A LONGITUDINAL INVESTIGATION OF THE STABILITY AND
OUTCOMES OF SHYNESS FROM PRESCHOOL TO EARLY
ELEMENTARY SCHOOL

Mandana Armer
Carleton University

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RUNNING HEAD: STABILITY AND OUTCOMES OF SHYNESS

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Abstract

The goal of this study was to explore the stability and outcomes of shyness from preschool to elementary school. Participants were 75 children who were originally assessed while attending preschool. Mothers completed a rating of child shyness. Two-three years later in elementary school, mothers rated shyness ratings and also child behaviour problems. Children were interviewed to assess social anxiety, self-concept, and coping strategies. Shyness was found to be quite stable across time. In addition, shyness was predictively and concurrently associated with lower social competence and greater internalizing problems. Shyness was also associated with social anxiety, lower perceived peer acceptance, and the use of avoidant coping strategies for boys but not girls. Finally, results indicated that avoidant coping strategies may play a protective role against some negative consequences associated with shyness. Results are discussed in terms of the risk status associated with shyness in early childhood.

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A Longitudinal Investigation of the Stability and Outcomes of Shyness from
Preschool to Elementary School

Introduction

Children need peer interaction to master major developmental tasks. Peer interaction influences the development of social cognition and, ultimately, the expression of competent social behaviour. Peer interaction influences children's understandings of the rules and norms of their peer subcultures. This understanding of the normative performance levels engenders in the child the ability to evaluate his/her own competency against the perceived standards of the peer group (Rubin, Burgess, & Coplan, 2002).

Children who do not interact often with their peers may be at risk in their later cognitive and social development. They may show deficits in the perspective taking skills, moral judgment, negotiation skills, and the social knowledge or skills they need (Asendorpf, 1990a). These skills are important for successful future social interaction.

Children who do not engage in frequent peer interaction are typically categorized under the general term "socially withdrawn". However, it has become increasingly recognized that there are three broad conceptualizations of the 'causes' of social withdrawal (e.g., Asendorpf, 1993; Coplan, 2000; Rubin, 1982; Rubin et al, 2002). Some children play alone because despite a high motivation to interact with others they are too anxious or afraid to initiate social interactions (shyness); some children play alone because they are not interested in playing with other children (social disinterest); and still others play alone because they are actively rejected by their peers. The focus of the present study will be shy children, who are thought to

engage in less social interaction because of an approach-avoidance conflict (Asendorpf, 1990a, 1991). As children move from preschool to elementary school, they are exposed to more frequent interaction with a new group of peers. With this in mind, the current study explored four general goals: (1) the stability of shyness during the transition period from preschool to elementary school; (2) the potential outcomes of shyness during this time period, including anxiety, perceived competence (self-esteem), internalizing problems, social competence, and coping strategies in elementary school; (3) gender differences in the stability and outcomes of shyness; and finally, (4) whether coping might serve as a possible moderating variable in the stability and outcomes of shyness.

In this introduction, the conceptualizations of shyness will first be explored, followed by a review of the development of shyness. After this a summary of the current research on the stability, correlates, and outcomes associated with shyness will be reviewed. The current longitudinal research will be reviewed next, followed by the research questions for the current study.

Conceptualizing Shyness

Definitions. There are many different definitions of shyness that are commonly used by researchers today. Shyness has been defined as wariness and anxiety in response to novel social situations. The novel social situations that cause children to be shy can be anything from the first day at a new school to being in the same room as an adult stranger (Rubin, et al., 2002). Buss (1984) defined shyness as the absence of instrumental activity in social situations, expressed by withdrawal, reticence, and inhibition. From a different perspective, Crozier, (1999) has conceptualized shyness as

a social emotion involving the negative evaluation of the self by others. In this regard, shyness is viewed similarly to humiliation or embarrassment, as a state or emotion rather than as a temperament or trait.

Finally, Asendorpf (1990a) has argued that shyness is the result of a diametrical mental experience. Shy children are assumed to be less involved with other children because they are often trapped in an “approach-avoidance” conflict. An approach-avoidance conflict occurs when shy children desire peer interaction (high social approach motivation) but are simultaneously inhibited by social fear and anxiety (high social avoidance motivation). Depending on how shy children resolve this conflict, they may display inhibited approach behaviour (e.g., wait and hover), behaviour that indicates a compromise between approach and avoidance (e.g., parallel play) and less social interactive behaviour (e.g., conversation and group play) (Asendorpf, 1990a).

For the purposes of this study, shyness is conceptualized as ‘conflicted-shyness’ where the child is trapped in an approach-avoidance conflict. This is the same as Asendorpf’s (1990a) definition of shyness. It must be kept in mind however, that due to the variability in how shyness is defined in every study, results must be interpreted and compared with caution.

Behavioural Inhibition (BI). Inhibition can be considered a “broader form” of shyness, whereas shyness may refer to being fearful and wary when encountering unfamiliar social situations, inhibition can be experienced as a result of any new situation (not necessarily social). These terms are often used interchangeably to describe children who refrain from interaction with peers (Rubin, et al., 2002).

According to Kagan (1989), inhibited and uninhibited temperaments refer to different classes of children who share a genotype, an environmental history, and a set of correlated behavioural physiological characteristics. Kagan (1989) argued that these two groups (inhibited and uninhibited) of children are different genetically because they have different psychophysiological profiles. For example, inhibited children have lower thresholds of reactivity in the limbic system (especially in the amygdala and hypothalamus). Despite this, Kagan (1989) maintained that the best evidence for differences between an inhibited and uninhibited temperament are signs of sympathetic influence on the cardiovascular system. For example, inhibited children show a consistent tendency to have cardiac acceleration to mild cognitive stress (Kagan, 1989).

Types of shyness. Some researchers have suggested that there is more than one type of shyness (Asendorpf, 1990; Buss, 1984; Kagan, 1994). For example, fearful shyness is elicited by novelty and intrusion into a social situation, such as interacting with strangers (Asendorpf, 1990; Buss, 1984). Fearful shyness is considered closely related to inhibition. The origins of extreme fearful shyness in children may be linked to their early infant temperament. Kagan and Snidman (1991) found that infants with a high degree of motor activity and distress to the presentation of novel auditory and visual stimuli (at 4 months of age) were more likely than less reactive infants, to display fear and wariness to unfamiliar social and non-social stimuli when they became toddlers. As well, low reactive infants, those who showed low levels of motor activity, crying, and fretting at age four months, were likely to be more fearless and uninhibited at later ages (Kagan, 1994).

It is commonly argued that there is a developmental aspect of shyness. For example, both Asendorpf (1990) and Buss (1984) have suggested that under the age of four years the self is not sufficiently developed to support the kinds of thinking about the self or perspective taking ability that is characteristic of self-consciousness. Thus, fearful shyness emerges early in life and is associated with inhibition in new situations (including contact with strangers).

In contrast, a second type of shyness, *self-conscious* shyness, emerges later in life and is associated with a heightened awareness of the self as a social object (Buss, 1984). Self-conscious shyness is produced by formal situations, breaches of privacy, being scrutinized, or being uniquely different. In other words, self-conscious shyness is the result of being in situations which have the potential of evaluation by others (Buss, 1984; Asendorpf, 1990a).

Thus, there is some agreement among researchers that individuals can experience different kinds of shyness (Asendorpf, 1990a; Buss, 1984; Crozier, 1999). In an attempt to examine the differences among fearful, self conscious, and non-shy groups, Bruch, Giordano, and Pearl (1986) looked at the history of shyness in their participants, as well as the involvement of different anxiety components. They explored differences in the degree of competence each showed in certain personal, social, educational, and vocational responses. Differences between fearful, self-conscious, and the non-shy groups indicated that fearful shy people were found to be significantly less knowledgeable about the content of an effective response when making requests and expressing positive feelings than were non-shy individuals. And, while a substantial majority of self-conscious shy individuals (88 %) reported first

feeling shy in later years, 42% of fearful shy individuals reported first feeling shy before elementary school.

This suggests two different pathways for fearful shyness. The first, as Buss (1984) suggests, is as a result of temperament. This was represented by the group who reported feeling shy before elementary school. The second, a manifestation of conditioned fear responses to social stimuli in later years, such as the stresses of school peer groups which was represented by the group who did not report such an early age of onset. As well, the fearful shy group reported a greater degree of somatic anxiety and for fearful shy men, greater behavioural inhibition. Fearful shy individuals were also less knowledgeable about effective social skills in general (Bruch, et al., 1986).

The greater number of differences for the fearful shy groups is consistent with Buss's (1984) notion that in contrast to the self-conscious shy group, fearful shyness has a more chronic and debilitating nature. However, there were no differences in acquired competence, and thus, this may suggest that the subtypes may differ in degree but not type of maladjustment (Bruch, et al., 1986).

Asendorpf has also described different types of social withdrawal. According to Asendorpf (1990), social involvement is the result of two different behavioural tendencies that are independent of one another. Social approach, and social avoidance. Each tendency may be the result of different motivational tendencies contributing to approach or avoidance. There are four motivational traits. *Unsociable* (or socially disinterested) children may simply ignore peers because they are immersed in non-social activities such as playing with toys. These children are not motivated to play with others nor motivated to avoid them. In other words, they are low on both approach

and avoidance tendencies. The shy children may be trapped in an approach-avoidance conflict because different motivational systems are aroused, resulting in contrary behavioural tendencies. These children are high on both approach and avoidance tendencies. Avoidant children are high on avoidance and low on approach tendencies, and will avoid their peers. Finally, sociable children easily and frequently approach their peers, and are low on avoidance and high on approach tendencies (Asendorpf, 1990a).

Social withdrawal refers to the consistent (across time and situation) display of solitary behaviour when encountering familiar and/or unfamiliar peers (Asendorpf, 1990a). Social withdrawal then, is isolating oneself from the playgroup (Rubin, et al., 2002). Previous researchers who have assessed social withdrawal have used either behavioural, observational, or peer nominations that tend to confound the different reasons that children may play alone (ie. shyness versus social disinterest). Even in kindergarten and preschool, socially withdrawn children do not represent a homogenous group. The different types of social withdrawal are distinguishable by the different motivations underlying the social non-involvement and in the cognitive correlates of the characteristic behaviour (Asendorpf, 1990a). The literature on shyness often includes that which focuses on social withdrawal. This means that children with other motivations behind their social withdrawal, besides an approach-avoidance conflict (shyness), are included in the shyness literature. Thus, these results must be interpreted with some caution. However, the literature on social withdrawal will be reviewed where appropriate, with the previous warnings kept in mind.

