asked to provide a phone number and the researcher will contact him or her to gather information.

### Description of the Assessment Measures:

The parent figure and child *Demographic Questionnaires* assess relevant identifying information about the participants. The *Demographic Questionnaires* also ask two questions about perceptions of the child's shyness. The PCRQ measures the parent figure's and child's perception of the parent-child relationship. The Personal Relationship factor of the PCRQ will be administered, which consists of 10 items. Higher scores on the subscale represent more companionship and intimacy in the parent-child relationship. The CSQ is a 25-item questionnaire designed to assess children's distress during social interactions, discomfort with being the center of attention, and general embarrassment. The items are totaled to create an overall score that indicates a child's level of shyness. Higher scores indicate greater shyness.

Three assessment measures will examine adjustment problems children may experience. The first is the SAS-A, which is 22-item self-report questionnaire. The SAS-A measures children's fear of negative evaluation, social avoidance and distress in new situations, and generalized social avoidance and distress. An overall social anxiety score will be used, with higher scores representing more social anxiety. Secondly, the Loneliness and Social Dissatisfaction Questionnaire is a 24-item self-report measure of children's feelings of loneliness, feelings of social adequacy or inadequacy, and subjective perceptions of peer status. A total loneliness and social dissatisfaction score will be obtained, with higher scores representing more loneliness and social dissatisfaction. Finally, the SLAQ is a self-report measure of children's feelings about school and avoidance of school. The School Liking subscale will be administered, which consists of nine items. Higher scores represent a more positive attitude toward school.

It is the aim of this study to investigate problems that shy children experience, often at school, and the effect that the relationship with a parent figure has on these problems. The results of this study will hopefully contribute to existing knowledge about how parents, educators, and clinicians may be able to help shy children be more successful socially, emotionally, and academically.

**APPENDIX B**  
**INFORMED CONSENT**

**Dear Parents/Caregivers,**

\_\_\_\_\_ is partnering with a doctoral candidate from the University of Denver (Charity Walker) to conduct a research study. I would like to invite you and your junior high student to participate. This study will provide important information about the impact of shyness on junior high students' social and academic adjustment and the role that the parent-child relationship potentially plays in their adjustment. Information will be collected about a wide range of children, so your child does not have to be shy or have any difficulties in order to participate in this research. Your help in learning about these topics would be greatly appreciated and would make a significant impact! Your student will be compensated for his or her time with a \$5 gift card to \_\_\_\_\_.

You and your child are invited to participate if you meet the following criteria:

1. Your child is in 6<sup>th</sup>, 7<sup>th</sup>, or 8<sup>th</sup> grade.
2. Your child is willing to complete six questionnaires, which is expected to take approximately 15-20 minutes.
3. You, the parent figure, are willing to complete two questionnaires, which is expected to take approximately 5-10 minutes.

A consent form is enclosed with this letter. Please read the consent form carefully and indicate at the bottom of the form whether you agree to participate and have your child participate in this study. The procedures for parent figures' and children's participation are described below.

Procedures for Parent Figures' Participation:

Enclosed with this letter are two questionnaires for you, the parent figure, to complete. The first questionnaire asks basic questions about you as well as about your child's behavior. The second questionnaire is about your relationship with your child. If possible, I would appreciate having the parent figure that spends most time with the child complete the questionnaires. Please fill out the questionnaires independently and do not share your answers with your child. Once complete, please enclose the forms in the provided envelope and have your student return the questionnaires and one signed copy of the consent form to \_\_\_\_\_. If you would prefer to respond to the questions by phone rather than in written form, please provide a phone number that you can be reached at on the consent form. I will then contact you to administer the questionnaires.

Procedures for Children's Participation:

If you grant permission for your child to participate (by returning the consent form) and your child agrees to participate, your child will be asked to complete six questionnaires. The first questionnaire will ask basic questions about your child, such as gender, grade level, and how shy your child feels. Next, your child will also be asked about his or her perceptions of the parent figure-child relationship. In another questionnaire, your child

will be asked about how he or she feels in social situations. Finally, your child will be asked to complete three short questionnaires about ways that children might feel or act. These include feelings about being around others, friends, and school. The questionnaires will be completed during \_\_\_\_\_. Your child will be given a \$5 gift card to \_\_\_\_\_ at the time of his or her participation.

