Implicit Self-Theories of Shyness: Predictors and Correlates in Preadolescence

by

Junru Zhao

A thesis
submitted in partial fulfilment
of the requirements for the degree
Master of Arts

Department of Psychology
BROCK UNIVERSITY
St. Catharines, ON
August, 2006

Abstract

Implicit theories of shyness refer to a belief that shyness is a fixed trait *versus* the belief that shyness is changeable and controllable. In this study, I explored the association between overall shyness and children's implicit self-theories of shyness, as well as between implicit self-theories of shyness and children's other shyness-related beliefs (perceptions of others' theories of shyness, shyness as a perceived problem, and ideas about treatment for shyness). Forty-six 10-12- year- old children (M = 10.74, SD = .88) were interviewed individually, filled out a set of questionnaires, and completed a computer-presented task.

As was expected, in ambiguous social situations, children perceived others' theories of shyness in a way that confirmed their own theories. The hypothesized curvilinear relation between shy and implicit self-theories of shyness was not found; instead, a linear positive relationship between these two variables emerged. Although implicit self-theories of shyness were not effective in predicting either the children's views of shyness as a perceived problem or children's ideas about treatment for shyness, some interesting results were found. Specifically, children's motivation to change their shyness correlated with their views of shyness as a problem for children in general and their perceptions of others' theories of shyness. Specific agents and strategies were regarded by children as having different effectiveness in their potential to change shyness. The theoretical and practical implications of these findings were discussed. Suggestions for future research were provided.

Acknowledgements

I wish to acknowledge my supervisor, Dr. Linda Rose-Krasnor for her supervision of this thesis, my thesis committees for their helpful comments on the thesis, support from the participating parents and children for the collection of the data, fellow student Richard E. Kennedy and his son Brandon Kennedy for their help in the production of the audio files used in this study, fellow student Kerri Michalica for her pictures used in the current study, fellow student Kelly Cambell for her helpful suggestions on the thesis measures, my husband Xianshu Jiang for his help in data calculations and file formatting, and professors Tim Murphy and Nancy DeCourville for their help in the data analyses.

Table of Contents

List of Tables

List of Figures

List of Appendices

Introduction

According to Rubin, Stewart, and Coplan (1995), the etiological study of externalizing difficulties in childhood has a broader, richer conceptual and empirical history than that of internalizing behaviors (e.g., shyness). Since Zimbardo (1977) directed the attention of psychologists to the folk notion of shyness, however, a substantial body of research has been dedicated to restructuring shyness as a psychological construct (Jones, Cheek, & Briggs, 1986).

Moreover, most of the previous research in shyness has been concerned with emotional or behavioural outcomes of shy individuals. In the present study, however, I investigated children's thinking about shyness. Specifically, I looked at children's implicit self-theories of shyness, as well as their predictors and correlates. The first section of the introduction provides an overview of shyness construct and the cognitive, emotional, behavioural, and social outcomes of shyness. Next, social cognitive characteristics of shy/withdrawn individuals are discussed. In addition, children's implicit self-theories of shyness are proposed. In the fourth section, I explore the predictive effect of shyness level on implicit self-theories of shyness. Then, implicit self-theories of shyness in the prediction of perceptions of significant others' theories of shyness is examined, followed by the association between implicit self- theories of shyness and shyness as a perceived problem, and the relation between children's implicit self-theories of shyness and their ideas of treatment for shyness. I will close the introduction with a developmental issue-why we focus on early adolescents in this study?

Definition of Shyness and Shyness-Related Outcomes

Shyness has been viewed as a syndrome consisting of behavioural, physiological,

and cognitive-affective components (Cheek & Melchior, 1990; Zimbardo, 1990). Shy individuals exhibit avoidant behaviors such as inhibition, avoidance of eye contact, reluctance to talk, and avoidance of other people (Cheek & Buss, 1981). They also may be behaviourally wary, watchful, or quiet in new situations (Kagan, Reznick, & Snidman, 1985). The physiological syndrome of shyness may include racing pulse, pounding heart, blushing at the prospect of social interaction (e.g., Cheek & Melchior, 1990), and a high level of cortisol (Kagan, Reznick, & Snidman, 1987; Schmidt, Fox, Rubin, Sternberg, Gold, Smith, & Schulkin, 1997). Shy people also are prone to chronic negative self-appraisals, intense concerns about evaluation of others, and aversion toward entering into social interaction (Cheek & Melchior, 1990; Pilkonis, 1977a, 1977b; Schlenker & Leary, 1982; Zimbardo, 1990), as well as feelings of anxiety and embarrassment (Cheek& Melchior,1990; Pilkonis, 1977a, 1977b; Schlenker & Leary,1982; Zimbardo, 1977/1990).

Normally, shyness is considered as a subtype of the"umbrella term" *social withdrawal*, which encompasses the different motivational processes that underline decisions to be alone (Rubin & Coplan, 2004). Some researchers have characterized shyness as reflecting two competing social motivations (Asendorpf, 1990; 1993); shy children often desire social interaction but this social approach motivation may be inhibited by anxiety that arouses avoidance motivations (Coplan , Prakash, O'Neils, & Armer, 2004).

Shyness is moderately to highly stable from early childhood to adolescence, particularly among extreme groups (e.g., Fordham & Stevenson-Hinde, 1999; Pedlow, Spanson, Prior, & Oberlaid, 1993). As a result, shyness has been linked to indices of maladjustment across the lifespan, especially in Western cultural contexts. In the

preschool years, shyness is related to overt indices of internalizing problems, such as social anxiety during free play with peers and negative emotionality. Young shy children display lower social competence, perceive lower self-esteem, and have more academic difficulties than their non-shy counterparts (e.g., Coplan et al., 2004). During later childhood and into adolescence, shyness becomes increasingly associated with loneliness, depressive symptoms, social anxiety, lower self-worth, and the use of less positive coping strategies (e.g., Crozier, 1995; Eisenberg, Shepard, Fabes, Murphy, & Guthrie, 1998). Because shyness becomes more salient to peers from middle childhood (Rubin, Burgess, & Hastings, 2002), shy older children may experience much more negative feedback for their shyness than when they were young children, which may lead to shyness-related syndromes in later childhood and adolescence.

In social contexts, shy undergraduates show less willingness to initiate and structure conversation and less talking in general than nonshy agemates. One possible explanation is that, compared with nonshy people, shy individuals experience lower overall positive affect and higher speech anxiety (Pilkonis, 1977a). An alternative view is that shy individuals may find silences as phenomena that bring psychological safety and peacefulness or venue for quiet reflection (Bosacki, 2005). In addition, shy adults differ significantly from their nonshy counterparts in a direction that suggests less effective functioning in behaviours that are central to the career development of young adults (Phillips & Bruch, 1988).

There also is evidence that shows gender differences in shyness-related outcomes. For instance, Kerr, Lambert, and Bem (1996) found that Swedish shy boys got married and became fathers later than nonshy boys, whereas the differences between shy and

nonshy girls were not significant.

Researchers have proposed several factors that may underlie the development and display of shyness/withdrawal in childhood, including genetics (Plomin & Daniels, 1986), biologically-based disposition (e.g., Calkins, Fox, & Marshall, 1996; Kaga, Snidman & Arcus, 1998), physiological factors (Kagan, 1997), parental beliefs and practices (Rubin et al., 2002; Rubin, Cheah & Fox, 2001), and peer experiences (Rubin, Cheah, & Fox, 2001). However, there may be various potential mediating mechanisms between these processes and shyness or withdrawal. For example, social cognitions may mediate the link between parenting and social withdrawal. Parental overdirectiveness may not allow a child to solve interpersonal problems on his or her own and also prevent the development of a belief system of social self-efficacy. In turn, the child may tend to withdraw from his or her peers (Rubin, Burgess, Kennedy, & Stewart, 2003). Therefore, it is important to know more about the social cognitions of shy/withdrawn children.

Social Cognitive Characteristics of Shy/Withdrawn Individuals

Social cognition refers to the thinking that people display about the thoughts, feelings, motives, and behaviours of themselves and others (Shaffer, 2000). Rubin et al. (2003) argued that peer interaction is essential for social cognition development and also influences children's understanding of the rules and norms of their peer subcultures. It is this understanding of normal performance that enables the child to evaluate his or her own competency against the perceived standards of the peer group. Thus, it seems reasonable to think about the consequences for social cognitive development for those children who refrain from social interaction and avoid the company of their peers. LeMare and Rubin (1987) reported that social withdrawal in early childhood was

associated with poor perspective-taking ability. In addition, a body of research has showed that shy/withdrawn children have social cognitive skills deficits, compared to their normal peers.

Social cognitive skills include social goals, social strategies, self-efficacy, and causal attributions. *Social goals* have been defined as focused arousal states that produce (or want to produce) particular outcomes (Crick & Dodge, 1994). It has been argued that socially maladjusted children do not posses deficits in social problem-solving and strategy knowledge, but instead choose primarily maladaptive goals in social situations (e.g., Chung & Asher, 1996). Withdrawn children, for example, are more likely to pursue less assertive goals than their peers (Rubin, 1985; Rubin, Daniels-Bierness, & Bream, 1984; Rubin & Krasnor, 1986). There also is some suggestion that children with adjustment problems may have difficulty coordinating their social goals and meeting several different goals simultaneously (Rabiner & Gordon, 1992). As a result, children's *strategies* for hypothetical peer conflicts are highly associated with the kinds of social goals they endorse in particular situations (Chung & Asher, 1996; Delveax & Daniels, 2000; Erdley & Asher, 1996; Lochman, Wayland, & White, 1993; Slaby & Guerra, 1988).

Rubin and his colleague (Rubin, 1982/1985; Rubin et al., 1984; Rubin et al., 1986) have reported that in early childhood, behaviorally withdrawn children select more adult-dependent and non-assertive problem-solving strategies than other children. Similarly, Stewart and Rubin (1995) reported that anxious-withdrawn children in kindergarten, Grade 4 and Grade 6 produced fewer socially assertive strategies than their more social agemates. Again, Wichmann, Coplan and Daniels (2004) found that,

compared with their peers, withdrawn children indicated a preference for non-assertive, withdrawn strategies to deal with hypothetical conflict situations.

Why do shy/withdrawn children choose less assertive goals and strategies than their peers? One reason may be their self-efficacy level. Bandura (1977) defined *self-efficacy* as the degree to which individuals believe that they can successfully perform behaviors that are necessary for achieving desired outcomes. In this regard, Wheeler and Ladd (1982) hypothesized that children who experience social problems might not behave competently in social situations because they lack feelings of efficacy concerning their behavioral performance. Similarly, shy children might be expected to demonstrate lower self-efficacy to enact assertive social strategies because of the link between shyness and children's negative self-perceptions (Rubin et al., 2002; Schmidt & Schulkin, 1999). Indeed, there is evidence that withdrawn children rate their self-efficacy for assertive goals less positively than do both aggressive and comparison children (Wichmann et al., 2004).