Support for Asendorpf's (1990a) suggestion that there are different motivations underlying different aspects of social withdrawal was reported by Coplan, Mosher, O'Neil, and Armer (under review). They found that their measure of conflicted shyness was associated with wariness to social novelty and negative emotionality. Children who were socially disinterested were not fearfully shy. They had a higher attention span and lower negative emotionality. It was also related to a lesser preference for playing with peers, and making fewer social initiations to peers. Thus, one can see that there is indeed a difference between the underlying motivations of shyness and social disinterest (Coplan, et al., under review).

Summary. Shyness can be seen as fear and wariness in response to social situations, underlaid by an approach-avoidance conflict. In this study, shyness is defined as 'conflicted shyness', underscoring the approach-avoidance conflict. Different types of shyness commonly referred to include fearful shyness and self-conscious shyness. Fearful shyness is argued to emerge early in life while self-conscious shyness emerges later as cognitive abilities increase.

Development of Shyness

A model of the development of shyness includes both biological and environmental influences. For example, children who are shy have a lower threshold for arousal (Kagan, 1994, 1999), and greater right frontal EEG activity (Schmidt & Tasker, 2000). However, other environmental factors influence the development of shyness. Authoritarian parenting, for example, has been linked to withdrawn behaviours (Baumrind, 1971) and overprotective parenting has also been linked to social wariness in early childhood (Rubin et al., 2001, Coplan et al., under review).

Thus, when considering the development of shyness one must keep in mind that biology does not mean an absolute pathway (Arcus, 2000). Environment also plays a role.

Biological influences. In the past couple of decades the links between shyness and various biological and physiological underpinnings have become increasingly clear. Results from a number of studies in recent years have provided evidence to suggest a fundamental biological difference in the make-up of inhibited and uninhibited children (Calkins, Fox, & Marshall, 1996; Kagan, 1991; Kagan, Reznick, & Snidman, 1988; Reznick, Kagan, Snidman, Gersten, Baak & Rosenberg, 1986). Kagan and colleagues (Kagan, 1991; 1994) have uncovered many indications of a biological basis to childhood shyness. For example, Kagan (1994, 1999) found that individual differences in infant reactivity to novelty may be linked to sensitivity in the forebrain circuits that are involved in the processing and regulation of emotion. Specifically, inhibited children demonstrated a lower threshold for arousal in the central nucleus of the amygdala.

Other indicators of a biological origin of BI include heart rate acceleration to mild stress, high early morning levels of salivary cortisol, and certain patterns of brain electrical activity (Kagan, et al., 1988; Schmidt & Tasker, 2000). Infants who exhibit high overall frontal electroencephalogram (EEG) activity during baseline conditions also display higher levels of salivary cortisol during stressful situations (Schmidt & Tasker, 2000). Results from other research suggest that infants that exhibit a stable pattern of greater relative right frontal EEG activity are more likely to be temperamentally distressed to novelty as reported by their mothers at age 9 months

(Schmidt & Tasker, 2000). Salivary cortisol gives a measurement of the hypothalamic-pituitary-adrenocortical (HPA) axis, which is largely affected by stressful or aversive situations that involve novelty, or uncertainty (Levine, 1983). Behaviourally inhibited infants show increases in cortisol as a function of exposure to stressful situations (Spangler & Schieche, 1998).

Fox and Calkins (1993) found that infants who displayed a pattern of stable right frontal EEG asymmetry across a 15 month period (from 9 to 24 months of age) were more fearful, anxious, compliant, and behaviourally inhibited than other infants. This implies that there is greater sympathetic reactivity among inhibited children (Kagan, et al., 1988). It has been suggested that most inhibited children belong to a qualitatively distinct category of infants who were born with a lower threshold for limbic hypothalamic arousal to unexpected changes in the environment or to novel events that cannot be assimilated easily (Kagan, et al., 1988). These findings indicate that some children who are inhibited are more easily aroused and thus display inhibited behaviour.

Environmental Influences. Kagan, et al. (1988) have also suggested that the actualization of shy, timid, quiet behaviour at two years of age require some form of chronic environmental stress acting upon the temperamental disposition present at birth. Other researchers (Arcus, 2000), while attempting to show that biology does contribute to the manifestation of inhibition, also agree that the developmental pathway is not absolute. In other words, not all children with these biological dispositions become inhibited children. Later in development, genetically driven forces may emerge. There may be environmental influences on the developmental course of an

initial biological bias, and there may be interactions between the environment and the biological make-up of a child. These are all possible scenarios that are not mutually exclusive. Thus, this biological bias acts in the context of the environment (Arcus, 2000).

Along this same vein, there are suggestions that there is both a genetically mediated continuity between shyness in infancy and shyness in adulthood and an effect of family environment. For example, in non-adoptive homes, parental ratings of infant shyness at 12 and 24 months of age are related to mothers' self-reports of shyness, low sociability, and introversion. This same relation emerged in adoptive families, suggesting that the resemblance must be mediated in part through family environment. Shyness in the adopted away infants at 24 months was significantly related to their biological mother's shyness (Daniels & Plomin, 1985). It was concluded that a combination of family environment and genetics play a part in shyness.

Thus, how shyness is experienced and presented can be influenced by the child's social environment. Different contexts can have different effects on shyness. For example, Arcus (2000) suggests that there are at least two different kinds of contextual moderators of inhibited and uninhibited behaviour. One moderator lies in the contexts that evoke the temperamental categories of uninhibited or inhibited. A prime example of such a context is marked by salient novelty or uncertainty such as an event that is not typically a part of a child's home experience (a visitor arriving). The other moderator influences the developmental path because of the interaction between temperament and experience (Arcus, 2000). For example, the goodness of fit between

an infant's early temperament and the characteristics of his/her family has been focused on as a very important part of the child's development (Thomas & Chess, 1977).

In this regard, there is some empirical evidence to suggest that parenting styles are related to the development of childhood shyness. For example, authoritarian (i.e., harsh, coercive) parenting has been related to social isolation and withdrawn behaviours (Baumrind, 1971; Mills & Rubin, 1993). Rubin, Cheah, and Fox (2001) argued that shy children with parents that are oversolicitous (i.e. discourage child dependence, restrict child activities) do not develop proper coping strategies due to parents over-managing of their lives. In support of this notion, recent results from several studies have demonstrated a relation between overprotective parenting and social wariness in early childhood (Rubin et al., 2001; Rubin, Hastings, Stewart, Henderson & Chen, 1997).

Summary. Shyness can be seen as the result of several factors. A clear biological factor has been indicated in numerous studies. Children who are shy and behaviourally inhibited show a pattern of biological differences in comparison to children who are not shy or behaviourally inhibited. However, social influences, such as parenting, have also been implicated in the development of shyness. These studies point towards the influence of both nature and nurture in the manifestation of shyness.

Stability of Shyness

A fundamental question in the developmental trajectory of shyness concerns the stability of shyness across various points in the life-span. However, results from empirical studies exploring the stability of shyness can be difficult to interpret. In some studies (e.g. Asendorpf, 1991) shyness is measured using parental ratings or teacher

ratings, whereas other studies employ observational methods (e.g. Asendorpf, 1994, Rubin, Hymel, & Mills, 1989). The stability of shyness has also been studied in various settings (e.g. school, home, laboratory) and across different ages. Also, some researchers look at the correlations between shyness scores at different periods of time (e.g., Fordham & Stevenson-Hinde, 1999) and others look at the stability of membership in extreme groups of shy children (e.g., Schneider, Younger, Smith, & Freeman, 1998). Nonetheless, despite these differences there is still evidence that shyness is stable across time and situations. For example, shyness in toddlerhood has shown moderate stability from 21 to 31 months (Coll, Kagan, & Reznick, 1984).

Cherny, Fulker, Corley, Plomin, and DeFries (1994) explored the stability of shyness from 14 to 20 months. Shyness was measured in a sample of monozygotic ($n = 163$) and same sex dizygotic ($n = 138$) twins in two different situations: the laboratory and the home. Shyness was defined as the initial social responding to unfamiliar persons. The rating of shyness was obtained by rating the behaviours that the children engaged in when the tester entered the home, or the child entered the laboratory. The entries were recorded on videotape. The lab visits occurred approximately 1 to 2 weeks after the home visit at both 14 and 20 months. It was found that in toddlers 14 to 20 months old, shyness was not highly stable (Cherny et al., 1994).

Other researchers (Coll, et al., 1984) have found moderate stability of shyness related behaviours across a 10 month interval in toddlers (21 to 31 months). Inhibition in this study was defined as the child's initial reaction to moderately unfamiliar places, people, or events. Reactions include, crying, withdrawal, and inhibition of vocalization

and motor activity (Coll et al., 1984). The inhibited behaviour in 117 infants was measured by seven behavioural indexes of inhibition derived from peer play sessions. Children who were consistently inhibited across time were also behaviourally inhibited with their peers during the peer play sessions ($r = .63$). About one third of the initially inhibited children remained extremely inhibited across all assessments (including home play and laboratory sessions) (Coll, et al., 1984).

Other research has provided evidence for the stability of shyness from age 1 to 6 years. For example, Sanson, Pedlow, Cann, Prior, and Oberklaid, (1996) used a maternal rating measure of shyness that looked at their children's approach behaviours. This measure assesses reactions to new people and situations and was considered to be a good rating of shyness. In this study, shyness was defined as inhibition and discomfort in the presence of unfamiliar people and situations. Through the use of log-linear modeling techniques, a moderate level of stability from age 1 to 6 years was indicated. The stability of shyness was linear, showing that stability increased as age increased. The children who were considered very shy showed even higher levels of stability across this age (Sanson, et al., 1996).

Results from other research indicate that inhibition towards strangers in an unfamiliar setting showed a high rate of stability between the ages of 4 to 9 years (Asendorpf, 1990b; Fordham & Stevenson-Hinde, 1999). Asendorpf (1990b) observed the inhibition (the approach-avoidance conflict experienced in social situations) of 99 children from the start of preschool through Grade 1 in multiple settings. These settings included, interactions with adult strangers, dyadic play with unfamiliar and familiar peers, and regular free play in class. Results indicated that there was a high level of

stability ($r = .75$) of inhibition towards strangers for children between the ages of 4 and 6 years ($r = .75$) and children between the ages of 4 and 7 years ($r = .64$).

Fordham and Stevenson-Hinde (1999) selected a sample ($n=50$) of children aged 4.5 years and gave them a structured interview in their homes in order to assess their shyness. This was again done at age 7. Shyness ratings were completed after the interview based on ratings of the child's nonverbal anxiety and low verbal responsiveness. In addition, current teachers and mothers completed a global rating of the child's shyness. Shyness was defined as the initial withdrawal to unfamiliar or challenging events. Correlations between the shyness ratings at age 9 and 10 years with those made at 4.5 and 7 years revealed a high level of consistency ($r = .66$ and $.60$ respectively). Thus, inhibition towards strangers in pre-school and early elementary school seem to be highly stable (Asendorpf, 1990; Fordham & Stevenson-Hinde, 1999).