**I would greatly appreciate your participation in this study! Thank you!**

Sincerely,

Charity Walker, M.A.

Phone: XXXXXXXXXXXX

Email: XXXXXXXXXXXX

## **Parent Consent Form**

You and your child are invited to participate in a study entitled “The Impact of Shyness on Loneliness, Social Anxiety, and School Liking as Moderated by the Parent-Child Relationship.” This study will provide information about shy children and the role that the parent figure-child relationship plays in their adjustment. This study is being conducted by Charity Walker, M.A. under the supervision of Dr. Maria Riva as part of the requirements for the doctoral degree in Counseling Psychology at the University of Denver.

Participation in this project is strictly voluntary. There are minimal foreseeable risks to your and your child’s participation in this study. Although it is not expected that answering these questions will cause any undue stress, you and your child can choose not to answer specific questions or end participation at any time with no penalty. Although it is not expected, if any harm done to you or your child while participating in this study appropriate assistance will be available. Parent figure participants will be asked to complete two questionnaires which is expected require approximately 5-10 minutes. Child participants will be asked to complete six questionnaires, which is expected to take approximately 15-20 minutes.

All of the information you and your child provide will be kept confidential. The findings of this study may be presented and published for professional use; however no identifying information, including names, will be used. However, should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena. Although no questions in this research address it, we are required by law to tell you that if information is revealed concerning suicide, homicide, or child abuse and neglect, it is required by law that this be reported to the proper authorities.

Parents please be aware that under the Protection of Pupil Rights Act, you have the right to review a copy of the questions asked of or material that will be used with your students. If you would like to obtain a copy of the questions or materials or if you have any questions or concerns about this study, you should contact Charity Walker at 970-420-9450 or Dr. Maria Riva at 303-871-2484. If you have any concerns or complaints about how you or your child were treated during this research, please contact Susan Saddler, Chair, Institutional Review Board for the Protection of Human Subjects, at 303-871-3454, or Sylk Sotto-Santiago, Office of Research and Sponsored Programs at 303-871-4052 or write to either at the University of Denver, Office of Research and Sponsored Programs, 2199 S. University Blvd., Denver, CO 80208-2121.

Two copies of this letter were provided. Please have your student return one signed copy to \_\_\_\_\_ along with the questionnaires (unless you would prefer to complete the questionnaire over the phone) in the provided envelope. You may keep one copy for your records. Please sign below if you understand the above.

I have read and understood the foregoing descriptions of the study. I have asked for and received a satisfactory explanation of any language that I did not fully understand. I understand that we may withdraw consent at any time. I have received a copy of this consent form.

Please mark one:

\_\_\_\_ Yes, I agree to participate and have my child participate

\_\_\_\_ No, I do not agree to participate or have my child participate

\_\_\_\_\_  
Name of Parent or Caregiver

\_\_\_\_\_  
Name of Child

\_\_\_\_\_  
Parent's or Caregiver's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Phone Number (if phone completion is preferred)

Dear Student:

My name is Charity Walker and I am conducting research about how being shy affects people your age. I would like to invite you to participate in this study. I am interested in learning about how shy kids feel about things like school and friends. I also want to learn about how parent figures can help kids who have a hard time with these things. I will be collecting information about all kinds of kids, so even if you are not shy or only shy sometimes you are still able to help me with this research.

You can decide whether you would like to participate. If you decide to be a part of this study, I would like you to fill out six questionnaires. You can choose not to answer any questions that make you uncomfortable in any way. The first questionnaire will ask a few questions about you, such as your gender, grade level, and age. The next questionnaire will ask about your relationship with your parent figure. The following questionnaires will ask you more about yourself, such as ways that you might feel or act. It is expected to take less than one hour for you to complete these questionnaires. All of your responses will be kept confidential, which means that no one else, such as your parent, teacher, or peers, will be able to find out your answers to these questionnaires. To help keep this research private, please do not share your answers to the questionnaires with others. To thank you for helping me with this research, I will give you \$5 gift card to \_\_\_\_\_.