Alternatively, shy/withdrawn people's causal attributions for social successes and failures might also be responsible for their maladaptive social goals and strategies (Cheek & Melchior, 1990). Causal attributions involve reasoning about why an event occurred, which is a key construct in the study of shyness, as well as other social difficulties (Seligman, Abramson, Semmel, & von Baeyer, 1979). The causal dimensions specified in both Seligman's learned helpless model (Abramson, Seligman, & Teasdale, 1978) and Weiner's (1985) attributional model include locus of control and stability of events. The models differ in that Seligman's model includes a globality dimension while Weiner's includes a controllability dimension. The locus of control dimension (internal-external)

refers to the attribution of events to factors that range from internal to external; stability (stable-unstable) refers to the consistency with which people attribute different causes for events; globality (global-specific) refers to the generality of causes; controllability (controllable-uncontrollable) refers to the person's expectancy about personally controlling a cause in the future.

Attibutional style reflects the systematic ways that people explain their own successes or failures with various life experiences (Anderson, Jennings, & Arnoult, 1988). Alfano, Joiner, and Perry (1994) predicted that shy individuals would have a more maladaptive attributional style for negative interpersonal events than nonshy people. Research also showed that shy adults typically adopted the self-defeating bias process in causal attribution (Arkin, Appelman, & Berger, 1980). That is, when making attributions for social failures, relatively shy people often ascribe their difficulties to internal, stable, and less controllable causes (Anderson & Arnoult, 1985; Girodo, Dozenroth, & Stein, 1991; Teglasi & Hoffman, 1982). In addition, they tend to attribute social success to external, unstable, and less controllable causes (Anderson & Arnoult,, 1985; Teglasi & Hoffman, 1982). Similarly, there is some evidence to suggest that children who blame their social failures on internal and stable factors (e.g., a lack of ability) are more likely to withdraw from social interactions and less likely to be liked by peers than children who cite external reasons for failures (Erdley & Asher,1996; Finchham, Diener,& Hokoda,1987; Goetz& Dweck,1980; Sobol & Earn, 1985). For example, Rubin et al.(1986) found that extremely withdrawn children tended to blame social failure on personal, dispositional characteristics rather than on external events or circumstances. Wichmann et al. (2004) examined the social cognitions of peer-identified socially

withdrawn children from grades four to six. Their results showed that, compared with peers, withdrawn children displayed a pattern of self-defeating attributions for social situations.

Given the evidence that the causal dimensions of locus of control, stability, globality, and controllability are intercorrelated, Anderson et al.(1985) analyzed the unique contribution of each dimension to shyness. The results showed that among the four causal dimensions suggested by various attribution theories, controllability contributed the most variance to predict self-reported adult shyness. Bruch and Pearl (1995) also showed that controllability, as compared to locus and stability, was the best predictor of dispositional shyness, as well as specific symptoms of shyness among young adults. Similarly, another study found that, for undergraduates, globality and controllability were related uniquely to shyness for interpersonal events, while stability and locus was not (Bruch & Belkin, 2001).

Attribution theories aim at the process of explicating causal inferences; similarly, implicit theories influence how people organize and interpret social information (e.g., Dweck & Leggett, 1988). In the next section, a particular implicit theory- implicit self-theory of shyness, which addresses domains of both stability and controllability-will be discussed.

Implicit Self-Theories of Shyness

Based on Kelly's (1955) theory of personality and Heider's (1958) field theory of social perception, the fixed *versus* malleable human attributes model (proposed by Dweck &Elliott 1983; Dweck & Leggett, 1988) is seen as a core dimension in an individual's constructing of reality. According to this model, entity theory refers to the

belief that a highly valued personal attribute (e.g., intelligence, morality, or personality) is a fixed, uncontrollable trait-like entity. In contrast, incremental theory refers to people's belief that the attribute is a malleable quality that can be changed and developed. Peoples' implicit theories about the malleability of intelligence, morality, and personality guide a variety of judgments about the self and others (e.g., attributions and responses) in the domains of social and moral behaviours, as well as achievement (e.g., Dweck, Chiu, & Hong, 1995).

Previous researchers (e.g., Dweck et al., 1995) have treated implicit theory of personality as a categorical variable, consisting of groups of entity and incremental theorists. However, the categorization of an individual into these groups is biased on their scores in a single dimension, with high scores indicating an entity theory orientation and low scores reflecting an incremental theory orientation. Thus, the entity and incremental theories may be seen as a continuum and analyzed using continuation-based analyses. In this context, implicit theories of shyness were viewed as a continuous variable in current study.

Dweck et al. (1995) pointed out that implicit theory is not a generalized cognitive style, but a domain-specific conceptual framework. That is, an individual may have an entity theory about his or her intelligence and an incremental theory about his or her personality. Given this domain specificity of implicit theory, it is perhaps most relevant to examine implicit theories about individuals' specific personality traits (self-theories) that may put them at risk for social failure (Beer, 2002).

One personality trait that is associated with social failure is shyness; however, research has shown that not all shy people are necessarily avoidant of social situations

nor are they necessarily social failures (e.g. Arkin, Lake, & Baumgardner, 1986; Cheek & Melchoir, 1990; Gough & Thone, 1986; Zimbardo, 1977/1990). Asendorpf and Wilpers (1998) found that shy undergraduates were much slower in developing friendships, had fewer friends, were less likely to fall in love, and reported less social support from existing friends than nonshy undergraduates. However, changes in their levels of shyness did not predict changes in their network of friends, whether they fell in love or not, or whether they felt significant or little support. Thus, it has been difficult to understand these individual differences in social outcomes among shy people. If they are not explained sufficiently by different levels of shyness, then what factors account for those differences in social outcomes?

One such variable might be shy people's perceptions of their shyness. For example, Wurf (1989) found that individuals who downplay the inevitability of their shyness differed from individuals who felt their shyness was inevitable. Those individuals who downplayed the inevitability of their shyness tended to seek specific feedback to improve their social interactions; this feedback was sought even as their social anxiety increased. In contrast, shy individuals who emphasized the inevitability of their feelings of shyness sought to confirm their negative self-views.

Similarly, from an implicit self-theories perspective, Beer (2002) proposed that there were individual differences in perceived control over shyness. More precisely, *shy entity theorists* believed shyness as fixed; *incremental theorists* believed shyness as a controllable quality. In current study, I proposed that implicit theories of shyness tapped both stability and controllability domains. Therefore, *entity theory of shyness* referred to the belief that shyness was a fixed trait whereas *incremental theory of shyness* treated

shyness as changeable and controllable. An investigation of children's implicit self-theories of shyness would have implications especially for those children who view their shyness as unchangeable and uncontrollable, because one possible negative consequence is that those children might behave in a self-defeating or self-handicapping way to protect their self-esteem. If children do hold different theories of shyness, how do they come to form those particular implicit theories?

Level of Shyness: The Predictor of Implicit Self-Theories of Shyness in Children

Entity and incremental theories about achievement and morality almost certainly develop from both direct and indirect experiences, and some studies have examined the socialization practices that might foster the different theories. For example, Kamins and Dweck(1995) had children pretend to perform a series of four tasks for a hypothetical teacher. In each case, the performance of the task was inadequate or incomplete, and the teacher, after pointing out the mistake, delivered one of four kinds of critical feedback, ranging from feedback that reflected on the child as a person to feedback that oriented children toward future strategies. The children who received the person-oriented feedback, compared to the group that received the strategy feedback, agreed significantly more with a fixed theory of goodness-badness. The strategy feedback group, in contrast, endorsed the malleability of goodness-badness.

Although socialization practices might play an important role on children's implicit theories, we cannot rule out direct experience as a factor that can set them along a path to one self-theory or the other. For example, Fox, Sobel, Calkins, and Cole (1996) argued that children's views about personality reflect not so much an abstract theory of development but rather the history of change or stability that has occurred over time.

Similarly, one's view of shyness as either a stable trait or a changing quality may be a function of one's social interaction history. The trait views of those who have experienced and perceived self-changes for their shyness could be different from those who have not experienced changes. For example, when adult were asked to rate how much they varied in their shyness from situation to situation, shy adults reported they were more variable in shy behaviour than their nonshy counterparts (Pilkonis, 1977b). Similarly, I expect that children who are nonshy or have low levels of shyness may perceive little variation across social situations in their shyness behaviour. Thus, they are likely to develop an entity-oriented theory of shyness. For moderately shy children, however, shyness may occur more intensely in some contexts than in other situations, compared to nonshy children or children with low shyness levels. For instance, some moderately shy children may be shy in talking to their peers, but not when they talk to adults such as a teacher. One possible explanation is that adults generally are more patient to shy individuals than are those children's peers. Therefore, the shy children might not feel as stressful when they face an adult as they face a peer and, demonstrate less shy than they usually do. Correspondingly, they tend to develop an incremental-oriented view of shyness. However, *extremely* shy children –like nonshy peers- may experience little or no change across situations. As a result, they may endorse an entity-oriented theory of shyness similar to nonshy children or children with low levels of shyness. Thus, **a U-shaped relation between level of shyness and implicit self-theory of shyness was expected in the present study** (see Figure 1). **Specifically, a moderate level of shyness was predicted to be associated with incremental-oriented theory, and both low and high levels of shyness would be linked to entity-oriented theory.**

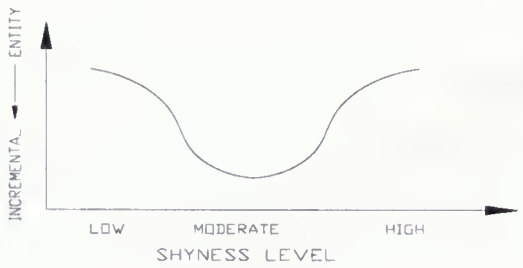


Figure 1. Plot of shyness in predicting implicit self-theories of shyness

Implicit beliefs influence people's inference, judgments, and reactions. Thus, in the following section, I explore how children's implicit self-theories of shyness are related to their perceptions of significant others' theories of shyness, as well as children's perceptions of shyness as a problem and their ideas about treatment for shyness.

Correlates of Implicit Self-Theories of Shyness

Perceptions of Others' Theories of Shyness

Researchers interested in children's perceptions of socially deviant behaviors have typically focused on aggression and social withdrawal. It has been argued that socially withdrawn behaviors are less salient than aggression in early childhood (e.g., Younger, Schwartman, & Ledingham, 1986). However, as children age, they appear to view withdrawn behaviors as more deviant than when they were young (Younger & Daniels, 1992). Results from recent studies indicated that young children are able to make multiple distinctions among hypothetical aggressive and withdrawn children. Aggressive peers were perceived as being more responsible for their behavior and deserving less sympathy than withdrawn peers (Goosens, Bokhorst, Bruinsma, & van Boxtel, 2002); moreover, children were more likely to infer that the aggressive behaviour

is more stable over time and more difficult to change than withdrawn behaviour (Giles & Heyman, 2004).