From kindergarten to grade 5 the relationship is less clear. Some degree of stability of social withdrawal from kindergarten to grade 2 ($r = .37$) has been found, but not from kindergarten to grade 4 (Rubin, et al., 1989). With peer assessments of social withdrawal there was a moderate degree of stability from grade 2 to grade 4 ($r = .25$). And further, peer assessments of withdrawal in grade 2 were found to predict internalizing problems in later grades (Rubin, et al., 1989). The research that looks at social withdrawal is not completely relevant to predictions of stability of shyness because measurements of social withdrawal include children that are shy as well as children that are socially disinterested (Rubin, et al., 2002). Rubin (1989) defines social withdrawal as a lack of a normal amount of interaction with peers. Thus, the

discrepancy in the degree of stability found across the ages for social withdrawal are not necessarily a reflection of the stability of shyness from kindergarten to grade 4.

Schneider, Younger, Smith, and Freeman (1998) looked at the stability of social withdrawal in children from Grade 5 to Grade 8. In this study, social withdrawal was defined in terms of sensitivity/isolation with items such as “would rather play alone than with others” referring to social withdrawal or isolation. They found that the most withdrawn students remained withdrawn throughout this time period (74% of the original extreme group had scores in the extreme range in Grade 8). If the children were considered withdrawn by their classmates than they were found to be relatively uninvolved in social activities with peers at home, at peers homes, and in the community. The lack of participation and peers perception of social withdrawal remained stable across time (Schneider, et al., 1998).

In the current study, the focus will be on shyness from preschool to elementary school. There is currently very little research that explores the stability of shyness during this age period. It is important to fill the gaps in current knowledge because of the transition from preschool to elementary school that children must make. The entry into elementary school is marked by the experience of new peers in a new environment and new expectations for social behaviour from teachers, parents, and peers. It can be expected that a child who is shy may have some difficulties in this transition period which is full of novel social situations. With this in mind, the first goal of this study will be to assess the stability of shyness from preschool to elementary school.

Summary. Most studies that look at the stability of shyness throughout childhood find moderate to high stability. There are very few studies that look at the

transition period from preschool to early elementary school. Some studies look at social withdrawal which confounds social disinterest with shyness and this can make interpretation difficult and more research necessary.

Correlates and Outcomes of Shyness across the Life-span

In light of the research that points to the stability of shyness throughout childhood, it is very important to also examine the correlates and outcomes that are associated with shyness. As previously mentioned, the ages that span the transition from preschool to early elementary school are very important to the development of children's social skills. Most of the research that has been done use a cross-sectional design. Thus, longitudinal designs that look at children over this time period would be most useful to explore the outcomes of shyness in early childhood. Research findings indicate that children who are shy are more likely to experience a wide range of problems (Rubin, et al., 2002). Therefore, it is important to determine what shyness in early childhood predicts during the major transition into elementary school.

Early childhood. The negative correlates that are often associated with shyness are evident from infancy. Shy infants (four to eight months) are often more irritable, less rhythmic, less co-operative, and less manageable than non-shy infants. As well, mothers perceive their shy infants as more difficult and report more colic, sleeping problems, and excessive crying (Sanson, et al., 1996). Stevenson-Hinde and Glover (1996) found that negative mood was always highest for shy boys. Shy boys (age 4 to 4.5 years) acted out more, had more fears, and had more worries than shy girls.

In early childhood, shyness appears to be manifested behaviourally through the display of reticent behaviour (Coplan, 2000; Coplan, et al., 1994). Reticent behaviours

include the prolonged watching of other children without joining in (onlooking) and being unoccupied. This form of nonsocial play appears to be indicative of social anxiety in both novel and familiar settings (Coplan, 2000). More recent research points towards differences in behaviours for shy boys and shy girls. For example, Coplan et al., (2001) found that child shyness was associated with reticent behaviour for both boys and girls but also to solitary passive behaviour for boys only. As well, for boys, solitary passive behaviour was positively associated with internalizing problems and negatively associated with social competence and academic achievement for boys (Coplan, et al., 2001).

Middle childhood. In middle childhood (age 5 to 11), shyness is related to internalizing problems such as fearfulness, negative mood, worrying, and being distressed (Sanson et al., 1996; Stevenson-Hinde & Glover, 1996). It has also been found that the more shy a child is, the more they experience negative moods (Stevenson-Hinde & Glover, 1996). This suggests that shyness is related to internalizing problems and anxiety during this age period. This finding is important for the current study because it encompasses the age range that will be studied. Specifically, it leads towards the question of whether shyness at a young age predicts internalizing, anxiety, and low self-esteem later on.

According to Eisenberg, Shepard, Fabes, Murphy, and Guthrie, (1998) children who were shy from the age of 6 to 12 showed avoidant coping strategies when they were in preschool (age 4 to 6) and early elementary school (age 6 to 8). In the study, children who were shy in middle childhood had been avoidant copers at home in both preschool and the early school years. Children rated as shy by adults were viewed as

likely to do nothing in potential conflict situations. Thus, they were seen as being passive in peer conflicts. This finding held across time and context. There was a negative correlation between shyness and instrumental coping (across time and context) and shy kids were less likely to seek support as a coping strategy. Children seen as shy by their teachers were reported to use fewer instrumental coping strategies by the same teachers and by their teachers up to six years later. Teachers rated shyness as negatively related to parental reports of instrumental coping and parent rated shyness was negatively related to instrumental coping. This pattern, however, was primarily found for boys (Eisenberg, et al., 1998).

These findings suggest then, that children who are shy use less effective coping measures than children who are not shy. Evidence from other bodies of research indicate that children with good coping strategies have better feelings about themselves, can communicate without inhibition, can handle anxiety, have higher self-esteem and higher self-worth (Murphy & Moriarty, 1976; Skinner & Welborn, 1997). These are all characteristics that are generally negatively related to shyness (see Fordham & Stevenson-Hinde, 1999; Lawrence & Bennett, 1992). This body of research does not give any insight as to whether or not shyness at a younger age would predict poor coping strategies in early elementary school.

Later childhood and adolescence. Shyness has been found to be negatively related to measures of global self-worth and positively associated with trait anxiety at 10 years of age (Fordham & Stevenson-Hinde, 1991). It seems that shy behaviour becomes more strongly related to low global self-worth and trait anxiety over the middle school years. Because global self-worth is an important index of adjustment and

plays both a central and crucial role in development, the signs are that shyness becomes more problematic during pre-adolescence (Fordham & Stevenson-Hinde, 1999).

Rubin et al., (1993) reported that extremely withdrawn 11 year old boys described themselves as more lonely and as having poorer social skills than a comparison group. This was not found for girls. Teacher ratings of shy boys aged 10 to 12 years showed that they were significantly less friendly and sociable, more reserved, more somber, more withdrawn, and more likely to be followers than leaders. Shy girls (ages 10 to 12 years) were also rated as significantly less friendly and less sociable, more reserved, somber, withdrawn, and to be followers rather than leaders (Caspi, Elder, & Bem, 1988).

Lawrence and Bennett (1992) reported that for both boys and girls, ages 11 to 18, inherent shyness (stable across situations) was more highly correlated with anxiety and neuroticism than was situational shyness. Situational shyness (shyness that occurred only in certain situations) was more highly correlated with extraversion and self-esteem than was inherent shyness. The relation between shyness (both types) and anxiety and neuroticism was positive, while the relation between both types of shyness and extraversion and self-esteem was negative (Lawrence & Bennett, 1992). According to Rubin and Stewart (1996) withdrawn boys experience different socialization histories and different developmental outcomes than their female counterparts. Thus, it is the final aim of this study to look further into the question of gender differences in the stability of shyness and in the relation between shyness and coping strategies, anxiety, social skills, internalizing, and self-esteem.

Summary. From infancy onwards shyness has many negative correlates associated with it. In infancy parents report difficult babies and in early childhood shy children engage in maladaptive play patterns. As shy children get older they experience negative emotions and other internalizing difficulties. By early to middle adolescents shyness is associated with more problems, including anxiety, poor coping strategies and low self-esteem. Even in adulthood the effects of shyness are still evident. For example men who were shy as children get married later and have families later. Throughout the life span it has become apparent that shyness for boys may be worse than shyness for girls.

Longitudinal studies. Longitudinal designs are more time consuming and costly than group designs. They require dedication from researchers and participants alike. It is likely for this reason that very few longitudinal studies have explored the outcomes of shyness from early to middle childhood. Moreover, the transition from pre-school to elementary school can make it difficult to maintain contact with the participants. However, longitudinal studies are very important for this area of research as they can provide predictive outcomes which will shed light on whether we should be concerned about children who are shy in preschool. The research that looks at the correlates of current shyness show that indeed, in early childhood, shyness is associated with problems in a child's social and emotional life. However, it is more important to consider whether shyness at an early age can predict negative outcomes later on.

In a longitudinal study by Cherny, et al., (1994), it was suggested that from 14 to 20 months of age shyness is not highly stable. As well, laboratory and home measures of shyness were not highly correlated. Sanson, et al., (1996) explored the

stability and correlates of shyness from infancy to 6 years. Shyness was assessed using a maternal rating on temperament which assesses reactions to new people and situations. The stability of shyness was moderate from 1-2 years onwards. Shyness was found to be related to general 'difficultness' in infancy and at age 5-6 years it was related to internalizing problems.

The bulk of the longitudinal research on shyness from preschool to early elementary school has been conducted by Asendorpf. For example, Asendorpf (1991) argued that inhibited children cope with their inhibition in a characteristic way. Inhibited behaviour was measured through parental ratings and observations in dyadic free play sessions with unfamiliar peers at 4, 6, and 8 years of age. Inhibited children did not show the normal preference for moving from solitary to social behaviour during free play with an initially unfamiliar peer. They were less likely than uninhibited children to move from inhibited behaviour or solitary passive activity to social behaviour and more likely to retreat from social behaviour back to inhibited behaviour. With increasing age (4 to 8 years), the inhibited children spent longer periods of time in solitary passive behaviour, but non-inhibited children showed an increase in social interaction. Thus, non-inhibited children's style of coping with unfamiliarity showed a developmental shift. It became more successful because they engaged in longer periods of social interaction, whereas inhibited children did not become more sociable. In fact, many of them returned to longer periods of passive solitude (Asendorpf, 1991).