No one will hold it against you if you decide not to participate. If you decide to participate and then change your mind, you can stop at any time. Please feel free to ask me any questions that you have before deciding if you want to take part. I would really appreciate you helping with this project!

Please sign below if you agree to participate in this study.

I understand what I am being asked to do and understand that I can stop my participation at any time without penalty. I have received a copy of this form.

---

Name of Participant Date

---

Signature Date



**APPENDIX C**  
**DEMOGRAPHIC QUESTIONNAIRES**

**CHILD**

1. What is your name? \_\_\_\_\_

2. What is your age? \_\_\_\_\_

3. What is your gender? (circle one):

Male

Female

4. Which ethnicity do you consider yourself to be? (circle one):

Hispanic/Latino

Asian/Pacific Islander

African American

Caucasian

American Indian

Other (please specify): \_\_\_\_\_

5. Current grade level: \_\_\_\_\_

6. What is the primary language that you speak, read, and write?  
\_\_\_\_\_

7. How shy do you consider yourself to be? (circle one):

1  
I am never  
shy

2  
I am hardly  
ever shy

3  
I am shy  
sometimes

4  
I am shy  
most of the time

5  
I am always  
shy

8. How much is being shy a problem for you? (circle one):

1  
Shyness is  
never  
a problem

2  
Shyness is  
hardly ever  
a problem

3  
Shyness is  
sometimes  
a problem

4  
Shyness is  
most often  
a problem

5  
Shyness is  
always  
a problem

**PARENT/CAREGIVER**

1. What is your name?: \_\_\_\_\_
2. What is your child's name?: \_\_\_\_\_
3. What is your relationship to your child? (circle one):
- |                   |               |                 |
|-------------------|---------------|-----------------|
| Biological parent | Step-parent   | Adoptive parent |
| Grandparent       | Foster parent | Guardian        |
- Other: \_\_\_\_\_
4. What is your gender? (circle one):
- |      |        |
|------|--------|
| Male | Female |
|------|--------|
5. Which ethnicity do you consider yourself to be? (circle one):
- |                  |                               |
|------------------|-------------------------------|
| Hispanic/Latino  | Asian/Pacific Islander        |
| African American | Caucasian                     |
| American Indian  | Other (please specify): _____ |
6. What is your highest education level? (circle one):
- |                  |                         |
|------------------|-------------------------|
| Some high school | High school Diploma/GED |
| Some college     | College Degree          |
| Graduate Degree  |                         |
7. What is the primary language that you speak, read, and write?
- \_\_\_\_\_

**Please answer the following three questions about your child:**

8. Does your child receive any special assistance at school? (circle all that apply):

Free or reduced lunch

Special education

Extra tutoring

Other: \_\_\_\_\_

None

9. How shy do you consider your child to be? (circle one):

1  
My child is  
never shy

2  
My child is hardly  
ever shy

3  
My child is shy  
sometimes

4  
My child is shy  
most of the time

5  
My child is  
always shy

10. How much is being shy a problem for your child? (circle one):

1  
Shyness is  
never  
a problem

2  
Shyness is  
hardly ever  
a problem

3  
Shyness is  
sometimes  
a problem

4  
Shyness is  
most often  
a problem

5  
Shyness is  
always  
a problem

**APPENDIX D**

**PARENT-CHILD RELATIONSHIP QUESTIONNAIRE – PERSONAL  
RELATIONSHIPS FACTOR**

## CHILD

**Directions:** Please answer all questions about your relationship with the parent figure that you spend the most time with. Please answer all questions about this person, even if you have more than one parent figure. There are no right or wrong answers. Please mark “Hardly at all,” “Not too much,” “Somewhat,” “Very much,” or “Extremely much” according to how much the statement applies to your relationship with this parent figure.