In recent years, it has become increasing clear that social withdrawal itself is, in fact, a heterogeneous construct (e.g., Coplan, 2000; Coplan, Gavinski-Molina, Lagace-Seguin, & Wichmann, 2001). Molina, Coplan, and Younger (2003) found that children as young as six years old could differentiate shy and socially disinterested peers. Similarly, in another study, Coplan, Girardi, Findlay, and Fronhlick (in press) reported that four- and five-year-old children not only made a distinction between shyness and social disinterest but also showed different attitudes and responses towards the two forms of solitude. In other words, children expressed greater interest in playing with the hypothetical shy children and also inferred others were more likely to play with the shy children than with a disinterested unsocial peer.

Children's implicit theories of personality not only have an impact on their attitude toward their own personality (Ross, 1989) but also are related to their reactions to others' negative social behavior. For example, when entity theorists observed other children's negative behavior, they showed greater preference for retribution and recommended more punishment than did incremental theorists, whereas incremental theorists focused on education and remediation (e.g., Erdly & Dweck, 1993). Therefore, children's implicit theories of personality might affect their labelling and treatment of others (Dweck, Hong, & Chiu, 1993). In this sense, children's implicit theories of shyness may have implications for how they perceive and treat shy peers.

In fact, according to the self-presentation theory of social anxiety (e.g., Schleker & Leary, 1982), concerns about one's public impression lie at the heart of social anxiety,

and thus shyness. Therefore, shy children may not merely attribute social failures (e.g., peer rejection) to shyness; they also may be concerned about how other people around them see their own shyness. By extension, the perception of others' theory of shyness, or the ability to consider how other individuals perceive one's shyness, may allow shy children to predict how others are likely to respond to them. In addition, their perceptions of others' theories also could affect how children think about their own problems and regulate their behaviors in ways that will have desired effects on other people and themselves.

Implicit theories guide inferential processes, depending on whether the information supports or contradicts the theories people hold (Anderson, 1995). It is a natural tendency that adult perceivers are motivated to decrease their exposure to aversive, theory-violation information (e.g., Dijksterhuis, van Knippenberg, Kruglanski& Schaper, 1996; Driscoll, Hamilton, & Sorrentino, 1991). Since people do not like discrepant information, similarly, it will be aversive to children if they perceive that significant others (e.g., parents, teachers, and peers) have different theories of shyness from the children themselves hold. Therefore, if possible, children will assume others hold theories similar to their own in order to reduce their own negative emotions, such as social anxiety. These assumptions of similarity would be most likely made in ambiguous situations in which others' behaviors make it difficult to determine what their theories of shyness actually are. It is well established that, compared to nonaggressive children, aggressive children tend to attribute hostile intentions to another child who provokes them with ambiguous intentions (e.g., Dodge, 1980; Nasby, Hayden, & Depaulo, 1980). Analogously, I expected to find that, **in ambiguous social situations, children would**

make inference about others' implicit theories of shyness in a way that confirmed their own implicit theories. Since children's perceptions of significant others' theories of shyness were expected to be related to how children see the negative impacts of shyness, I discuss about the extent to which children see shyness as a problem in more detail below.

Shyness as a Perceived Problem

Socially withdrawn behavior often is considered an index of peer difficulty by parents, practitioners, and clinicians (Mills & Rubin, 1990). Within the clinical literature on social problems in children, however, several authors have recognized that consideration of child's own thoughts, feelings, and perceptions about their social difficulties is an important, if not critical, component of assessment and treatment (e.g., Meichenbaum, Bream, & Cohen, 1984;Yule, 1981). Do children themselves see shyness as a problem?

Some researchers have investigated children's social attitude towards aggressive and socially withdrawn behaviors in terms of their negative impact in the peer group. For example, Molina et al. (2003) asked Grade 1 and Grade 5 children whether active isolation (i.e., children who were rejected), fearful shyness, self-conscious shyness, and social disinterest might be a problem in their grade. Across grades, children rated active isolation as the most problematic behavior, followed by fearful shyness, self-conscious shyness, and social disinterest.

Similarly, Coplan et al. (in press) explored overall differences in children's perceptions of negative impact toward different types of hypothetical peers (shy, unsociable, and aggressive). Children reported the hypothetical aggressive peer would

cause the most problems in class, followed by the unsocial peer, and then the shy peer. In addition, Coplan et al. also explored potential group differences among shy, unsocial, aggressive, and comparison children in the perceptions of negative peer impact of those hypothetical peers. Aggressive children reported all three hypothetical peers would cause significantly greater problems in class than their nonaggressive peers. The aggression group was followed by comparison, unsociable, and shy groups. Unfortunately, there is little, if any, research that has directly explored children's views of shyness as a problem in term of the negative impacts of shyness on shy children.

Even less is known about children's views of the potentially problematic nature of their *own* shyness than about their views of their peers' shyness. Although Pilkonis (1977b) found that shy adult respondents reported their own shyness to be a moderate problem, we still have little knowledge about this for children.

Thus, I will be looking at the relation between children's views of their own shyness as a problem *versus* their views of shyness as a problem for children in general. Why might children see shyness as a problem? Several factors may be related to this issue. Cultural norms, for example, may play a unique role. In Western cultural contexts, where shyness often is regarded as relatively maladaptive index (e.g.; Rubin, Chen, McDougall, Bowker, & McKinnon, 1995), children may be more likely to see shyness as a problem both for themselves and for children in general than children in other cultural settings in which shyness is more acceptable. Next, parental beliefs, which are partially related to cultural beliefs, might influence whether children see shyness as a problem. Parents of a shy child might convey their views of shyness as a problem to their child through parent-child interactions. In addition, researchers have indicated that the long-

term outcomes of shyness or social withdrawal may differ for boys and girls. Specifically, it has been argued that boys' shyness or social withdrawal may be accompanied by greater psychological "cost" than those of girls (e.g., Rubin, Chen, & Hymel, 1993). This gender differences may be the result of the expectation that boys should be more assertive than girls (e.g., Schneider, Attili, Vermigly, & Younger, 1997).

Further, it is possible that how children perceive their shyness influences whether they see shyness as a problem. Parker and Asher (1987) found that not all poorly accepted children were destined to face adjustment difficulties in later life. Given the heterogeneous nature of rejected subgroups, Parker and Asher speculated that how children themselves perceived and interpreted their social difficulties may influence their subsequent behavior and, in turn, the likelihood of negative interpersonal relationships. Entity theorists tend to make global inferences for personality; that is, they tend to infer traits from limited behavior or generalize a given trait or behavior to most people from few individuals (e.g., Dweck et al., 1993). In contrast, incremental theorists emphasize mediation processes that focus on efforts, psychological state, or individual differences (e.g., Dweck et al., 1993). Therefore, if shy entity theorists see shyness as a problem for themselves, they would be expected to generalize this view for children in general. Shy incremental theorists, however, do not necessarily make this generalization even if they see shyness as a problem for themselves. In the present study, therefore, I hypothesized that children with different implicit theories of shyness would have different patterns in their views of shyness as a problem. The hypothesis was quite exploratory in nature. However, I suggested that **the association between views of shyness as problem for children themselves and for children in general would be affected by implicit self-**

theories of shyness. Specifically, I hypothesized that this association would be stronger for children who held an entity-oriented theory than for those who held an incremental-oriented theory.

Ideas about Treatment for Shyness

Are children who think of themselves as shy motivated to change their shyness? From Pilkonis's (1977) study, we may conclude that not all shy undergraduates would be equally willing to seek help to overcome their social anxiety. Why? One explanation may be related to the degree to which individuals perceive their shyness as a problem. In Pilkonis's study, many of the participants thought their shyness was only a moderate problem. Hence, those who would be most willing to change might be those who reported their shyness as a more severe problem.

Another possibility is that individuals may differ in their personal views of shyness. Conceptually, shy incremental theorists, with their drive for self-improvement, have a motivation for change (Beer, 2002). Shy entity theorists, who believe their shyness is unchangeable and uncontrollable, possibly just seek confirmation of their self-views. One well-documented phenomenon in the literature on achievement motivation is that when individuals encounter achievement setbacks, some respond in a mastery-oriented manner, whereas others respond helplessly (Diener & Dweck, 1978, 1980). For example, Zhao and Dweck (1994) presented children with hypothetical achievement setbacks and then asked about their thoughts, feelings, and possible reactions. They found that entity theorists of intelligence were likely to generate responses reflecting helpless coping reactions (i.e., escaping from the situations). In contrast, incremental theorists were likely to generate mastery-oriented responses (e.g., new problem-solving strategies or plans to

functioning in adolescence and adulthood (Kohlberg, LaCrosse, & Ricks, 1972). Children's perceptions of social deviance in their peers increase with age (Younger, Schwartman, & Ledingham, 1985). Shyness and social withdrawal become more salient to peers from middle childhood and children begin to show more rejections of their shy peers (Rubin et al., 2002). Thus, in preadolescence, peer status and relationships become a particularly important period for shy children for the development of their self-esteem and social competence.

Knowing about children's personal self, about the self over time, and about the changes in self, requires a particular level of self-concept (Fox et al., 1996). From a developmental perspective, the self-concept becomes increasingly differentiated with age and gradually shifts from the physical and active self in early childhood to the psychological and social self in early adolescence (e.g., Harter, 1999). Many researchers have noticed that during early adolescence, children have established an abstract, psychological, and trait-like self-definition (e.g., Schaffer, 1996). In addition, given that much of our social interaction depends on what people believe about other people's beliefs (Astington, 1993), the development of second-order understanding is of importance to children as well as adolescents. Indeed, some researchers (e.g., Bosacki, 2003) suggest that such higher-order reasoning is also fundamental to children's understanding of their self-concepts, complex emotions, and social interactions. Based on the reasons mentioned above, 10-12 year old children were considered to be an appropriate age group for the current study.

Summary

Despite a body of research that has investigated pathways and maladaptive

outcomes of childhood shyness, there is little research exploring children's thinking about shyness. The principal goals of the current study were to examine how children's implicit self-theories of shyness were related to their shyness levels and to assess associations between implicit self-theories of shyness and a variety of shyness-related cognitions. These include children's perceptions of others' theories of shyness, shyness as a perceived problem, and children's ideas about treatment for shyness. The hypotheses of the present study were as follows:

1. A U-shaped relation between level of shyness and implicit self-theory of shyness was expected in the present study. Specifically, a moderate level of shyness was predicted to be associated with incremental-oriented theory, and both low and high level of shyness would be linked to entity-oriented theory.

2. In ambiguous social situations, children would make inference about others' implicit theories of shyness in a way that confirmed their own implicit theories.