Asendorpf (1990b) observed 99 children from the start of preschool through Grade 1 in multiple settings. These settings included, interactions with adult strangers, dyadic play with unfamiliar and familiar peers, and regular free play in the classroom.

A high longitudinal stability of inhibition toward strangers and a medium stability of inhibition in class was found. In addition, the consistency of inhibition towards strangers and inhibition in class decreased over this time period while consistency of inhibition in class and being rejected by classmates increased. And finally, Asendorpf (1990b) found that there was no detrimental effect of children's inhibition towards strangers on their dyadic play with familiar peers.

In another longitudinal study in which children were confronted with an adult stranger when they were 4, 6, 8, and 10 years of age ($n=68$), Asendorpf (1994) found that inhibition towards strangers was moderately stable. Asendorpf (1994) also gave the teachers of another group of children the California Child Q-Sort (Block & Block, 1980) to test stability of inhibition in the classroom ($n=71$). It was found that inhibition in the classroom had moderate to low stability. Both groups of children had their social competence and intelligence measured as well. This longitudinal study also showed that the more competent a child was in nonverbal intelligence and social skills the more their inhibition decreased over the six year period. It was speculated that higher levels of intelligence lead to a better ability to generate and automatize coping strategies, which in turn help in difficult social situations (such as meeting strangers) (Asendorpf, 1994). However, coping was not directly assessed in this study, thus an aim of the present study was to explore whether better coping strategies lead to a decrease in inhibition over time.

Using teacher and parent ratings of shyness, Eisenberg, et al., (1988) reported that children from the age of 6 to 12 years that were shy were found to experience internalizing negative emotion and have poor coping strategies. Parents and teachers

reported different relations between child shyness and emotionality, regulation and coping. For example, parent rated shyness was related to avoidant coping and teacher rated shyness was negatively related to instrumental coping.

The Waterloo Longitudinal Project (WLP) is a large project from which several studies have come from (e.g. Rubin, et al., 1995; Rubin, et al., 1989). It was initiated in an effort to examine the stability and predictive outcomes of childhood withdrawal, among other things (Rubin et al., 1995). Rubin et al., (1989) used an original sample of 111 kindergartners. The children were followed up in Grades 2, 3, 4, and 5.

Observations of free play interactions and peer assessments were used to examine social withdrawal. A modest degree of stability was indicated as well as relations found between early social withdrawal in kindergarten and Grade 2 and subsequent internalizing problems in Grades 4 and 5. Following up on this, Rubin, et al., (1995) reported that children who were socially withdrawn at age 7 were lonely, insecure, and had a negative self-regard when they were 14 years old. Across a similar age span, Schneider, Younger, Smith, and Freeman (1998) conducted a study with a final total of 100 participants from Grade 5 to Grade 8 and found that early adolescents considered withdrawn by their peers were relatively uninvolved in activities with peers in home and community events.

A few studies that look at the life course of children who are shy find some gender differences. For example, Caspi, et al., (1988) reported that boys who were shy as children showed a delay in marrying, becoming fathers, and establishing stable careers in adulthood. Childhood shyness remained a significant predictor of these role-transition ages even with statistical controls for class origin, educational level, age at

completion of formal education, age at entry into the labor market, military service, and physical attractiveness. Thus, men who were reluctant to enter social settings as children appear to have become adults who are more generally reluctant to enter the new and unfamiliar social settings required by the important life-course transitions into marriage, parenthood, and career (Caspi, et al., 1988).

On the other hand, women with a childhood history of shy and reserved behaviour were not delayed in entering marriages or starting families. They were more likely to lead a prototypical feminine life of marriage and homemaking. They more commonly selected a more domestic life-style than their peers and were more likely to avoid venturing into employment outside the home. Shy women were more likely to be married to men who had higher occupational status at midlife than husbands of other women (Caspi, et al., 1988).

These same results have been replicated by Kerr, Lambert and Bem, (1996) with the only exception being that shyness was not related to men's career variables. Thus, by adulthood shy boys seemed to have experienced greater consequences than shy girls. The indications that the impact of shyness is greater for boys than for girls makes it imperative that the relation between gender and the stability of shyness in the early years of development is discovered. Thus, this study will aim to see if shyness is more stable for boys and associated with more negative outcomes than for girls.

Summary. To date there are very few pertinent longitudinal studies that look at shyness in children from preschool to early elementary school. What has been done focuses mainly on the stability of shyness across different age spans. There remains a

great need for more longitudinal research to look at the predictive ability of shyness from preschool to elementary school.

Research Questions for the Current Study

For the current study, 2 cohorts of preschoolers previously studied were followed up 2 and 3 years later. Through this longitudinal design, five general questions were explored. The first goal concerned the stability of shyness from preschool to elementary school age. Based on the previously reported findings for this age group, (e.g. Asendorpf, 1990b; Fordham & Stevenson-Hinde, 1999; Pedlow, et al., 1996; Rubin, et al., 1989), it was hypothesized that shyness will be moderately to highly stable. It is very important to see whether shyness carries over from preschool to elementary school because of the increased opportunity for social interaction in elementary school. Because shy children are less likely to spend a lot of time in social interaction (Asendorpf, 1991) they run the risk of not getting the valuable peer interactions that influence their social and cognitive development.

The second goal of this study was to explore the predictive outcomes of shyness from preschool to elementary school. Five outcomes were assessed: social competence, internalizing problems, social anxiety, perceived competence, and coping strategies. Based on the previously reported findings, (see Asendorpf, 1991; Eisenberg, et al., 1998; Pedlow, et al., 1996; Stevenson-Hinde & Glover, 1996) it was hypothesized that children who were shy in early childhood would experience more anxiety, lower self-esteem (or perceived competence), more internalizing problems, poorer social skills, and employ more avoidant coping strategies.

Along a similar vein, the third goal of this study was to explore the concurrent associates of shyness in elementary school. Based on previously reported findings, (see Eisenberg et al., 1998; Coplan, 2000; Pedlow, et al., 1996; Stevenson-Hinde & Glover, 1996) it was hypothesized that children who were shy in elementary school would also experience lower self-esteem, greater anxiety, and poorer coping skills, more internalizing problems, and lower social competence.

The fourth goal concerned gender differences in stability and outcomes of shy children. There is some research results that suggest that shyness is more detrimental for males than for females (Morison & Masten, 1991). The differences that males and females experience may be due to many factors. Shyness for girls seems to be more socially accepted than it is for boys (Sadker & Sadker, 1994; Stevenson-Hinde & Glover, 1996). Other studies report that parents respond differently to shy daughters than they do to shy sons. Shyness in girls is commonly rewarded while shyness in sons is discouraged (Engfer, 1993; Stevenson-Hinde, 1989). As well, mothers have been shown to be most positive to girls who were rated as having a medium level of shyness (Stevenson-Hinde & Glover, 1996). Therefore, a combination of social acceptance and parental expectations may contribute to the different experiences of shyness for boys and girls.

Thus, in light of the literature that links shyness, stability, and gender, several expectations can be stated. First, it was expected that shyness is more stable for boys than for girls from age 3 to 9 years. Second, it was expected that shyness in preschool was related to coping strategies, anxiety, and low self-esteem in elementary school,

with shyness being more strongly predictive of negative coping strategies, anxiety, and lower self-esteem for boys than for girls.

The final goal of this study was to explore the moderating role of coping strategies in the stability and outcomes of shyness. It was hypothesized that shy children with better coping strategies would become less shy over time and demonstrate less negative outcomes. This hypothesis was based on Asendorpf's (1994) findings that the more competent a child is the more their inhibition will decrease over the years. One interpretation could be that the more intelligent are generally able to generate and automatize coping strategies for difficult social situations. However, Asendorpf (1994) did not directly assess this assumption, nor has it been assessed since.

Coping can be defined as any response made by an individual to a stressful and upsetting situation (Parker & Endler, 1996). Coping strategies can be divided into two main concepts. Approach coping, which involves behavioural, cognitive, or emotional strategies oriented toward the stressor (e.g., trying to solve the problem), and avoidance coping, which involves behavioural, cognitive, or emotional activities that are oriented away from the stressor (e.g., ignoring it) (Roth & Cohen, 1986). In general, approach coping strategies are related to positive functioning, while avoidance coping is related to poorer adjustment (Causey & Dubow, 1992). However, this is frequently debated as both strategies may be detrimental or beneficial at different times and in different situations (Roth & Cohen, 1986).

It has been suggested that avoidance, or doing nothing in a stressful situation is most likely to be a characteristic style of coping in children who are shy (Hymel,

Woody & Bowker, 1993). Consistent with this, Rubin, Daniels-Beirness, and Bream, (1984) found that children who engaged in higher levels of isolate behaviour produced fewer social problem solving solutions to hypothetical social problems. Whether or not avoidant strategies are the best for children who are shy depends on the goodness of fit between the child's perception of the controllability of the event and the coping strategy used. Research indicates that avoidance is more adaptive when the situation is perceived as uncontrollable whereas approach is more adaptive when the situation is perceived as controllable (Weidner & Collins, 1993). Thus, how a shy child perceives the peer conflict (controllable or uncontrollable) will determine whether the coping strategy employed is beneficial or detrimental.

Method

Overview

The original sample of children came from two cohorts of preschoolers originally recruited in 1999-2000. Children and parents from these two samples were contacted via letters inviting them to participate in this part of the study. Parents completed questionnaires, and home visits were conducted where the children were interviewed by trained research assistants.

Time 1 (Preschool)

Participants

Participants in this part of the study were two separate samples of preschool-aged children. Sample 1 consisted of 119 children (55 boys, 64 girls) between the ages of 36 and 60 months ($M_{age} = 48.59$ mos., $SD = 6.92$). These children were assessed in

the fall of 1999. Sample 2 consisted of 127 children (68 boys, 59 girls) between the ages of 36 and 66 months ($M_{age} = 52.30$ mos., $SD = 7.41$). These children were assessed in the fall of 2000. The children were attending local preschools and childcare centers in Ottawa, Canada. Both samples were primarily Caucasian (Sample 1, 85%; Sample 2, 78%) and representative of a diverse range of socioeconomic status. These children were part of a larger study exploring the correlation of shyness and social disinterest in early childhood (see Coplan et al., under review).

Measures

Shyness. Parents in both samples completed the newly developed *Child Social Preference Scale* (CSPS, Coplan et al, under review), designed to assess shyness and social disinterest. Items for the CSPS focused on the social motivations of children to play with others, and were derived from previous research related to the constructs of shyness, sociability, social withdrawal, and social disinterest (i.e., Asendorpf, 1991; Asendorpf & Meier, 1993; Cheek & Buss, 1981; Buss & Plomin, 1984). The items for the shyness scale are displayed in Table 1.