**This questionnaire is about my (for example- mother, father, step-parent, grandparent):**

---

	Hardly at all	Not too much	Some- what	Very much	Extremely much
1. How much do you and this parent figure do nice things for each other?	1	2	3	4	5
2. How much do you and this parent figure like the same things?	1	2	3	4	5
3. How much do you and this parent figure tell each other everything?	1	2	3	4	5
4. How much does this parent figure show you how to do things that you don't know how to do?	1	2	3	4	5
5. How much do you and this parent figure go places and do things together?	1	2	3	4	5
6. How much do you and this parent figure give each other a hand with things?	1	2	3	4	5
7. Some parent figures and children have a lot of things in common, while other parent figures and children have a little in common. How much do you and this parent figure have things in common?	1	2	3	4	5
8. How much do you and this parent share secrets and private feelings with each other?	1	2	3	4	5
9. How much does this parent figure help you with things you can't do by yourself?	1	2	3	4	5
10. How much do you play around and have fun with this parent figure?	1	2	3	4	5

**PARENT/CAREGIVER**

**Directions:** Please answer the following questions about your 6<sup>th</sup>, 7<sup>th</sup>, or 8<sup>th</sup> grade child. Please mark “Hardly at all,” “Not too much,” “Somewhat,” “Very much,” or “Extremely much” according to how often the statement applies to your relationship with this child.

	<b>Hardly at all</b>	<b>Not too much</b>	<b>Some- what</b>	<b>Very much</b>	<b>Extremely much</b>
1. How much do you and this child do nice things for each other?	1	2	3	4	5
2. How much do you and this child like the same things?	1	2	3	4	5
3. How much do you and this child tell each other everything?	1	2	3	4	5
4. How much do you show this child how to do things that he or she doesn't know how to do?	1	2	3	4	5
5. How much do you and this child go places and do things together?	1	2	3	4	5
6. How much do you and this child give each other a hand with things?	1	2	3	4	5
7. Some parent figures and children have a lot of things in common, while other parent figures and children have a little in common. How much do you and this child have things in common?	1	2	3	4	5
8. How much do you and this child share secrets and private feelings with each other?	1	2	3	4	5
9. How much do you help this child with things he or she can't do by him- or herself?	1	2	3	4	5
10. How much do you play around and have fun with this child?	1	2	3	4	5

**APPENDIX E**  
**CHILDREN'S SHYNESS QUESTIONNAIRE**



**Directions:** On the next pages there are statements about children. Children are all quite different from one another and there are no right or wrong answers for any of these items. Please answer according to how well the statement describes you. Please circle one answer. Mark “Yes” if the statement describes you, “No” if the statement does not describe you, and “Don’t Know” if you are not sure or the statement applies to you sometimes.

- |   |     |    |            |
|---|-----|----|------------|
| 1. I find it hard to talk to someone I don’t know.                                | Yes | No | Don’t Know |
| 2. I am easily embarrassed.   | Yes | No | Don’t Know |
| 3. I am usually quiet when I am with others.                                      | Yes | No | Don’t Know |
| 4. Do you blush when people sing “Happy Birthday” to you?                         | Yes | No | Don’t Know |
| 5. I feel nervous when I am with important people.                                | Yes | No | Don’t Know |
| 6. I feel shy when I have to read aloud in front of the class.                    | Yes | No | Don’t Know |
| 7. I feel nervous about joining a new class.                                      | Yes | No | Don’t Know |
| 8. I go red when someone teases me.   | Yes | No | Don’t Know |
| 9. Do you say a lot when you meet someone for the first time?                     | Yes | No | Don’t Know |
| 10. I am usually shy in a group of people.  | Yes | No | Don’t Know |
| 11. I feel shy when I am the center of attention.                                 | Yes | No | Don’t Know |
| 12. Do you blush a lot?   | Yes | No | Don’t Know |
| 13. I feel shy when the Head Teacher speaks to me.                                | Yes | No | Don’t Know |
| 14. If the teacher asked for someone to act in a play would you put your hand up? | Yes | No | Don’t Know |
| 15. It is easy for me to make friends.  | Yes | No | Don’t Know |