3. The association between views of shyness as problem for children themselves and for children in general would be affected by implicit self-theories of shyness. Specifically, I hypothesized that this association would be stronger for children who held an entity-oriented theory than for those who held an incremental-oriented theory.

4. Children with an incremental-oriented theory of shyness would be more motivated to change their shyness than those with an entity-oriented theory.

5. Compared to children who have an entity-oriented theory, children who have an incremental-oriented theory would perceive greater overall effectiveness of agents and strategies in their potential to change shyness.

Method

Participants and Recruitment

A total of 46 9-12 year old children (M =10.74, SD = .88) and their parents/guardians participated in the present study. Twenty-three of the 46 (50%) participants were recruited from swimming classes at Brock University, 15 (32%) were from churches in St. Catharines, and 8(18%) were from class announcements at Brock. Table 1 provides an overview of the demographic characteristics of this sample.

Table 1

Demographic data

Variables	Number	Percentage	Missing
Age of the child			0
9 years old	2	4.3	
10 years old	19	41.3	
11 years old	14	30.4	
12 years old	11	23.9	
Gender of the child			0
Male	25	54.3	
Female	21	45.7	
First language of the child			0
English	44	95.7	
Other	2	4.3	
Gender of the parent/guardian who completed the questionnaire			0
Male	9	19.6	
Female	37	80.4	
First language of the parent/guardian			0
English	40	87.0	
Other	6	13.0	
Highest grade of the parent/guardian			1
Did not finish high school	2	4.3	
Finished high school	8	17.4	
Some college or university	8	17.4	
Finished college or university	22	47.8	
Finished graduate school	5	10.9	
Ethnic group of the family			13
English	20	43.5	
Other	13	28.3	
Marital status of the parent/guardian			1
Single	2	4.3	
Married/common law	38	82.6	
Divorced/separated	4	8.7	
Widowed	1	2.2	
Family structure			1
Only child family	3	6.5	
Two or more children family	42	91.3	

The participants were mostly 10-12 year old children; however, two 9-year-old children were included in the sample. The two children were within one month of the 10 year-old criterion. Ethnically, this sample was relatively homogeneous. Although about 27% of the participants did not report their ethnic groups, English was the first language for 95.7% of the children and 87% of the parents/guardians. The parents generally were well-educated; 78.3% of the parents who completed the questionnaire had some university or higher education. In term of family structure, 82.6% of the children lived with both parents and 91.3% of the families had more than one child.

Procedure

Pilot Study

Before beginning data collection for the main study, a pilot study was conducted to pre-test measures of children's implicit theories of shyness, children's perceptions of others' theories of shyness, and ideas of treatment for shyness. Minor changes in questionnaires were made to increase clarity. The pilot study included five 10-12 year old children and their parents.

Procedure for Main Study

Before recruitment, ethics clearance was obtained from Brock University's Research Ethics Board (see Appendix A).

Recruitment of participants was carried out in a variety of ways. First, I talked to the ministers in churches and asked for their help in making parents be aware of the study. Second, I went to the swimming classes and handed out information sheets at Brock Univeristy to obtain the parents' permission for their children's participation. Third, posters were put up at Brock University, supermarkets, and convenient stores. Fourth,

classroom announcements were made to adult students at Brock University. Finally, an advertisement for the study was made on the Psychology Department SONA systems research website.

Data were collected at the churches (n =14), Brock University (n = 27), and children's homes (n = 5) with the children's assent. First, I interviewed the children individually to assess their general ideas about shyness. Children also filled out the implicit self-theory of shyness scale, self-reported shyness scale, and questionnaires about shyness as a perceived problem and specific ideas about treatment for shyness. Finally, children completed the questions measuring their perceptions of others' theories of shyness, using a computer-presented format.

While the children completed the above task, the children's parents/guardians completed a short demographic survey, mother-reported shyness scale for children, and signed a copy of the informed consent letter.

At the end of this session, I gave the parent/guardian a debriefing form explaining the purposes of this study (see Appendix B). At the end of this school year, a summary of the results and a certificate thanking a child for his/her participation (see Appendix C) were sent to families who wanted the results of this study.

Measures

Measures used in current study are summarized in Table 2.

Table 2

Summary of measures for the current study

Measure construct	Measure	Procedure	Scale and Scoring
Implicit self-theories of shyness	*Implicit self-theories of shyness scale* (Beer, 2002)	Self-reported questionnaire	5-point, 1 (disagree strongly) to 5(agree strongly); averaged scores for the first three items
Level of shyness	*Children's Shyness Questionnaire* (CSQ, Crozier, 1995)	Self-reported questionnaire	3-point , 0(no) to yes (2); averaged scores for the 26 items
	Shyness subscale of Child Behavior Questionnaire (CBQ, Rothbart, Ahadi, & Hershey, 1994)	Mother-reported questionnaire	7-point, 1(extremely untrue) to 7(extremely true); averaged scores for the 6 items
Perceptions of others' theories of shyness	Six same-sex scenarios followed by questions (developed for this study)	Self-reported computer task	5-point, 1 (Definitely not) to 5 (Definitely yes); averaged scores for the 6 scenarios
Shyness as a perceived problem	*Shyness as a perceived problem* questions (developed for this study)	Self-reported questionnaire	5-point, 0(Not at all) to 4(Extremely)
	Hypothetical shy child's expected emotions (developed for this study)	Self-reported questionnaire	5-point, 1(Not at all) to 5(extremely)
Ideas about treatment for shyness	Open-ended questions	Interview	
	Motivation to change questions (developed for this study)	Self-reported questionnaire	5-point, 0(Not at all) to 4(Extremely); averaged scores for the 2 items
	Perceived effectiveness of change for agents questions (Revised from Giles & Heyman, 2004)	Self-reported questionnaire	3-point, 0 (no) to (yes); averaged scores for the 8 items
	Perceived effectiveness of change for strategies questions (developed for this study)	Self-reported questionnaire	5-point, 0(Not at all) to 4 (Extremely); averaged scores for the 8 items

Shyness

Children completed the self-reported *Children's Shyness Questionnaire* (CSQ, Crozier, 1995) (see Appendix D). Respondents were required to choose "yes", "no" or "don't know" in response to 26 questions about their feelings of shyness or embarrassment in various social situations (e.g., *I feel nervous about joining a new class*). The total scale was used in the present study. Items were recoded so that higher scores showed higher shyness (α = .85).

In addition, parents completed the shyness subscale of *Child Behavior Questionnaire* (CBQ, Rothbart, Ahadi, & Hershey, 1994)(see Appendix E). There are six items pertaining to shyness (e.g., *acts shyly around new people*). Response options were on a 7-point scale, ranging from 1(extremely untrue) to 7(extremely true). Items 1 and 5 were recoded so that higher scores indicated higher shyness (α = .75).

Implicit Self-Theories of Shyness (see Appendix F)

The construct of implicit self-theories of shyness was assessed using the first three items of the *Implicit Self-Theories of Shyness Scale* (Beer, 2002). Beer's scale includes six items (e.g., *I have a certain level of shyness, and it is something that I can't do much about*). The first three of the items were modified by Beer from Erdly and Dweck's (1993) measures of i*mplicit self-theories of intelligence* and the last three items were added by Beer to tap the incremental orientation. Each item was rated on a 1(disagree strongly) to 5 (agree strongly) scale. In the current study, the internal consistency of the whole scale was unacceptably low (α = .26) (see Table 3 for the intercorrelations among the six items) (items 4-6 were recoded). Therefore, only the first three items (*I have a certain level of shyness, and it is something that I can not do much about it; I can change how outgoing I*

appear in social situations, but I can not change my true level of shyness; and My shyness is something about me that I can not change very much) were used in the analyses ($\alpha = .58$).

Implicit self-theory of shyness was analysed as a continuous variable, with high scores indicating an endorsement of an entity-oriented theory and low scores reflecting an incremental-oriented theory.

Table 3

Inter-item correlations among implicit self-theories of shyness scale

	1	2	3	4	5	6
1	---	.288	.301	-.141	-.076	.152
2		---	.258	-.317	-.154	-.179
3			---	.275	.097	-.095
4				---	.231	.035
5					---	.117
6						---

Perceptions of Others' Theories of Shyness (see Appendix G)

Six same-sex scenarios developed for this study were presented to children on a computer. The scenarios described others' (mother, teacher, and friend) efforts to help a shy child. To cover both fearful shyness and self-conscious shyness, there were two stories for each of the three types of individuals. One story was about a shy child's interaction with unfamiliar peer(s) and the other was the child's interaction with familiar peer(s). A type recording of each story was read aloud by a same-sex child, and at the same time the written form with pictures was presented to the participants.

Following each story, children were asked two questions. The first question was

"How much do you think the (mother/teacher/friend) would try again to help (either Tom or Sue, depending on the sex of the child)?" The answer to this question was used to assess children's perceptions of others' theories of shyness. Greater willingness to help was considered to reflect others' belief that changes in shyness were possible. Children's responses were rated on a 5-point scale, ranging from 1 (Definitely not) to 5 (Definitely yes). This item was recoded so that higher scores indicated entity-oriented theories of shyness.

The second question was "Why will the (mother/teacher/friend) act that way? ". The answer to the second question was used to check if children's responses to the first question were relevant to their perceptions of others' theories of shyness (e.g., "The mother would try again to help Tom because she wanted him to be more sociable). Three children gave answers that appeared irrelevant to other' theories of shyness (e.g., "I think the mother will try again to help (Tom/Sue) because she wants him/her to have fun"). In those cases, I asked the children to think of another reason and they did not change their answers about whether the person would help or not. The second reasons were relevant.

I combined the ratings of the six scenarios to create an aggregate score across scenarios to measure children's perceptions of others' theories. Internal consistency of the scores was acceptable ($\alpha = .72$).

To control for stimulus order effects, the scenarios were presented in a manner similar to a Latin Square Design (see Table 4) and there were no significant order differences, $F_{(3, 41)} = 2.155$, MS = .355, $p>.05$.

Following the six stories, four general questions were read by the same child who read the stories: *Should people help (Tom/Sue) to be less shy?*, *What things could people*

do or say to make (Tom/Sue) be less shy?, Is he/she likely to be less shy as he/she gets older?, and *How do you think (Tom/ Sue) feels about his/her shyness?*. Only the last question was used in the thesis analyses.

Table 4

Presentation Orders for Scenarios

Order number	Scenarios					
1	FS/M	FS/T	FS/F	SS/M	SS/T	SS/F
2	FS/T	FS/F	SS/M	SS/T	SS/F	FS/M
3	FS/F	SS/M	SS/T	SS/F	FS/M	FS/T
4	SS/M	SS/T	SS/F	FS/M	FS/T	FS/F

Note. FS: Fearful Shyness Scenario; SS: Self-conscious Shyness Scenario; M: Mother; T: Teacher; F: Friend.