Coplan et al. (under review) reported the psychometric properties of the CSPS. Results from exploratory principal components factor analyses from a separate pilot sample of 274 preschoolers indicated a two-factor solution for the CSPS: (1) *shyness* - 7 items, factor loadings from .63 to .81, $\alpha = .86$ (e.g., “my child seems to want to play with others, but is sometimes nervous to”); and (2) *social disinterest* - 4 items, factor loadings from .74 to .80, $\alpha = .81$ (e.g., “my child often seems content to play alone”). An identical factor structure was evident for boys versus girls. In terms of validity,

Table 1

Child Play Styles Questionnaire: Shyness Items

1. My child seems to want to play with other children, but is sometimes nervous to.
 2. My child will turn down social initiations from other children because he/she is shy.
 3. My child often approaches other children to initiate play.
 4. My child 'hovers' near where other children are playing, without joining in.
 5. My child rarely initiates play activities with other children.
 6. My child often watches other children play without approaching them.
 7. Although he/she appears to desire to play with others, my child is sometimes anxious about interacting with other children.
-

Coplan et al (under review) reported a correlation of .67 between CSPA conflicted shyness and fearful shyness (as assessed by the Colorado Child Temperament Inventory, Buss & Plomin, 1984). As well, CSPA rated shyness was related to reticent behaviour, teacher rated anxiety, and lower perceived competence (Coplan et al., under review). The complete CPSQ is displayed in Appendix A.

Time 2 (Elementary School)

Participants

The participants assessed at Time 2 (Fall, 2002) were obtained from the original two cohorts of children. As this study was not originally intended to be longitudinal, subjects from the original 2 cohorts had to be contacted after 2 to 3 years of not hearing from us. Addresses were not obtained when the data was originally collected. Thus, in order to contact each child, two different methods were employed. Addresses were either looked up in phone books or the preschools that the children originally attended sent out letters to the last known address of each child (See Appendix B). An attempt was made to contact the 246 children and their parents (from both samples) by mail. Of these, 12 addresses were unobtainable (i.e., families had moved), and 159 families did not respond. There were 6 responses where parents did not give consent. In all, 75 parents responded positively, but 6 did not give permission for home interviews. This represented a 32 % response rate. Thus, the Time 2 sample consisted of 75 children (41 Girls, 34 Boys; $M_{age} = 77.7$ mos, $SD = 9.86$), but interview assessments were only conducted for 69 children.

No significant difference in Time 1 shyness was found between the group of children who took part ($t(294) = .114$, $M = 2.20$) in the second half of this study and

the children who did not take part ($M = 2.21$). No significant difference was found in maternal education levels for those who did ($t(292) = -.81, M = 3.46, SD = .96$) and did not ($M = 3.56, SD = .92$) take part. As well, no significant difference in paternal education levels was found for those who did ($t(292) = -.56, M = 3.41, SD = 1.11$) and did not ($M = 3.49, SD = 1.04$) take part. Thus, although the consent rate was somewhat low, the sample did not appear to be biased.

Measures

Shyness. Shyness was again assessed by having the mothers complete the CSPS (see Table 1, Appendix A).

Child Adjustment

Child perceived competence. Interviews were conducted by 6 female research assistants during a home visit. Children were administered the *Pictorial Scale of Perceived Competence and Social Acceptance for Young Children* (See Appendix C) (Harter & Pike, 1984). This measure was designed to assess young children's perceptions of their competencies and relationships. Of particular interest for the present study were the sub-scales of Perceived Competence (12 items related to both physical competence and academic competence, $\alpha = .65$, e.g. "Good at Swinging" and "Good at Counting" and 6 items, $\alpha = .80$, relating to Peer acceptance, e.g. "Has friends to play with.") (See Appendix C). Maternal Acceptance subscale was not assessed because mothers were typically present during interviews.

Social Adjustment. Mothers also rated children's behaviour problems and social competence using the *Preschool Behavior Questionnaire* (PBQ, Behar & Stringfield, 1974; Tremblay, Vitaro, Gagnon, Piché, & Royer, 1992). This scale has well-

established psychometric properties (e.g., Hoge, Meginbir, Khan, & Weatherall, 1985). Of particular interest for the present study were the subscales pertaining to *internalizing problems* (9 items, e.g., “Is worried – worries about many things”) and *social competence* (9 items, e.g., “Will invite bystanders to join a game”). In the current sample, Cronbach’s alpha for these subscales were $\alpha = .65$ for internalizing; and $\alpha = .87$ for social competence. The PBQ is displayed in Appendix D.

Coping. In order to assess the coping strategies used by the children, the *Self Report Coping Scale* (Causey & Dubow, 1992) was administered during the child interview. Five coping strategies were measured in response to a social stressor (See Appendix E).

The five coping strategies include: Seeking Social Support (8 items, e.g., “ask a family member for advice”, $\alpha = .84$); Self-reliance/Problem solving (8 items, e.g., “try extra hard to keep this from happening again”, $\alpha = .84$); Distancing (7 items, e.g., “make believe nothing happened”, $\alpha = .69$); Internalizing (7 items, “go off by myself” $\alpha = .66$); and, Externalizing (4 items, e.g., “yell to let off steam” $\alpha = .68$). Following procedures outlined by Causey and Dubow (1992) the four coping strategies that were of interest for this study were aggregated to create two subscales; *Approach* coping, which included seeking social support and problem solving ($r = .68, p < .01$), and *Avoidant* coping, which included distancing and internalizing ($r = .29, p < .05$).

Social Anxiety. The *Social Anxiety Scale for Children-Revised* (SASC-R, La Greca & Stone, 1993) was used to assess social anxiety (See Appendix F). The 10 item self-report measure yields three factors: fear of negative evaluation (FNE, 8 items, e.g., “I worry about being teased.”), social avoidance and distress (SAD-New, 6 items, e.g.,

“I feel shy around kids I don’t know”), and social avoidance and distress-general (SAD-G, 4 items, e.g. “I am quiet when I’m with a group of kids.”). The SASC scores appear to have acceptable internal consistency reliability ($\alpha = .69$ to $\alpha = .86$) as reported by La Greca, and Stone (1993). However, the internal reliability that was found for this sample had a lower range ($\alpha = .50$ to $\alpha = .75$). These three subscales of social anxiety were highly intercorrelated ($r = .41$ to $r = .45$, all p ’s $< .001$). Thus in order to reduce the number of analyses, they were aggregated to create a global measure of social anxiety.

Results

Preliminary Analyses

Data Screening. The data were examined for outliers and none were found. Assumptions regarding Independence, Normality, and Linearity were all checked, and no violations were found to have occurred. Thus, no transformations of the data were undertaken.

Demographic Variables. Results from correlational analyses revealed no significant associations between child age or parental education and child shyness (both at Time 1 and Time 2). Thus, these variables were not controlled for statistically in subsequent analyses.

Relations between outcome variables. Correlations between outcome variables are reported in Table 2. Among the results, social anxiety was negatively related to perceived social competence, internalizing problems was positively related to maternal rated social competence, and approach coping was positively related to maternal rated

Table 2

Correlations between outcome variables.

	1	2	3	4	5	6	7
(1)Social Anxiety		.02	.07	-.39*	-.02	.17	.13
(2)Internalizing Problems			-.31*	-.08	.18	-.12	.00
(3)Social Competence				-.04	-.12	.33*	.22
(4)Perceived Competence					.23	.26*	.02
(5)Peer Acceptance						.28*	.06
(6)Approach Coping							.40*
(7)Avoidance Coping							

*** $p < .001$. * $p < .05$. + $p < .07$.

social competence, perceived social competence, peer acceptance and avoidance coping.

Regression Analyses

Overview. To explore the relations between shyness (Time 1 and Time 2), gender, and outcome variables, a series of regression analyses was performed. The goal of these analyses was to assess the main effects and any interactions with gender. Cohen's partialled products technique was used (Aiken & West, 1991).

Accordingly gender and shyness were first standardized. The 'main effects' variables of gender and shyness (at Time 1 or Time 2) were entered into the regression equation in the first block. In the second block the two-way interaction represented by the multiplicative product of shyness X gender was then entered. This procedure was repeated with each outcome variable serving as dependent variable in its turn.

Stability of Shyness. In order to explore the stability of shyness from preschool to early elementary school a simple correlation between shyness at Time 1 and shyness as measured at Time 2 was computed. A positive significant correlation was found between these two variables ($r = .59, p < .001$). Results from regression analyses indicated that gender did not moderate the stability of shyness from preschool to elementary school ($\Delta R^2 = .02, ns$). Thus, shyness was equally stable for boys and girls.

Longitudinal and concurrent outcomes of shyness. Results from regression analyses regarding the longitudinal predictions of outcomes from shyness in preschool are reported in Table 3. The relation between shyness at Time 1 and internalizing problems at Time 2 approached significance. As well, a significant negative relation as

Table 3

Regression Analyses Exploring the Longitudinal Prediction of Outcome Variables
from Shyness and Gender

Dependent Variable	β	β	r^2	Interaction Term(ΔR^2)
	<u>Shyness (1)</u>	<u>Gender</u>		<u>Shyness(1) X Gender</u>
Social Anxiety ¹		.01 .11		.01 .090*
Internalizing Problems ²	.22	-.03	.05	.006
Social Competence ²	-.31*	.24*	.14*	.003
Perceived Competence ¹	.03	-.03	.00	.003
Perceived Peer Acceptance ¹	.05	.13	.02	.029
Approach Coping ¹	-.15	.16	.04	.001
Avoidant Coping ¹	.00	.04	.00	.020

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

¹ $n = 69$.

² $n = 75$.

Table 4

Regression Analyses Exploring the Concurrent Prediction of Outcome Variables from Shyness and Gender.

Dependent Variable	β	β	r^2	Interaction term (ΔR^2)
	<u>Shyness (2)</u>	<u>Gender</u>		<u>Shyness(2)xGender</u>
Social Anxiety ¹	-.07	.12	.02	.003
Internalizing Problems ²	.37***	-.07	.13*	.001
Social Competence ²	-.37***	.27*	.17*	.015
Perceived Competence ¹	.02	-.03	.00	.012
Perceived Peer Acceptance ¹	.15	.12	.04	.111*
Approach Coping ¹	-.16	.17	.05	.003
Avoidant Coping ¹	.04	.03	.00	.171***

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

¹ $n = 69$.

² $n = 75$.

found between shyness at Time 1 and maternal rated social competence. Results from regression analyses regarding the concurrent association between shyness and outcomes at Time 2 are displayed in Table 4. Shyness at Time 2 was positively and significantly related to internalizing problems and significantly and negatively related to social competence.