16. I would be embarrassed if the teacher put me in the front row on stage.	Yes	No	Don't Know
17. When grown-ups ask you about yourself do you often not know what to say?	Yes	No	Don't Know
18. I go red when the teacher praises my work.	Yes	No	Don't Know
19. I feel shy when I have to go in a room full of people.	Yes	No	Don't Know
20. Are you embarrassed when your friends look at photos of you when you were little?	Yes	No	Don't Know
21. Would you be too shy to ask someone to sponsor you for a good cause?	Yes	No	Don't Know
22. I enjoy having my photograph taken?	Yes	No	Don't Know
23. I usually talk to only one or two close friends.	Yes	No	Don't Know
24. I am usually shy when I meet girls (boys).	Yes	No	Don't Know
25. I go red whenever I have to speak to a girl (boy) of my age.	Yes	No	Don't Know

**APPENDIX F**

**LONELINESS AND SOCIAL SATISFACTION QUESTIONNAIRE**

**Directions:** These are some questions about school and friends. There are no right or wrong answers. I want you to answer “Definitely yes,” “Yes,” “Sometimes,” “No,” or “Definitely no,” whichever tells best how you feel. Please circle only one answer per question.

	<b>Definitely yes</b>	<b>Yes</b>	<b>Sometimes</b>	<b>No</b>	<b>Definitely no</b>
1. Is it easy for you to make friends at school?	1	2	3	4	5
2. Do you like to read?	1	2	3	4	5
3. Do you have other kids to talk to at school?	1	2	3	4	5
4. Are you good at working with other kids at school?	1	2	3	4	5
5. Do you watch TV a lot?	1	2	3	4	5
6. Is it hard for you to make friends at school?	1	2	3	4	5
7. Do you like school?	1	2	3	4	5
8. Do you have lots of friends at school?	1	2	3	4	5
9. Do you feel alone at school?	1	2	3	4	5
10. Can you find a friend when you need one?	1	2	3	4	5
11. Do you play sports a lot?	1	2	3	4	5
12. Is it hard to get kids in school to like you?	1	2	3	4	5
13. Do you like science?	1	2	3	4	5
14. Do you have kids to play with at school?	1	2	3	4	5
15. Do you like music?	1	2	3	4	5
16. Do you get along with other kids at school?	1	2	3	4	5
17. Do you feel left out of things at school?	1	2	3	4	5
18. Are there kids you can go to when you need help in school?	1	2	3	4	5
19. Do you like to paint and draw?	1	2	3	4	5

	<b>Definitely yes</b>	<b>Yes</b>	<b>Sometimes</b>	<b>No</b>	<b>Definitely no</b>
20. Is it hard for you to get along with the kids at school?	1	2	3	4	5
21. Are you lonely at school?	1	2	3	4	5
22. Do the kids at school like you?	1	2	3	4	5
23. Do you like playing card games?	1	2	3	4	5
24. Do you have friends at school?	1	2	3	4	5

**APPENDIX G**  
**SOCIAL ANXIETY SCALE FOR ADOLESCENTS**

**Directions:** These are statements about how kids might feel and ways that kids sometimes act. There are no right or wrong answers. Please mark “Not at all,” “Hardly ever,” “Sometimes,” “Most of the time,” or “All the time” according to how much the statement describes you. Please circle only one answer per statement.

	<b>Not at all</b>	<b>Hardly ever</b>	<b>Some-times</b>	<b>Most of the time</b>	<b>All the time</b>
1. I worry about doing something new in front of others.	1	2	3	4	5
2. I like to read.	1	2	3	4	5
3. I worry about being teased.	1	2	3	4	5
4. I feel shy around people I don't know.	1	2	3	4	5
5. I only talk to people I know really well.	1	2	3	4	5
6. I feel that peers talk about me behind my back.	1	2	3	4	5
7. I like to do things with my peers.	1	2	3	4	5
8. I worry about what others think of me.	1	2	3	4	5
9. I'm afraid that others will not like me.	1	2	3	4	5
10. I get nervous when I talk to peers I don't know very well.	1	2	3	4	5
11. I like to play sports.	1	2	3	4	5
12. I worry about what others say about me.	1	2	3	4	5
13. I get nervous when I meet new people.	1	2	3	4	5
14. I worry that others don't like me.	1	2	3	4	5
15. I am quiet when I'm with a group of people.	1	2	3	4	5
16. I like to do things by myself.	1	2	3	4	5
17. I feel that others make fun of me.	1	2	3	4	5
18. If I get into an argument, I worry that the other person will not like me.	1	2	3	4	5