Shyness as a Perceived Problem (see Appendix H)

A measure of children's ideas of shyness as a perceived problem was developed for this study. It included six questions: (1) *Do you think you are a shy person now*? (Yes or no); (2) *How much of a problem is shyness to you*?; (3) *Do you think you were shy in the past*? (Yes or no); if the answer was "*yes*" the child was asked to specify "*When*"; (4) *How much of a problem was shyness to you*? (5) *If you were shy, how much of a problem would it be*? (6) *How much of a problem is shyness for children in general*?. For questions (2) through (6), children responded on a 5-point scale, from 0 (Not at all) to 4 (Extremely). The *Shyness as a Problem for Children Themselves* (SPS) scale thus consisted of the average of the items 2, 4, and 5 ($\alpha = .68$). This alpha was not considered to be a problem, because I did not expect children's answers to be consistent across items. The *Shyness as a Problem for Children in General* (SPG) was a one-item scale.

In addition, a hypothetical child's emotions measure was developed as an indirect measure of children's views of shyness as a problem. The emotions included sad,

embarrassed, ashamed, angry, and happy. Each of the emotions was rated by the children on a 5-point scale, from 1(not at all) to 5(extremely). High ratings of negative emotions were interpreted as indicating that children viewed shyness as aversive.

Ideas about Treatment for Shyness

Children's ideas of treatment were measured using both interview questions and a fixed-response questionnaire. The interview questions concerned children's general ideas about shyness, including ideas about treatment for shyness (see Appendix I): "*Do you know any children who are shy*?(do not ask their names), "*How do you know if someone is shy?"*, "*Do you think shy children want to be less shy? Why?*", "*Do you think shyness is a good thing, bad thing, or something in between? Why?*", "*In your opinion, who could help a shy child be less shy?*", "*In your opinion, what are the best ways to help a shy child to be less shy*?", and "*Is there anything else you think we should know about shyness*?". To record the answers, I took notes and tape recorded them.

The fixed-response questionnaire consisted of two sections (see Appendix J). One was developed to measure children's motivation to change their shyness (2 items): "*If you presently consider you are shy, how much do you want to change your shyness*?" and "*If you were shy in the past, how much did you want to change your shyness*?". To encourage all the children answer both or one of the questions, the instruction was, "***Even if*** you think you have never been shy, try to imagine a time you are or you were shy and choose your answer(s) for the questions above". The questions were answered on a 5-point scale, ranging from 0 (Not at all) to 4 (Extremely). This scale consisted of the average of the two items (α = .59). This alpha was not considered to be a problem, because I did not expect children's answers to be consistent across items.

because I did not expect children's answers to be consistent across items.

The second section included children's perceived effectiveness of the likelihood of a change in shyness, given specific agents and strategies for change. Specifically, children were asked about eight possible agents of change: doctor, teacher, mother, father, friend, older brother or sister, self, and other. An example is "*Could a friend help a shy child to be less shy*?" Doctor, teacher, parent and friend as agents have been used in another study (Giles & Heyman, 2004); in the current study, we added mother, father, older brother or sister, self, and other as agents. For the possible agent "Other", the children were asked "*Could anyone else other than mentioned above help a shy child be less shy*?". If the answer was "Yes", then they were asked to specify "*Who*". The children's responses to each agent were rated on a 3-point scale (no, maybe, yes) and ratings across the eight agents were combined to create a *total perceived effectiveness of agents change* score.

In addition to the eight agents, children were asked about the potential effectiveness of eight strategies for changing shyness: medicine, age ("Just waiting until the shy child gets older"), practice (" Practice meeting new people"), shaping ("Getting rewards, e.g., when the shy child talked to someone new"), modeling ("Watching what nonshy children do"), coaching ("Getting taught or taking lessons"), cognitive restructuring ("Telling himself/herself being shy is not so bad"), and emotion regulation ("Learning how to relax and not to be afraid"). These strategies were rated on a 5-point scale and combined to create a *total perceived effectiveness of strategies change* score. This measure was developed for the current study.

Results

In this section, I first describe the preliminary analyses (e.g., data screening), followed by descriptive statistics, and then the statistical testing of each hypothesis.

Data Screening

Missing Data

A frequency analysis was run to determine the percentage of missing data. Overall, 1.7% of the data were missing. Table 5 shows a summary of the percentage of missing data for the measures used in the current study. The percent of missing data for all the variables was well below the acceptability limit of 5% suggested by Tabachnick and Fidell (2001). Thus, we assumed that the data were missing at random and no further missing data analysis was considered necessary.

Composite scores were computed for participants who responded to at least 50% of the items for a given variable, and an average score was entered for the missing data. A maximum of two children failed to fit this category and those children were dropped from the analyses in which they were missing. Most of the missing data were from the computer-presented scenarios.

Table 5

Percentage of missing data by variable

Variable	Percentage	n
Self-reported shyness	.0	0
Mother-reported shyness	2.2	1
Implicit self-theories of shyness	.0	0
Perceptions of others' theories of shyness	2.2	1
Sad	2.2	1
Embarrassed	4.3	2
Ashamed	4.3	2
Happy	2.2	1
Angry	4.3	2
Shyness as a problem for children themselves	.0	0
Shyness as a problem for children in general	.0	0
Motivation to change shyness	2.2	1
Agent to change shyness	.0	0
Strategy to change shyness	.0	0

N=46 overall average missing data = 1.7%

Distributions

Three assumptions required for multiple regressions were tested in the current study: (1) each variable is normally distributed; (2) the relationship between a predictor and criterion is linear; and (3) the conditional variance of the criterion is the same for all levels of a predictor (homoscedasticity). The assumptions apply both to the distributions of the variables and the residuals of the analyses (Tabachnick & Fidell, 2001).

Scatterplots of the residuals against each predictor and the predicted value can be used to see if the assumptions of both linear relationship and homoscedasticity have been met (Cohen, Cohen, West, & Aliken, 2003). If the mean of the residuals is zero across all levels of a given predictor or the predicted value, then a linear relationship between a predictor and criterion can be assumed. Similarly, if the residuals are constant across all levels of a predictor or the predicted value, we can say homoscedasticity has been met. In the current study, visual analyses of scatterplots supported the two assumptions.

Another visual analysis performed was the P-P plot. This is a plot of the z-score that each case holds in the *actual* distribution (X-axis) against the z-score that each case would be expected to hold in a *theoretical* normal distribution. If the plot of observed scores against the expected scores approximates the normal line, then normality of residual can be assumed. Analysis of the P-P plot supported the assumption of normality in the present study.

In addition, the skewness and kurtosis values of each variable were tested. A perfectly normal distribution would have values of zero for both skewness and kurtosis (Tabachnick & Fidell, 2001). Values for either measure that fall between +/-1 are considered excellent, values between +/-2 are usually considered acceptable, and values

beyond +/-2 indicate that the distribution may depart markedly from normality (George & Mallery, 1999). Table 6 provides the values found in this study. All of the skewness and kurtosis values were excellent except for the "happy" variable, which was at a level considered acceptable (1.663 for skweness and 1.775 for kurtosis respectively).Therefore, all study variables can be considered as normally distributed.

Table 6

Skewness and kurtosis values for variables in current analysis

Variable	Skewness	Kurtosis
Self-reported shyness	.269	-.638
Mother-reported shyness	-.132	.321
Implicit self- theories of shyness	-.270	-.645
Perceptions of others' theories of shyness	-.248	-.596
Sad	-.212	-.832
Embarrassed	.022	-.831
Ashamed	.429	.717
Angry	.755	-.140
Happy	1.663	1.775
Shyness as a problem for children themselves	-.113	.430
Shyness as a problem for children in general	-.201	.025
Motivation to change shyness	.083	-.807
Agent to change shyness	-.581	.308
Strategy to change shyness	-.368	-.068

Outliers and Influential Points

An outlier is one atypical data point that does not fit with the rest of the data; an influential point is one that when deleted produces a substantial change in at least one of the regression coefficients (Cohen et al., 2003). The distinction between these two is that an outlier (either on criterion or predictors) will not necessarily be influential in affecting the regression equation, but an influential point is. Outliers on predictors and criterion, and influential points were checked. No outliers were found on the criterion (all the standardized residuals were less than 3.29). Although there was an outlier on children's

CSQ scores, this case was not an influential point (Cook's distance was less than 1). No influential points were found in current data using Cook's distance.

Descriptive Statistics

Means and Standard Deviations

Table 7 shows the means and standard deviations for each of the variables used in this study. A ceiling or floor effect can be observed when a substantial proportion of participants receive the lowest scores or the highest scores on a given measure. As a result, the mean will be either very low or very high. The data shown in Table 7 seem to show that there were no floor or ceiling effects in the current study.

In addition, as shown in this table, the hypothetical shy child was perceived to experience different emotions for his/her shyness. A repeated measure ANOVA was performed to test whether there were differences in the intensity of the emotions. The results indicated that some emotions were reported to be felt more strongly than other emotions. $F_{(4,164)} = 38.64$, $p < .001$. The results of Bonferroni post-hoc comparisons showed that sad and embarrassed were the most strongly felt emotions, followed by ashamed and angry. The least strongly reported emotion was happy.

Table 7

Means and standard deviations for each variable

	Mean	SD	Range
CSQ	.74	.36	1.42
CBQ	3.84	1.18	5.67
ITS	3.12	.98	3.67
PTS	4.06	.62	2.50
Sad[a]	3.29	1.01	4.00
Embarrassed[a]	3.36	1.08	4.00
Ashamed[b]	2.64	.92	4.00
Angry[b]	2.09	1.07	4.00
Happy[c]	1.33	.60	2.00
SPS	1.54	.80	3.67
SPG	2.29	.98	4.00
Motivation	1.68	1.07	4.00
Agent	1.36	.27	1.13
Strategy	1.80	.45	2.13

Means of emotions with the same superscript are not significantly from each other

Note. CSQ = Children's Shyness Questionnaire ; CBQ = Children's Behavior Questionnaire ; ITS = implicit self-theories of shyness ; PTS = perceptions of others' theories of shyness ; SPS = shyness as a problem for children themselves; SPG= shyness as a problem for children in general

First Order Correlations among Study Variables

The zero-order correlation matrix for each pair of the variables is presented in Table 8. As can be seen, children's self-reported shyness moderately correlated with the mother-reported shyness measure. However, only the children's self-reported shyness was strongly associated with their implicit self-theories of shyness. Thus, I chose to use the children's self-reported shyness in the following analyses. In addition, children's self-theories of shyness were significantly related to their perceptions of others' theories of shyness. There were no significant relationships between children's implicit theories of shyness and other variables. Among the demographic variables, I found that children's age positively correlated with their perceptions that a hypothetical shy child would be sad about his or her shyness. In addition, although children's age was not associated with strategies to change shyness in general, it positively correlated with one of the strategies-modeling (Watching what nonshy children do).