Several interactions with gender also emerged. Shyness at Time 1 interacted with gender in the prediction of social anxiety ($\Delta R^2 = .09$, $F(1, 58) = 5.84$, $p < .05$). As well, shyness at Time 2 interacted with gender to predict the use of avoidant coping strategies ($\Delta R^2 = .17$, $F(1, 57) = 11.82$, $p < .005$), and perceived peer acceptance ($\Delta R^2 = .11$, $F(1, 59) = 7.65$, $p < .01$).

Interactions were explored by re-computing the regression analyses separately for boys and girls. For boys, a positive trend between shyness at Time 1 and social anxiety was found ($\beta = .34$, $p = .06$), a negative, but non-significant relation was found for girls ($\beta = -.26$, *ns*). Shyness at Time 2 was significantly and positively related to avoidant coping strategies for boys ($\beta = .53$, $p < .01$), negatively, but non-significantly related to avoidant coping for girls ($\beta = -.28$, *ns*). Finally, for boys a significant negative relation was found for shyness at Time 2 and perceived peer acceptance ($\beta = -.37$, $p < .05$), whereas for girls, a significant positive relation was found ($\beta = .36$, $p < .05$).

Moderating Role of coping strategies. In order to explore the moderating role of coping strategies in the stability and outcomes of shyness, a series of hierarchical regression analyses was again performed. In the first step (block 1), shyness at Time 1 and coping was entered (either avoidant or approach). On the second step (block 2), the

Table 5

Regression Analyses Exploring the Moderating Role of Coping Strategies

Dependent Variable	Main Effects (β)	Interaction term (ΔR^2)
	<u>Approach Coping</u>	<u>Shyness(1) x Coping</u>
Shyness(Time 2)	-.06	.000
Anxiety	.17	.006
Internalizing	-.10	.010
Social Competence	.30*	.015
Perceived Competence	.26*	.001
Peer Acceptance	.29*	.008
	<u>Avoidant Coping</u>	<u>Shyness(1) x Coping</u>
Shyness(Time 2)	.04	.010
Anxiety	.13	.076*
Internalizing	-.00	.022
Social Competence	.05	.008
Perceived Competence	.02	.003
Peer Acceptance	.06	.004

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

two-way interaction term (shyness at Time 1 X coping) was entered. Separate equations were computed for each of the two coping variables (avoidant and approach) to predict each of the outcome variables at Time 2. Results are displayed in Table 5. Only one significant interaction between shyness at Time 1 and avoidant coping in the prediction of social anxiety was found ($\Delta R^2 = .08, p = .05$). Following this, the interaction was explored by re-computing the regression analyses separately for children employing higher avoidant coping and lower avoidant coping (based on a median split). It was found that at higher levels of avoidant coping strategies, shyness was negatively related to social anxiety ($\beta = -.22, ns$). But at lower levels of avoidant coping strategies, shyness was positively related to social anxiety ($\beta = .18, ns$). Thus, with increased use of avoidant coping strategies, shyness appears to become less likely to be positively associated with social anxiety.

Discussion

The goals of this study were to examine the stability of shyness from preschool to elementary school, explore the correlates and outcomes associated with shyness, and examine the role of coping strategies as a possible protective factor against the negative outcomes of shyness. The present results add to the growing body of empirical evidence that suggests that shyness during early childhood is moderately to highly stable (Asendorpf, 1990a; Kagan, 1989; Pfeifer, et al., 2002; Rubin et al., 1989; Schneider, et al., 2000; Schneider, et al., 1998). In support of previous literature (e.g., Rubin, 1993; Sanson et al., 1996; Stevenson-Hinde & Glover, 1996), the results from this study also indicate that shyness in preschool and elementary school was related to lower levels of social competence and more internalizing problems in elementary

school. Finally, the findings in this study also confirm the importance of exploring gender differences in the correlates and outcomes of shyness. Past research has found that shyness is experienced differently for boys and for girls (Coplan, et al., 2001; Coplan & Mosher, 2001; Rubin & Burgess, 2001; Stevenson-Hinde & Glover, 1996).

Analysis of this data indicated three main interactions between gender and shyness; (1) shyness in preschool predicted social anxiety in elementary school for boys but not girls; (2) shyness in elementary school was contemporaneously related to perceived peer acceptance for boys but not girls, and (3) shyness in elementary school was related to avoidant coping strategies for boys but not girls. The results of this study also provide some preliminary empirical evidence to suggest that certain factors may play protective roles against the negative consequences associated with shyness (e.g. Asendorpf, 1994; Fordham & Stevenson-Hinde, 1999). Specifically, shyness and avoidant coping strategies interacted in predicting anxiety levels. Surprisingly, among children who used more avoidant coping strategies, shyness was more negatively related to social anxiety. In the following section, each of these findings is discussed in turn.

Stability of shyness. The results of this study indicate that shyness is quite stable from preschool to elementary school. These findings support the notion that shyness is moderately to highly stable in early childhood (Asendorpf, 1990b; Kagan, 1989; Pfeifer et al., 2002). In only a few studies has the stability of shyness been explored as a continuous variable. For example, Fordham and Stevenson-Hinde (1999) found a high level of consistency across the ages of 4.5 years to 9 years ($r = .66$) and from 4.5 to 10 years ($r = .60$). Asendorpf (1990b) showed a high stability of .75 for

children aged 4 to 6 years and .64 for children aged 4 to 7 years. In the current study, the stability of shyness was quite similar ($r = .59$). The high stability of shyness is certainly consistent with the notion that shyness represents a biologically-based temperamental trait.

Other researchers have looked at the stability of membership in an extremely shy group. Schneider et al. (1998) reported that 74% of the most extreme group of socially withdrawn children from Grade 5 to Grade 8 remained in the extreme socially withdrawn group. In a second, similar study, Schneider et al. (2000) reported that in children aged 5 years to 7 years, 63 % of the most extreme reticent group remained extremely reticent over this time period, while 5 of the remaining 6 had reticent scores above the mean. Pfeifer and colleagues (2002) found that children classified as inhibited at age 32 months scored the highest on the inhibition composite at 7 years with the previously intermediate group halfway between the inhibited and uninhibited groups. The results from this group of studies tend to indicate that shyness is highly stable for extreme groups of children. However, these results may be inflated because they refer to groups of highly inhibited children (Asendorpf, 1990b).

The high level of stability found in this study may be due to the age of the children. Other research results have also indicated that shyness is highly stable in children from preschool to early elementary school (Asendorpf, 1990b; Rubin et al., 1989). Another potential contributor to the high level of stability was the relatively short period of time between assessments. In this study, the longest period of time between the shyness ratings was three years. Other research also indicates that shyness across relatively smaller time spans is more highly correlated (Asendorpf, 1990b;

Rubin et al., 1989). For example, Rubin et al. (1989) found that whereas shyness was highly stable from Kindergarten to Grade 2 and from Grade 2 to Grade 4, no significant correlation was found from Kindergarten to Grade 4.

Contrary to the hypothesis, the results from this study also show that shyness was as stable for girls as it was for boys. It could be speculated that this similarity is a result of socialization and cultural expectations. That is, shyness may remain stable in boys and girls for different reasons. For girls, shyness would be expected to remain stable because a change in behaviours would not be expected by parents, teachers, or peers. Shy-inhibited behaviour is congruent with cultural expectations of behaviour from little girls. (Stevenson-Hinde & Glover, 1996). However, for boys, shy, wary, and fearful behaviours are not congruent with cultural expectations and thus, shy boys may find themselves ostracized and rejected, thereby decreasing their social experiences and maintaining shy and fearful behaviours (Coplan et al., 2001). And finally, shy boys tend to have more negative interactions with their mothers, which may also sustain shyness over time. For example, overprotective parenting is most strongly associated with shyness in boys (Coplan et al., under review). This style of parenting which stops the child from developing independence and social skills, both of which may effectively boost self-esteem, may also increase the chance that the child will remain shy over time.

Correlates and Outcomes of Shyness

Internalizing problems. Shyness in preschool predicted internalizing negative emotion in elementary school, and, children who were shy in elementary school also experienced more internalizing problems. This is in line with results from previous

empirical research, where internalizing problems have been assessed from multiple sources. For example, Rubin, Hymel, and Mills (1989) found significant relations between early social withdrawal (measured in kindergarten and grade 2) and subsequent internalizing problems in grades 4 and 5. In this case, internalizing was assessed by self-reports of social competence, overall self-worth, loneliness, and depression. The current results found a similar association with parental reports of child internalizing problems. One could speculate that internalizing problems become worse because they are more salient to parents and thus, more significant because it is easier to report. This speculation is furthered by other longitudinal studies that show that shyness in early childhood predicts loneliness, low self-regard, and felt insecurity in adolescents (Rubin et al., 1995). And, in women in their early twenties, shyness was related to more loneliness, neuroticism, depression, social anxiety, fearfulness, lower self-esteem and retrospective inhibition (Schmidt & Fox, 1995).

The process underlying the relation between shyness and later internalizing problems may be due to the continued lack of social experiences, feeling's of inability and inadequacy, and lack of ability due to less practice of social skills. In fact, it is generally believed that withdrawn rejected children experience loneliness, social detachment, and depression (Rubin et al., 1994). As well, shy children engage in reticent behaviours, (Coplan et al., 2001) less social problem solving initiations, and less socially assertive strategies (Stewart & Rubin, 1995). Peer interactions are very important for later emotional development (Rubin et al., 1994) and without this, shy children may be at risk for later internalizing problems.

In this study, shyness was also concurrently associated with internalizing problems in elementary school. This is consistent with results from previous studies. For example, Stevenson-Hinde and Glover (1996) found that the boys and girls in the high shy group in their sample had the most worries and fears and more negative mood than the medium and low shy groups. Even in children of a younger age, this has been found. For example, Coplan and Mosher (2001) found that shyness in four year olds was related to negative emotionality. It could be reasoned that shy children experience internalizing problems as a direct result of the shyness that they are experiencing. For example, children who are shy experience social fear and anxiety (Coplan & Mosher, 2001) which are both internalizing problems.

Shyness and Social Competence

Shyness in preschool predicted poorer social competence in elementary school as rated by mothers. Shyness in elementary school was also concurrently related to lower social competence. These results are not surprising in light of the current research which indicates a lack of social competence in shy children. Rubin and Burgess (2001) stated that socially withdrawn children lack the social competence needed in order to endear themselves to their peers. The social skills measured by parents included items such as “inviting bystanders to join a game”.