	<b>Not at all</b>	<b>Hardly ever</b>	<b>Some- times</b>	<b>Most of the time</b>	<b>All the time</b>
19. I'm afraid to invite others to do things with me because they might say no.	1	2	3	4	5
20. I feel nervous when I'm around certain people.	1	2	3	4	5
21. I feel shy even with peers I know very well.	1	2	3	4	5
22. It's hard for me to ask others to do things with me.	1	2	3	4	5



**APPENDIX H**

**SCHOOL LIKING AND AVOIDANCE QUESTIONNAIRE- SCHOOL LIKING  
SUBSCALE**

**Directions:** The following questions are about how kids feel about school. There are no right or wrong answers. I just want to know what you really think. The things that you say will be private. Teachers or other kids will not be told what you say. Please mark “Almost Never,” “A little,” “Sometimes,” “A lot,” or “Almost always” to best show how you feel.

	<b>Almost never</b>	<b>A little</b>	<b>Some- times</b>	<b>A lot</b>	<b>Almost always</b>
1. Is school enjoyable?	1	2	3	4	5
2. Is school a lonely place for you?	1	2	3	4	5
3. Are you happy when you're at school?	1	2	3	4	5
4. Do you hate school?	1	2	3	4	5
5. Do you like being in school?	1	2	3	4	5
6. I feel alone at school. How often does this happen?	1	2	3	4	5
7. Is school a good place to be?	1	2	3	4	5
8. I feel sad and alone at school. How often does this happen?	1	2	3	4	5
9. I feel left out of things at school. How often does this happen?	1	2	3	4	5
10. Do you like going to school?	1	2	3	4	5
11. I feel lonely at school. How often does this happen?	1	2	3	4	5

**APPENDIX I**  
**INSTITUTIONAL REVIEW BOARD APPROVAL LETTER**

# University of Denver

Sylk Sotto-Santiago, MBA  
Manager, Regulatory Research Compliance Tel: 303-871-4052

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## Certification of Human Subjects Approval

December 2, 2009

To,

Charity Walker, M.A.

### Subject **Human Subject Review**

**TITLE:** The Impact of Shyness on Loneliness,  
Social Anxiety, and School Liking as  
Moderated by the Parent-Child  
Relationship

**IRB# :** 2009-1220

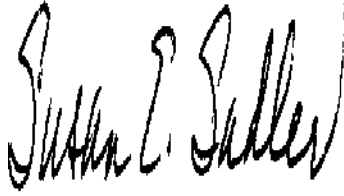
Dear Ms. Walker,

The Institutional Review Board for the Protection of Human Subjects has reviewed the above named project. The project has been approved for the procedures and subjects described in the protocol at the 10/13/2009 meeting. This approval is effective for twelve months. We will be sending you a continuation application reminder for this project. This form must be submitted to the Office of Research and Sponsored Programs if the project is to be continued. This information must be updated on a yearly basis, upon continuation of your IRB approval for as long as the research continues.

NOTE: Please add the following information to any consent forms, surveys, questionnaires, invitation letters, etc you will use in your research as follows: This survey (consent, study, etc.) was approved by the University of Denver's Institutional Review Board for the Protection of Human Subjects in Research on 10/13/2009. This information must be updated on a yearly basis, upon continuation of your IRB approval for as long as the research continues.

The Institutional Review Board appreciates your cooperation in protecting subjects and ensuring that each subject gives a meaningful consent to participate in research projects. If you have any questions regarding your obligations under the Assurance, please do not hesitate to contact us.

Sincerely yours,



Susan Sadler, PhD  
Chair, Institutional Review Board  
for the Protection of Human Subjects

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**Approval Period:** 10/13/2009 through 10/12/2010 Full  
**Review Type:** Board - NEW  
**Funding:**  
**Investigational New Drug :**  
**Investigational Device:**

SPO