Table 8

First-order correlations

	1.CA	2.CG	3.PG	4.PE	5.CSQ	6.CBQ	7.ITS	8.PTS	9.Sad	10.Embarrassed	11.Ashamed	12.Angry	13.Happy	14.SPS	15.SPG	16.Motivation	17Agent	18.Strategy
1.CA	—	-.076	-.085	.242	.049	-.122	.087	-.025	.314*	.265	.272	.078	-.127	.163	.194	.028	-.227	.012
2.CG		—	.232	.199	.005	-.114	-.020	.230	-.092	.058	-.269	-.078	.000	.087	-.187	.004	.086	-.136
3. PG			—	-213	.201	-.033	.021	.087	-.133	-.005	-.079	.043	.000	.154	.008	.191	.042	.023
4.PE				—	-.115	-.048	-.030	.097	.155	-.044	.072	.064	-.115	.022	.020	.095	-.125	-.121
5.CSQ					—	.461**	.517**	-.104	-.136	-.113	-.272	.260	-.063	.383*	.239	.183	.129	. 107
6.CBQ						—	.258	.150	-.052	-.165	-.169	.371*	-.032	.006	.023	.098	.272	-.020
7.ITS							—	.327*	.091	-.039	-.089	.162	-.110	.172	-.109	.011	.181	.240
8.PTS								—	.224	.008	-.195	.157	-.062	-.027	.193	-.347*	-.026	-.089
9.Sad									—	.384*	.142	.210	.099	.199	.353*	.225	-.103	-.109
10.Embarrassed										—	.335*	.026	.283	.074	.228	-.021	-.078	.203
11.Shame											—	.294	-.148	.060	.294	.033	-.114	.231
12.Angry												—	-.333*	.184	.200	.209	-.013	.387**
13.Happy													—	.021	-.114	.036	.075	-.140
14.SPS														—	.023	.255	.204	.225
15.SPG															—	.372*	-.184	-.055
16.Motivation																—	-.201	-.184
17.Agent																	—	.234
18.Strategy																		—

* p<.05 (2-tailed), **p <.01 (2-tailed)

Note. CA= child' age; CG = child'gender ; PG = parent's gender ; PE = parent's education ; CSQ = Children' s Shyness Questionnaire ; CBQ = Children's Behavior Questionnaire ; ITS = implicit self-theories of shyness ; PTS = perceptions of others' theories of shyness ; SPS = shyness as a problem for children themselves; SPG = shyness as a problem for children in general

Hypotheses Testing

Overview

The five hypotheses were tested by means of correlation/ hierarchical multiple regression analyses. The purposes of the analyses were to explore the prediction of children's implicit self-theories of shyness from their level of shyness and the predictive effects of children's implicit self-theories of shyness on their perceptions of others' theories of shyness, shyness as a perceived problem, and children's ideas about treatment for shyness.

From the first order correlation matrix (see Table 8), we found that the children's age, children's gender, parents' gender, and parents' education were not related to the variables of interest, so no demographic variables were controlled in the multiple regression analyses.

Effect Size

Cohen (1988) suggested a rule of thumb for effect size. Specifically, $sr^2 = .01$ constitutes a small effect size, $sr^2 = .09$ medium effect size, and $sr^2 = .25$ a large effect size. In the present study, all the significant results had a medium or larger effect size.

Results of Hypotheses Testing

In the following sections, the analyses for each of the five hypotheses are presented.

First, a U-shaped relation between level of shyness and implicit self-theory of shyness was expected in the present study. In other words, a moderate level of shyness would be associated with incremental-oriented theory, and both low and high level of shyness would be linked with entity-oriented theory. This hypothesis was not supported

in the regression analysis (see Table 9 and Figure 2), which indicated that the curvilinear term was not significant (p = .459). However, the linear term was significant (p = .000) and a relatively large portion of the variance was explained by this term (Sr^2 = .267). Thus, the higher their self-perceived shyness, the more likely the children would have an entity-oriented theory of shyness.

Table 9

Hierarchical multiple regression predicting implicit self-theories of shyness from level of shyness

Variables entered by step	β	$R^2 \Delta$	F change	df	Sig. F change
1. ITS	.904	.267***	16.067	44	.000
2. Squared ITS	-.399	.009	.558	43	.459

Note. ITS = implicit self-theories of shyness

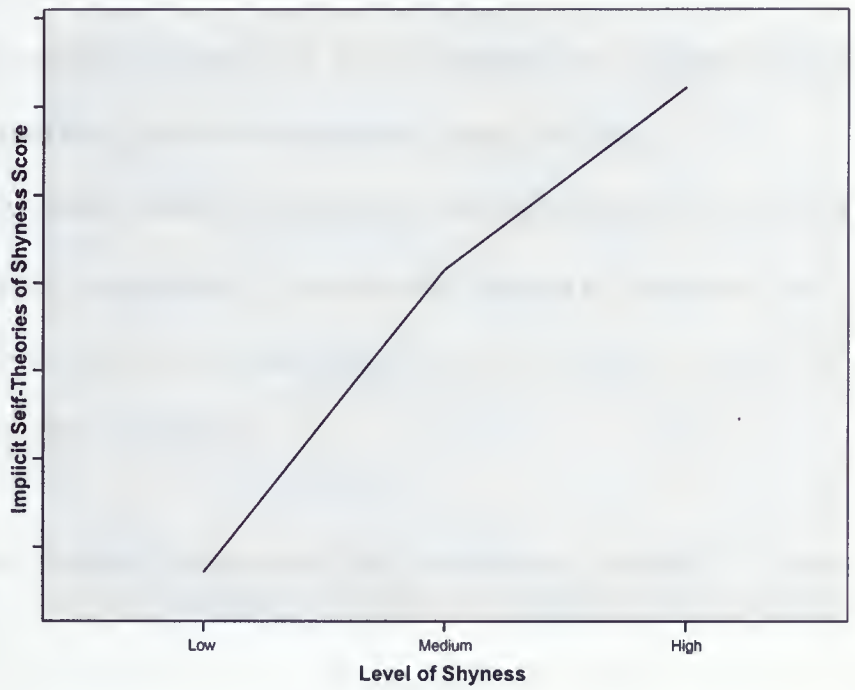


Figure 2. Plot of shyness in predicting implicit self-theories of shyness

Second, the hypothesis that, in ambiguous social situations, children would perceive others' implicit theories of shyness in a way that confirmed their own implicit

theories was examined. A positive correlation between children's implicit self-theories of shyness and their perceptions of others' theories of shyness was found (see Table 8) (r = .327). Therefore, children perceived others' theories of shyness in a way that confirmed their own theories.

Third, I tested the hypothesis that the association between views of shyness as problem for children themselves and for children in general would be affected by implicit self-theories of shyness. Specifically, I hypothesized that this association would be stronger for children who held an entity-oriented theory than for those who held an incremental-oriented theory. This was tested by examing the interaction term in a hierarchical regression, in which children's perceptions of shyness as a problem for children *in general* was predicted by their implicit theories of shyness and their views of shyness as a problem for *themselves*. This hypothesis was not supported, as shown in Table 10, given that the interaction term was not significant ($p > .05$).

In an additional test of the relation between self-theory of shyness and children's views of shyness as a problem, the correlations between self-theory and the emotions predicted for shy children was examined. As shown in Table 8, however, self-theory was not related to negative emotions.

Table 10

Hierarchical multiple regression predicting shyness as a problem for children in general from implicit self-theories of shyness, shyness as a problem for children themselves, and their interaction

Variables entered by step	β	$R^2 \Delta$	F change	df	Sig. F change
Main effects		.014	.300	43	.742
ITS	-.117				
SPS	.043				
Interaction		.000	.000	42	1.000
ITS× SPS	.000				

Note. ITS = implicit self-theories of shyness; SPS= shyness as a problem for children themselves

Fourth, the hypothesis that children with an incremental-oriented theory of shyness would be more motivated to change their shyness than those with an entity-oriented theory was tested. This hypothesis was not supported. As shown in Table 8, the correlation between these two variables did not reach significance ($p > .05$).

Finally, the current data did not support the hypothesis that compared to children who had an entity-oriented theory, children who had an incremental-oriented theory would perceive greater effectiveness of agents and strategies in their potential to change shyness (see Table 8).

Although there were no relationships between implicit theories of shyness and perceived effectiveness of agents and strategies, different agents or strategies might not be perceived to be equally useful in helping shy children (see Tables 11 and 12). Therefore, to test the relative perceived effectiveness of agents, a repeated measure ANOVA was conducted on the seven agents. The results revealed that agents differed in perceived effectiveness, $F_{(6, 201)} = 16.22$, $p < .001$. Then, Bonferroni post-hoc comparisons were performed. Specifically, children reported mother, father, and friend as the most effective agents to help a shy child, followed by teacher, older sibling, and shy child himself/herself; a doctor was perceived to be the least effective agent.

Similar analyses were conducted for strategies. A repeated measures ANOVA showed that differences in perceived effectiveness were found among strategies, $F_{(7, 315)} = 37.05$, $p < .001$. Bonferroni post-hoc comparisons tests indicted that practice (practice meeting new people), shaping (getting rewards), and emotion regulation (learning how to relax and not to be afraid) were regarded by children as the most effective strategies to help shy children. These strategies were followed in perceived effectiveness by age (just

wait until the shy child gets older), coaching (getting taught or taking lesson), modeling (watching how nonshy children do) and cognitive restructing (telling himself/herself to be shy is not so bad). The strategy perceived to be the least effective strategy was medicine.

Table 11

Descriptive statistics of perceived effectiveness of agents for changing shyness

Variables	Mean	SD	Range
Doctor[c]	.696	.628	2
Mother[a]	1.717	.544	2
Father[a]	1.609	.614	2
Teacher[b]	1.283	.621	2
Friend[a]	1.630	.488	1
Older sibling[b]	1.250	.639	2
Shy children themselves[b]	1.391	.682	2

Means with the same superscript are not significantly different from each other
Note. N = 46

Table 12

Descriptive statistics of perceived effectiveness of strategies for changing shyness

Variables	Mean	SD	Range
Medicine[c]	.217	.467	2
Age[b]	1.348	.948	4
Practice[a]	2.717	1.089	4
Shaping[a]	2.391	.954	4
Modeling[b]	1.783	1.010	4
Coaching[b]	1.565	1.068	4
Cognitive restructing[b]	1.609	1.201	4
Emotion regulation[a]	2.761	.970	4

Means with the same superscript are not significantly different from each other
Note. N = 46

Discussion

Past research on shyness has focused on the physiological, cognitive, emotional, and behavioral syndromes and factors (e.g., parenting, temperament) associated with shyness. The present study was an attempt to explore children's thinking about shyness. Specifically, it involved children's implicit self-theories of shyness, namely, the belief that shyness is changeable and controllable *versus* the belief that shyness is fixed and uncontrollable, and the association between shyness and implicit theories of shyness. In addition, how children's implicit self-theories of shyness were related to their other shyness beliefs (perceptions of others' theories of shyness, shyness as a perceived problem, and ideas about treatment for shyness) were examined. In order to investigate these issues, I interviewed children about their ideas about shyness. The children also filled out a set of questionnaires and completed a computer-presented task. In the following pages, the results of this study will be discussed in more detail.