There are two possible explanations behind this finding. Shy children may be seen as having lower social competence because they are actually less competent, or because they may possess adequate social skills but demonstrate a *performance* deficit. On the one hand, it is thought that shy children are too fearful to engage in peer interaction and thus do not develop the social skills that may result from these

situations (Rubin & Burgess, 2001). Stewart and Rubin (1995) found that children in Kindergarten, Grade 2 and Grade 4 who were anxiously-withdrawn showed fewer social-problem-solving initiations, fewer socially assertive strategies and were less successful in their attempts during interactions with a same age peer.

On the other hand, parents may see children as less socially competent because of a performance deficit caused by the shyness that these children experience. Thus, shy children may possess the knowledge and skills to interact competently with peers, but are too anxious in social settings to adequately demonstrate these skills. In support of this notion Asendorpf (1990b) found that parental judgments of child inhibition towards strangers was highly related to behaviour with unfamiliar, but not familiar peers. Thus, one must be careful in interpreting the results of this study. It is possible that what mother's see is a performance deficit with strangers, not a social skills deficit.

Role of Gender in the Development of Shyness

Some theorists suggest that in Western Society shy boys have a particularly difficult time because shyness is less acceptable for boys than it is for girls (Sadker & Sadker, 1994). Other theorists surmise that the relations between shyness and physiological variables such as right-frontal EEG asymmetries (Henderson, Fox, & Rubin, 2001) and cortisol levels (Dettling, Gunnar, & Donzella, 1999) are more pronounced in boys than in girls. This may also explain the difference between girls and boys in the experience of shyness. In the current study, gender was found to moderate the relation between shyness and 3 outcome variables. In each case, a more "negative" outcome was evident for boys. Each of these finds are discussed in turn.

Social Anxiety The results from this study indicate that shyness in boys (but not girls) was related to greater levels of social anxiety. This finding contributes to the argument that shy boys may be more at risk for negative consequences than shy girls (Rubin, Burgess, & Coplan, 2002). This finding falls in line with other research which suggests that boys who are shy experience more worries and fears (Stevenson-Hinde & Glover, 1996). While other research shows that in general, shy children experience more anxiety (Kagan, 1997), this finding is particularly compelling in that it indicates that shy boys may be worse off than shy girls. This finding may also suggest that there are different pathways to social anxiety for boys and for girls. For boys, social anxiety may develop out of temperamental shyness. However, for girls, perhaps later developing self-conscious shyness might be more predictive of the development of social anxiety. Future research is required to explore the possibility.

Self-perceptions. The current findings were somewhat surprising in that shyness (across the sample) was not found to be predictively or concurrently related to either perceived self-competence or perceived peer acceptance. However, a significant interaction with gender was found for shyness in elementary school in the prediction of perceived peer-acceptance. Other research results have indicated that shy children aged 9 to 12 years had lower self-esteem (Crozier, 1995). Some studies have also found that socially withdrawn children as young as 7 years have negative self-perceptions of their social skills (Rubin & Stewart, 1996). However, this research is based on children classified as "socially withdrawn" which may include both shy children as well as socially disinterested children (Coplan & Mosher, 2001).

While current empirical evidence does exist to support the notion that shy children aged 7 years and older have negative self-perceptions of their social relationships, the data from this study brings out a noteworthy finding. Namely, that shy boys perceived their peer acceptance as negative but shy girls perceived their peer acceptance in a more positive light.

It could be speculated that this relation exists because of the type of behaviour shy boys engage in, and how it is perceived by their peers. Some research indicates that parents are more rejecting of shy boys (Stevenson-Hinde & Glover, 1996), thus, it could be that peers are also more rejecting of them. For example, for boys, prosocial behaviours (such as sharing) are associated with assertiveness, positive self-concepts, and high evaluations of prosocial goals (Larrieu & Mussen, 1986). These authors speculated that for boys, sharing may be an instrumental manifestation of prosocial behavior. Thus, for shy boys who tend to spend more time in solitary passive play (Coplan et al., 2001), their perceived peer acceptance may be seen negatively because they are indeed less accepted. As well, this behavior, either solitary passive play or lack of prosocial behaviour may be more negatively salient for boys as a result of societal expectations. This may lead to negative attributions by peers and consequently, less acceptance (Coplan et al., 2001).

Other research indicates that high shy boys have the highest level of internalizing problems in the classroom (Stevenson-Hinde & Glover, 1996). These problems were described as “rarely plays with others”, “easily upset”, and “emotionally withdrawn” (Stevenson-Hinde & Glover, 1996). It is possible that these boys are showing problem behaviours that are seen as indicating poor social

competence. Peer relations research indicates that popular children are more socially competent, better able to achieve personal goals in socially acceptable ways, are more friendly, cooperative, and altruistic than their rejected peers. Some rejected children have been found to be more anxious and wary of others and thus, avoid interacting with their peers (Rubin, Coplan, Chen, & McKinnon, 1994). Therefore, shy boys who show more behaviour problems in the classroom may be rejected by their peers. In turn, they think poorly of their social relationships and have a poor perceived peer acceptance (Rubin et al., 1994). As well, as children become older, withdrawn behaviour becomes more and more salient (Rubin, et al., 1994, Younger, Schwartzman, & Ledingham, 1985) and the chance of becoming rejected increases.

On the other hand, shy girls tend to be more accepted by their mothers, and behave in less problematic ways than shy boys (Stevenson-Hinde & Glover, 1996). Shy girls, as compared to shy boys have less negative mood, less worries and fears and display less problem behaviours in the classroom (Stevenson-Hinde & Glover, 1996). As well, unlike shy boys, shy girls do not engage in solitary-passive play (Coplan et al., 2001). It has been suggested that because of societal expectations, this type of play is not as negative for girls as it is for boys (Coplan et al., 2001). Thus, because shy girls do not display as many negative behaviours as shy boys, their peers may view them in a more positive light. And finally, shy-inhibited behaviour tends to be more acceptable for girls than boys (Sadker & Sadker, 1994). As a result, because shy girls are not perceived as negatively as shy boys, they may be more likely to positively evaluate their peer acceptance at this age.

Coping. Results indicated that shyness in boys (but not girls) was related to the self-reported use of more avoidant coping strategies. Avoidant coping in this study consisted of behaviors such as “refuse to think about it”, “make believe nothing happened”, “cry about it”, and “go off by myself”. Results from past research has indicated that shy children were less likely to use support seeking as a coping strategy for a peer conflict (as reported by teachers). As well, children rated as shy by adults were viewed as likely to do nothing in conflict situations (as reported by teachers) (Eisenberg et al., 1998). Thus, these results, while adding to the available literature regarding gender differences in shyness and coping also helps to confirm that which has already been reported. However, results indicated that there is an interaction with gender that must be taken into account.

Shy children may use socially nonconstructive ways of coping because of their tendencies to be inhibited (Page, 1990). Social withdrawal (experienced by shy children) may decrease the opportunities to learn constructive ways of coping (Eisenberg, et al., 1995). Problem focused coping is associated with high levels of social competence, and low levels of psychological distress (Eisenberg, et al., 1993). Thus, shy children, boys especially, would be expected to show low levels of this type of coping. Shy children would also be expected to use avoidant coping strategies because of their tendencies to avoid social interaction (Eisenberg et al., 1995).

It could be speculated that shy boys are more likely to use avoidant coping strategies because by not approaching an adult or by using an approach coping strategy they are attempting to “fix the problem for themselves”. The coping literature suggests that boys are more likely to attempt to manage by themselves rather than look for

social support and may adopt a wait-and-see policy or simply try to forget about it (Boekaerts, 1996). Research points out that this style of coping may be detrimental because it is tied to concurrent distress (Aldwin & Revenson, 1987). Thus, shy boys may be worse off because they are coping in a worse way as well.

Other research shows that girls tend to use more strategies like seeking social support, than boys. Girls are more likely to address problems immediately, talk about them frequently with significant others, and try to solve the conflict with the person involved (Beokaerts, 1996). And finally, shyness may not be as much of a problem for shy girls as it is for shy boys because they are more accepted by society (Sadker & Sadker, 1994). Thus, taking these factors into account, shy girls may be more likely to use approach coping strategies than shy boys.

Role of Coping in the Development of Shyness

It was hypothesized that shy children with “positive” coping strategies would demonstrate less shyness over time and experience fewer negative outcomes. These hypothesis were largely unsupported in the present study. Only one significant interaction was found between shyness and avoidant coping in the prediction of social anxiety. No further significant interactions may have been found because gender may play a role in this. However, our sample was too small to look at 3-way interactions between shyness, gender, and coping. As well, some issues regarding the validity of the coping scale for this age must also be taken into account. These issues will be discussed later. Among children who reported the less frequent use of avoidant coping strategies, shyness was positively (but not significantly) related to social anxiety. However, among children who reported the more frequent use of avoidant coping

strategies, shyness was negatively (but not significantly) related to social anxiety. This finding was somewhat surprising.

One possible interpretation regarding this finding may be that it was a spurious result. It was the only significant finding amongst a number of tests. Thus, one must keep this in mind when interpreting the findings. However, it is possible that a buffering relation exists between coping, shyness, and anxiety. Researchers suggest that avoidance coping in general is positively tied to concurrent distress and may have negative consequences (Aldwin & Revenson, 1987; Holahan, Moos, & Schaefer, 1996). A review of the literature suggests that avoidance coping typically works against people rather than to their advantage (Zeidner & Saklofske, 1996). However, it is possible that for shy children, this type of coping is not a negative form of coping at all. Shy children would be expected to use this type of coping in order to avoid social situations (Eisenberg et al., 1995).

Shy children have been found to be low in social problem solving, social initiatives, and socially assertive strategies (Stewart & Rubin, 1995). Thus, it could be speculated that avoidant coping reduces the amount of social interaction a shy child will experience thereby effectively reducing their social anxiety. For example, if a child is in a conflict situation with a peer, rather than using socially assertive strategies or a social initiative ("Why don't we take turns playing with this toy") they would experience less anxiety if they withdrew from the situation ("forget about the whole thing")(see Causey & Dubow, 1992). Functional coping both buffers the immediate impact of stress and also ensures a sense of self-worth (Zeidner & Saklofske, 1996). Avoidant coping in a stressful peer situation may be functional for shy children.

One question that is commonly asked in the coping literature is whether any one style of coping is better than any other (Boekaerts, 1996). The answer to this question is not very clear. Boekaerts (1996) suggested that a successful coping strategy requires the child to achieve a good fit between themselves (e.g., their internal environment such as perception of personal resources) and different physical and social environments. Boekaerts (1996) argued that there is no universally adaptive response that is suitable for all individuals at all times. The question then is whether the coping response takes into account the demands and constraints of any individual situation.