Children's Implicit Self-Theories of Shyness

The measure of implicit self-theories of shyness was a 5-point scale ranging from 1 to 5, with higher scores indicating entity-oriented theory. From the current data, we found that the mean of children's implicit self-theories of shyness score was 3.12, which was midway between entity and incremental theory. That is, in general, children did not tend to conceptualize their shyness as either an enduring trait or something that could be readily changed. From a developmental perspective, children as young as seven years old have developed a belief in stability of morality (Heyman & Dweck, 1998), and at about 10 years of age, they viewed intelligence as either fixed or malleable (e.g., Dweck & Leggett,1988). However, the findings in the current study showed that 10-12 year olds

did not endorse a clear entity or incremental theory of shyness. This has implications for children's explanations of their own social failures. For example, they might not relate their social failures, such as peer rejection, to their shyness as a fixed trait. Perhaps 10-12 year olds tend to consider specific behavior rather than a general trait as the reason for their social failures or they might use a little of both trait and situational explanations.

In addition, age differences are equivocal for trait beliefs in the academic domain, and those in social domain are untested. Although age differences were not found in current study in children's implicit self-theories of shyness, further developmental-based research is needed given the narrow age range of this sample.

Children's Shyness and Implicit Self-Theories of Shyness

A U-shaped relation between level of shyness and implicit self-theory of shyness was expected in the present study. In other words, a moderate level of shyness was predicted to be associated with incremental-oriented theory, and both low and high level of shyness would be linked to entity-oriented theory. This hypothesis was not supported. However, the linear term indicated a positive relation between shyness and implicit self-theories. There are several possible reasons for these results.

First, there might be multiple sources for the development of children's implicit self-theories of shyness. Originally, I speculated that children tended to develop their theories of shyness on the basis of their direct experience (e.g., the variability of their shyness over time or across situations). Children with either low or extreme shyness would experience very few changes in their shy behavior and therefore endorse an entity-oriented theory; in contrast, children with a moderate level of shyness would have more opportunities to experience some changes in shyness. As a result, they would be more

likely to endorse an incremental-oriented theory of shyness than children with either low or extreme shyness level. Our results suggested that variability in direct experience might not be the only pathway to implicit self-theories of shyness.

It might be the case that for children who were not shy or with very low levels of shyness, shyness knowledge might be salient to them and lead them to report an incremental-oriented theory of shyness. Children's knowledge about shyness could be obtained from the changes in people around them or from fictional characters. It also is possible that nonshy children or those with very low levels of shyness never thought much about shyness because it was not a problem for them. When asked about their theories in this study, thus, they might have given an incremental-oriented answer, because they thought it would be more socially desirable than an entity-oriented theory. For children who were moderately to highly shy, the influence of their experience of shyness was more predominant than shyness knowledge. Moderately shy children might have experienced more frequent changes in their shyness than highly shy children and, therefore, they tended to hold a relatively more incremental theory than high shy children.

Second, another reason for the unexpected results might be related to the implicit self-theories of shyness measure used. When Beer (2002) examined young adults' implicit theories of shyness, the internal consistency of the implicit self-theories of shyness measure was acceptable ($\alpha = .75$). However, the current study was the first to use this scale for 10-12 year old children and the internal consistency was very low ($\alpha = .26$). Even when the three items developed to assess incremental theory directly were dropped, the internal consistency was still relatively low ($\alpha = .58$). The low α means that instead of assessing a single characteristic, the implicit self-theories of shyness scale used in

current study contained somewhat internally inconsistent items. Therefore, children who obtained identical scores still could differ in their implicit theories of shyness. Several factors may explain this low internal consistency.

The variability of the attribute being measured affects test reliability, and tests will be more reliable in settings where individual differences are large and will be less reliable in settings where individual differences are small (Murphy & Davidshopher, 2005). The standard deviation of implicit self-theories of shyness scores in current study was .98. Thus, the low α might be related to the small individual differences in this measure. Extremely shy participants were not obtained in current study due to the recruitment difficulties. For example, parents of some very shy children said their children would be scared by new people (e.g., the experimenter) and, therefore, they did not give permission for the children's participation. If extremely shy children were included, more variability would be obtained in children's implicit self-theories of shyness scores. In future research, alternative strategies, such as using only computer-presented tasks, group testing, or allowing the children to participate without facing strangers, can be used to recruit extremely shy participants.

Also, characteristics of this scale might be responsible for the low α. On one hand, the range of the r-values between those items was from .298 to .338, and the average of the correlations was .32. On the other hand, the measure used in current study was only a three-item scale. Thus, increasing the number of the items likely would increase the reliability.

A final potential reason for the lack of a curvilinear relation between shyness and children's shyness theories could be the shyness items themselves. There are several

different types of shyness. For example, fearful/temperamental shyness is different from social-evaluative aspect of shyness (e.g., Buss, 1980/1986). A child might feel shy in facing new people but not be nervous about other people's evaluations of his or her performance, or he or she might be shy in both situations. Of the 26 shyness items in the CSQ scale, 11 loaded on the self-conscious shyness/embarrassment factor, nine loaded on the social aspects of shyness/sociability factor, and two items were double-loaded (Spooner, Evans, & Santos, 2005). The CSQ did not include items specifically measuring fearful shyness. However, "shyness" in the current study conceptually referred to a combination of different shyness categories including fearful shyness. Thus, a more broadly-based shyness measure might have yielded different results.

Perceptions of Others' Theories of Shyness

People's beliefs about social behavior have been found to influence their social interaction. For example, parents' beliefs about children's social behavior guide their responses in parent-child interaction, and the quality of this interaction plays an important role in determining whether the child achieves social competence or develops problematic behaviors such as aggression or social withdrawal (e.g., Rubin & Lollis, 1988). I hypothesized that, in ambiguous social situations, children would make inference about others' implicit theories of shyness in a way that confirmed their own implicit theories. This hypothesis was supported.

From a Theory of Mind perspective, humans ascribe mental states to others and think that overt behavior is governed by these states (Bosacki, 2005). This ability to "read" others' minds focuses on the understanding of beliefs, desires, and intentions, which are attitudes toward representational content (Moore, 1996). In addition, this

second-order reasoning might allow children to predict other people's behavior and therefore be fundamental to their understanding of social interactions. However, little is known in children's knowledge about others' trait beliefs.

What factors are related to children's perceptions of others' implicit theories of shyness? The basic assumption of person perception is that how one perceives others is affected by one's social experience and social behaviors (e.g., Mead, 1934). The predictive effect of implicit self-theories of shyness was tested in current study. I found that in ambiguous situations, children perceived others' theories of shyness in a way that confirmed their own theories. However, this confirmation of one's own theory might have different implications to different self-theorists. Beliefs could be enhanced for those children who have an incremental-oriented theory of shyness. Therefore, they might become more confidence in overcoming their shyness, if they perceive people around them hold a similar theory to themselves. For those with an entity-oriented theory, however, their perceptions of others' views of shyness as a fixed trait might make them more frustrated if they think of shyness as "bad". On the other hand, they might feel more relaxed and not feel pressure to change because others think shyness can not be changed as well, and/or they think shyness might not be so "bad". Therefore, more research is needed to examine the long-term, as well as the short-term effects, of such congruence in confidence and emotion.

Research on Theory of Mind and social competence has suggested that high-order reasoning also is fundamental to children's understanding of complex emotions (Bosacki & Astington, 1999). In the following section, the way in which children perceived shy individuals' emotions will be discussed.

Perceptions of Shyness-Related Emotions

Empathy refers to the ability to recognize emotions in others, and young children's emotional understanding is considered to provide the foundation for the later prosocial behavior (Eisenberg & Mussen, 1989). In addition, a growing number of developmentalists have shown an interest in the roles that empathetic sensitivity plays in the understanding of minds (e.g., Astington, 1993) and self-perceptions (Bosacki, 2005).

When asked about how a hypothetical shy child felt about his or her shyness, the participants thought sad and embarrassed would be the strongest emotions the shy child might experience. This result was in line with the previous research showing that 10-12 year old children are capable of understanding complex or self-conscious emotions such as shame and guilt (e.g., Griffin, 1995). The negative characteristics of the shyness-related emotions children perceived may have implications for their social interactions with shy children. For example, they may become more tolerant and therefore show less negative behavior toward shy children, given that they know shy children feel bad about their shyness. It also indirectly reflects their perceptions of shyness as a problem for children.

Shyness as a Perceived Problem

I expected that the association between views of shyness as a problem for children themselves and for children in general would be affected by implicit self-theories of shyness. Specifically, I hypothesized that this association would be stronger for children who held an entity-oriented theory than for those who held an incremental-oriented theory. This hypothesis was not supported. Surprisingly, children's views of shyness as a problem for themselves were not related to their views of shyness as a problem for

children in general, regardless of whether they had an entity-oriented or incremental-oriented theory of shyness, both as reflected in the problem ratings and expected emotions. It is possible that some children viewed shyness as positive. Researchers (Buss, 1980; Miller, 1996) suggest that positive shy, coy, bashful, or ambivalent behaviour may be a learned response to positive social comments. In fact, about 20 percent of the children in current study reported the hypothetical shy child would feel "happy", although the overall happy ratings were low.

It also is possible that 10-12 year old children had not yet developed an entity-oriented theory strong enough to influence their views of these two types of problems. However, children's implicit theories of shyness were predictive in other outcomes, such as their perceptions of others' theories of shyness.

Finally, children's views of shyness as a problem for themselves and for children in general might be independent of each other. For instance, the mechanisms behind children's views of these two types of problems could be different. Specifically, shyness as a problem for children *themselves* may be related to personal characteristics such as optimism, as well as their shyness level. Indeed, the current data revealed that the more shy the children were, the more likely they were to see shyness as a problem for themselves.

However, views of shyness as a problem for children *in general* might be attributed to more interindividual factors, such as peer relationships, rather than their own shyness level. Researchers have investigated the problematic nature of shyness in a way that assessed the potential negative impacts the shy children's behavior may have on their peers. For example, Coplan et al. (in press) interviewed kindergarten and Grade 1

children, asking them how much shy, unsocial, and aggressive children would cause a problem in the classroom. Children reported that the aggressive peer would cause the most problems in the class, followed by the unsocial peer, and then the shy peer. In the same study, Coplan et al. also examined the social standing of these three types of children, as reflected in the extent to which other children would play with the hypothetical children. In this case, children reported that, compared to unsocial and aggressive peers, other children would want to play most with the shy peer. Social standing may be used as indicator of problems children associate with shyness. In a word, how much of a problem is shyness for children in general may be reflected by the frequency and quality of their interactions with peers.