Research indicates that children aged 12 to 14 years tend to use approach strategies for academic stressors which were deemed more controllable by the children, and avoidant strategies for interpersonal stressors which were considered less controllable. When there was a match between student's perception of control in a situation and the selected coping mode, the intensity of reported stress was low (Boekaerts, 1993; Compas, Malcarne, & Fondacaro 1988). It has also been shown that avoidance coping may be useful at times because it can give a 'psychological breather', or an opportunity to escape from the pressure of the stressor (Carver, Scheier, & Pozo, 1992).

Thus, it seems that the question of whether coping strategies are positive or negative is still under debate. The results of this study add to the debate and seem to point toward the argument that avoidant coping strategies can be positive and adaptive. At least for shy children, coping by distancing and internalizing seems to be adaptive in that it effectively reduces the amount of social anxiety experienced.

One point must be kept in mind however, is that whereas avoidant coping seems to be functional and adaptive in shy children from preschool to elementary school, the long term consequences may be significantly worse. For example, it has been suggested that the strategies that children use for coping with everyday burdens (such as peer conflicts) are highly predictive of their coping response to life stressors when they arise (Boekaerts, 1996). Research also shows that by adolescence those who tried to avoid or escape problems tended to be more anxious than those who tried to manage by themselves, or used approach coping strategies (Boekaerts, 1996). By mid adolescence, those who managed by themselves were less anxious than those who used other coping strategies. And, by late adolescence, those who tried to manage by themselves had higher self esteem than those who reacted emotionally or tried to escape or avoid difficulties (Boekaerts, 1996). As well, coping strategies only seemed to buffer social anxiety, not internalizing problems or self-esteem. Thus, for shy children who use avoidant coping strategies in childhood, the use of these same strategies may be more likely later on, which may lead to anxiety and lower self-esteem as adolescents.

Caveats and Future Directions

The results of this study give added credence to the notion that shy children are at risk for later maladjustment, particularly along the internalizing dimension (Caspi, Elder, & Bem, 1988). The apparent stability of shyness from preschool to early elementary school puts children at risk for fewer social interactions over a time when social interaction is very important. Children learn about their social world, how to behave in it, and how to engage in cooperative activities for the collective rather than

individual goals (Rubin et al., 1994). Thus, without such interaction, shy children's social skill development will suffer. As well, shyness becomes more and more salient as children get older (Younger et al., 1985) thereby increasing the likelihood of peer rejection, and subsequently loneliness, depression, and anxiety (Rubin et al., 1994). The results from the current study also suggest that shy children become more at risk for internalizing problems and poor perceptions of peer acceptance. However, this study is particularly compelling in light of the gender differences found. For boys but not girls, shyness was predictively and concurrently associated with social anxiety, negative perceptions of peer acceptance, and the reported use of avoidant coping strategies.

However, certain issues must be taken into account when interpreting the results of this study. The sample size, (as a result of the attrition rate) was quite small which did not allow for any interpretations of the 3-way interactions with gender, shyness, coping, and the outcome variables. The design of this study was somewhat problematic due to the fact that originally, this was not meant to be a longitudinal design. As a consequence, the original two cohorts were not asked for any contact information, nor was contact maintained with them over the next 2 to 3 years, two methods shown to improve consent rates in longitudinal studies (Epstein & Botvin, 2000).

As well, the scale used in this study to measure coping strategies was designed for slightly older children. Thus, the validity of this measure may be affected. However, it was judged to be the best measure for the intents and purposes of this study, and has been used in the past for children of this age (Tremblay, Hebert, &

Piche, 1999, 2000). It would have been more informative if data regarding the coping strategies the children used were also collected from parents and teachers. It could be that the children in this study did not understand some of the items and thus did not answer in the way that was truly reflective of their behaviours. Parent and teacher ratings could have offered greater insight into the coping strategies most commonly used in a peer conflict situation in the children in this sample.

In this respect, more research is needed to look at the relation between shyness and coping. Gender differences in this area also need to be explored in more detail. Very little work has been done on gender and coping strategies (Weidner & Collins, 1993). The results of this study indicate that at least in shy children, differences do exist between boys and girls and the coping strategies they are likely to use. However, the reasons for this are not clear. Therefore, this is an area that more studies need to focus on.

Another limitation was that neither information from teachers nor any observations of the children's behaviours were collected. Research indicates that there is cross-informant consistency in shyness ratings (Asendorpf, 1990b; Fordham & Stevenson-Hinde, 1999; Stevenson-Hinde & Glover, 1996) so one could conclude that maternal ratings would effectively measure shyness. However, it would be far more effective if more than one measure of shyness had been obtained. As well, teachers could have provided additional assessments of outcome variables.

In this regard, while some outcome variables were assessed it was by no means representative of the problems that shy children may face. For example, research indicates that shy children may experience loneliness (Rubin, et al., 2002), and peer

rejection (Phillipsen, Bridges, McLemore, & Saponaro, 1999). Future research should look at other variables and longitudinal outcomes.

As well, more research on the protective factors that shy children may experience is needed. Not every child that is born with an inhibited disposition remains inhibited or develops problems throughout their life span (Arcus, 2000). Thus, future research is needed in order to determine what other factors may act as a buffer, or protection against the stability of shyness and the negative outcomes of shyness.

In line with this, future research needs to continue to explore the gender differences in shyness as this is an area that is becoming increasingly obvious that differences do exist. More research is needed to continue to clarify the experiences of shyness by boys and girls so that future intervention programs can be made to target the individual needs of the different genders. As well, more longitudinal designs need to be done in order to look at the longitudinal differences between boys and girls in the area of shyness. This would give more information to help clarify the notion of different developmental pathways for shy boys and shy girls.

To conclude, the findings from this study confirm previous empirical evidence that children who are shy experience internalizing problems and poorer social competence. This lends support to the notion that shyness may put children at risk for later internalizing problems (Caspi, Elder, & Bem, 1988). The findings of this study also add to the literature regarding shyness and coping strategies, and shyness and gender. This study indicates that there is an interaction between shyness and gender and the coping strategies used. As well, this study supports the notion that boys who are shy may be more at risk than shy girls (Rubin, et al., 2002). And finally, this study

also provides some very preliminary evidence that coping strategies may act as a protective mechanism against social anxiety in shy children. Thus, the results from this study give a clear indication that shy children experience negative consequences of their shyness and that shy boys are more at risk than shy girls. A better understanding of the etiology of shyness can lead to the development of ameliorative intervention programs designed to assist shy children.

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Appendix A

Child Play Styles Questionnaire

1. My child often seems content to play alone
2. My child seems to want to play with other children, but is sometimes nervous to.
3. My child is just as happy to play quietly by his/herself than to play with a group of children.
4. My child is happiest when playing with other children.
5. My child will turn down social initiations from other children because he/she is 'shy'.
6. My child often approaches other children to initiate play.
7. My child 'hovers' near where other children are playing, without joining in.
8. My child rarely initiates play activities with other children.
9. If given the choice, my child prefers to play with other children rather than alone.
10. My child often watches other children play without approaching them.
11. Although he/she appears to desire to play with others, my child is sometimes anxious about interacting with other children.
12. My child often seems to prefer 'toys' over 'people'.

Appendix B

CONSENT FORM – Carleton Play Study Follow-Up: 2002-2003

date: _____

(name of child - please print)_____
(name of parent or guardian - please print)**Please check one:**

_____ I give my permission for my child and I to participate in the Carleton Play Study Follow-up.

_____ I do not give my permission for my child and I to participate in the Carleton Play Study.

Contact information to arrange for child interview:

telephone number: _____

(best times to call you? _____)

and/or

e-mail address: _____

(signature of parent or guardian)

Please return the signed consent form and questionnaires in the enclosed stamped envelope as soon as possible even if you are not going to be participating in the study.

Appendix B

DEMOGRAPHIC INFORMATION

Child's Name _____

 Birthdate _____ Child's Age (in months) _____ Boy ___ Girl ___
 month day year

mother's occupation _____

mother's formal education completed (check one):

 elementary school _____
 high school diploma or equivalent _____
 community college or equivalent _____
 university degree _____
 graduate school degree _____

 mother's ethnic group: Caucasian _____ Asian _____ Black _____
 Hispanic _____ Aboriginal _____ Other _____

father's occupation _____

father's formal education completed (check one):

 elementary school _____
 high school diploma or equivalent _____
 community college or equivalent _____
 university degree _____
 graduate school degree _____

 father's ethnic group: Caucasian _____ Asian _____ Black _____
 Hispanic _____ Aboriginal _____ Other _____

is English the first language spoken in your home? Yes ___ No ___

does your child have any of the following medical problems? (check all that apply)

 asthma _____ hay fever _____ hives _____
 excema _____ wheezing _____ food allergies _____

Appendix C

Pictorial Scale of Perceived Competence and Social Acceptance of Young Children

1. Good at numbers
2. Friends to play with
3. Good at swinging
4. Eats at friends
5. Knows a lot in school
6. Others share
7. Good at climbing
8. Mom takes you places
9. Can read alone
10. Friends to play games with
11. Good at bouncing ball
12. Mom cooks favorite foods
13. Good at writing words
14. Has friends on play ground
15. Good at skipping
16. Mom reads to you
17. Good at spelling
18. Gets asked to play by others
19. Good at running
20. Stays overnight at friends
21. Good at adding

- 22. Others sit next to you
- 23. Good at jumping rope
- 24. Mom talks to you

Appendix D

Preschool Behavior Questionnaire

1. Restless, runs about, does not keep still.
2. Is worried. Worries about many things.
3. Squirmy, fidgety.
4. Will try to help someone who has been hurt.
5. Destroys own or other's belongings.
6. If there is a quarrel or dispute, will try to stop it.
7. Fights with other children.
8. Not much liked by other children
9. Will invite bystanders to join a game.
10. Tends to do things on own, rather solitary.
11. Irritable, is quick to 'fly off the handle'.
12. Appears miserable, unhappy, tearful, or distressed.
13. Spontaneously helps to pick up objects which another child has dropped.
14. Disobedient.
15. Tends to be fearful or afraid of new things or new situations.
16. Takes the opportunity to praise the work of less able children.
17. Tells lies.
18. Shows sympathy to someone who has made a mistake.
19. Bullies other children.
20. Does not share toys.
21. Offers to help other children who are having difficulty with a task.

22.Cries easily.

23.Blames others.

24.Helps other children who are feeling sick.

25.Inconsiderate of others.

26.Volunteers to help clear up a mess someone else has made.

27.Kicks, bites, or hits other children.

28.Stares into space.

29.Comforts a child who is crying or upset.