In addition to interindividual factors, cultural norms may influence children's views of shyness as a problem for children *in general* more than for *themselves* in particular. Cultural beliefs and norms help interpret the acceptability of individual characteristics and types and ranges of interactions and relationships that are likely permissible (Rubin, 1998). For example, it is well known that in individualistically-oriented cultures, such as North America (e.g., Rubin et al., 1995) and Western Europe (e.g., Asendorph, 1993), shyness is a disadvantage for children. In contrast, it is not regarded as maladaptive within the traditional collective Chinese culture (e.g., Chen, Rubin, & Li, 1995).

Motivation to Change Shyness

The hypothesis that children with an incremental-oriented theory of shyness would be more motivated to change their shyness than those with an entity-oriented theory was not confirmed. It may be that children's motivation to change depends on

whether they perceive the outcomes to be negative or positive, as well as their implicit theories. Previous studies have found that when outcomes are perceived as negative (e.g., academic failure), self-theory is a good predictor of individuals' responses. In the current study, as a group, children's views of shyness were mixed. For example, when participants were questioned about shyness as a problem, some children said "It is a bad thing", others said "It is a good thing", and most thought of shyness as "Something between good and bad". In this case, the predictive effect of implicit theory might be weaker. Indeed, the more the children perceived shyness as a problem, the more likely they were motivated to change their shyness.

It also is possible that motivation to change shyness was related to children's perceptions of others' shyness theories. I found that the more the children perceived other people to have an entity-oriented theory, the less likely they were motivated to change their shyness. On one hand, when children perceived others not to be open to the possibility of change, they may lose their confidence in changing shyness because they might need those people's help to change. On the other hand, perceiving that other people to view shyness as relatively fixed, may mean that children not see shyness as such a "bad" thing and, therefore, they may not think it necessary to change their shyness.

Perceived Effectiveness of Agent and Strategy

The data in current study failed to support the hypothesis that compared to children who had an entity-oriented theory, children who had an incremental-oriented theory would perceive greater effectiveness of agents and strategies in their potential to change shyness. It is possible that children judged the effectiveness of agents and strategies from their knowledge of and experiences with those agents and strategies,

rather than their own theories of shyness. For instance, when asked about "who could help a shy child be less shy", some children reported "parents". Those children explained further that they were very shy when they were little, and their parents always encouraged and helped them in being less shy. Moreover, children's thinking about "Who could help a shy child" and "How to help a shy child" may be of potential clinical importance, regardless of the lack of relation between these beliefs and children's implicit theories of shyness.

From the children's perspective, mothers, fathers, and friends were the most effective agents to help shy children. In contrast, teachers, older siblings, and shy children themselves were reported as less effective options. Doctors were seen as the least effective agents. These findings were a little different from those in another study (Giles et al., 2004), which revealed that children saw friends as more effective agents of change than adults (parent, teacher, and doctor) for aggression and withdrawal. Several factors might help to explain the differences between these two studies. First, the constructs examined were different. In current study, shyness was of interest; Giles and Heyman' s focused on both aggression and withdrawal. Second, the age groups were different in these two studies. Ten-to-twelve year olds were the participants in current study whereas those in Giles and Heyman's study were 3-5 year old children. Finally, in Giles and Heyman's study, specific hypothetical characters were used but, in current study, we asked the participants if a potential agent could help shy children "in general".

In both studies, doctors were seen as the least effective agents. Therefore, before bringing a shy child to a doctor for help for shyness, it is necessary to recognize that some children might not trust the doctor's help. Parents may need to explain the help that

a doctor can provide to persuade the children to go to see the doctor. Doctors may need to know the reasons why children do not trust them for the purposes of helping their shyness, and therefore help shy children in appropriate ways.

Correspondingly, children in this study believed that the active strategies (e.g., practice) generally were more effective in helping shy children than more passive strategies, such as waiting until one gets older and watching what nonshy children do. It might be the case that 10-12 year old children need to get rid of "bad" behaviors by doing something. When they get older, they might use less behaviorally active ways, such as thinking about the behaviors. For example, the current data showed that the older the children were, the more likely they were to see the modeling strategy (watching what nonshy children do) as effective.

Strengths and Limitations of Current Study

Strengths

The current study was among the first to explore systematically children's thinking about shyness, using the core variable "implicit self-theories of shyness". This investigation extended the previous research in two aspects: (1) a shift from "passive shyness" to "active shyness"; and (2) moving beyond the research on implicit theory. The existing literature on shyness focused on the developmental pathways and cognitive, emotional, and behavioral deficits of shyness. It seems that only the "passive" aspects of shyness were intensively examined. However, from the organism perspective, each individual is an "organism" that can change itself or the environment in which it survives. In this sense, shy individuals should be able to, at least partially, change themselves and

their environment. Is shyness changeable and controllable? Shy individuals' thinking about this question might be the starting point for their change.

It is well established that implicit theories of intelligence or personality work as a framework to predict people's responses and attributions to achievement and social behaviors (Dweck et al., 1995). Do implicit theories of a trait (e.g., shyness) work in predicting children's other beliefs about this trait? The current study was an attempt toward the answer. Specifically, we explored whether both others' theories of shyness and a set of shyness-related beliefs could be predicted from children's implicit self-theories of shyness.

Another strength of the current study was that most of the measures were developed for this study. Because of the large gap between the current study and previous research, many measures needed for this study were not available and had to be developed. In general, those developed measures showed acceptable internal reliability. Therefore, these measures make a contribution to this area and may be helpful for future researchers who want to replicate or extend the current study.

Finally, multiple methods were used in data collection. In current study, interview, pencil-and-paper questionnaires, and computer-presented task were used. There were a numbers of advantages in this strategy: (1) decreasing the responses bias compared to using any single method; (2) integration of information; and (3) keeping children's participation interest.

Methodological Considerations

The current study relied on children's self-reports. Researchers have suggested that individuals may not always be accurate in reporting their own beliefs and behaviors

(e.g., Grrenwald, Banaji, Rudman, Farnham, Nosek, & Mellott, 2002). Therefore, some of the results may need to be interpreted cautiously due to possible social desirability and shared method variance.

Moreover, the present study was limited in term of the narrow age range of this sample. Implicit self-theories of shyness may take on a more important role when children get older and, therefore, the assessment of the outcome variables at that time might lead to a better understanding of the relationships between implicit self-theories of shyness and outcome variables.

Finally, the current sample was of relatively small size and homogeneous. One potential problem of a relatively small sample size is that it might lower the power in analyses and, therefore, more significant results might be found with a larger sample. In term of cultures, this sample was relatively homogenous and English was the first language for 95.7% of the children. Thus, one should be cautious in the generalization of the results to other cultures.

Suggestions for Future Research

Although some of the hypotheses were not supported in current study, other findings are important and interesting. More research is needed to replicate and extend these findings. Several recommendations for future studies are provided in this section.

Measure-Related Problems

One of the main weaknesses of the current study was the low internal consistency of the implicit self-theories of shyness scale. Because it was the first time this measure was used to test children, the reason for this problem is not clear. Although some possible reasons were provided in discussion section (e.g., low inter-item correlations), future

research should continue to work on this issue. In addition, most of the existing research, including the current study, used only the entity items to measure individuals' implicit theories. Therefore, scales for implicit theory that measure incremental orientation should be developed in the future.

Another relevant issue is whether implicit theory should be treated as a continuous or categorical variable. Some researchers have used it as a categorical variable (e.g., Dweck et al., 1995) and others (e.g., Beer, 2002) have used it as a continuous one. One possible suggestion is that the way to deal with this variable depends on the distribution of the implicit theories in the target population. In other words, if people generally have a clear entity or incremental theory, implicit theory best might be treated as categorical; in contrast, if people do not have a clear theory, this variable could be seen as continuous.

Moreover, in current study, both mother-reported (CBQ) and children's self-reported (CSQ) shyness scales were used, but only the scores from the self-reported scale were included in the hypotheses testing. On one hand, CBQ scores were not correlated with any of the variables of interest, unlike the chidlren's CSQ scores. On the other hand, we found that the mother-reported CBQ scores and self-reported CSQ scores were correlated with each other. The correlation was only moderate in size, however, with considerable unshared variance between mother and child's ratings of children's shyness. This result was consistent with another study (Spooner et al., 2005), which examined the differences between children's self-ratings of shyness and ratings made by their teachers and primary caregivers in a sample of 10-12 year old shy children. As suggested by Spooner et al., these discrepancies mean that some children perceived themselves as

"Shy" but they were not perceived as such by their parents. The possible negative outcomes associated with this "mismatch" are that those children might be at risk for low self-esteem due to the lack of support from others or experience their environments or parents' expectations in a negative manner. Thus, it is necessary to find out those who were unrecognized and the reasons for the lack of recognization.

The self-reported scale (CSQ) itself might not totally match the "shyness" construct expected in the current study; thus, a better scale which covers all of the subtypes of shyness is needed.

Finally, the children's views of others' willingness to help were used as measure of others' theories of shyness in current study. In future research, however, alternative ways to measure beliefs such as directly asking children about their perception of others' theories can be used. In current study, it was believed that this approach would be too difficult for 10-12 year old children. However, it may be used effectively with older children.

Design Issues

Given the cross-sectional and correlational nature of the data in current study, it is impossible to make inferences of causality among variables. To test further the development of children's implicit self-theories of shyness and possible directions of causality, longitudinal and experimental studies are required. For example, to test the causal relationship between children's implicit self-theories of shyness and their perceptions of others' theories of shyness, participants' implicit theories of shyness can be manipulated experimentally to see their responses to others' theories.

Some of the expected relationships were not found in current study. Thus, replication with a more heterogeneous and larger sample is needed. For one thing, a more heterogeneous sample with children who have wider range of shyness scores might provide a clearer test of the relation between shyness and children's implicit self-theories of shyness. In addition, it is possible that the prediction between implicit self-theories of shyness and shyness as a perceived problem occurs only for those with a clear entity theory, whereas the prediction between implicit self-theories of shyness and ideas about treatment for shyness may occur only for those with a clear incremental theory. However, we were not able to get enough "pure" entity theorists and incremental theorists to test this hypothesis, due to the relatively small sample size of the current study.

General Conclusions

As mentioned above, in the present study, I attempted to explore children's thinking about shyness. Specifically, I tested the association between children's shyness and their self-theories of shyness, as well as how implicit self-theories of shyness were related to children's other shyness beliefs (perceptions of others' theories of shyness, shyness as perceived problem, and ideas about treatment for shyness). As was expected, in ambiguous situations, children perceived others' theories of shyness in a way that confirmed their own theories. This was an important finding, in that this confirmation of one's own theory may have different implications for emotion and confidence to change shyness for children who have different implicit theories of shyness.

Other hypothesized relationships were not supported. The association between shyness and implicit self-theories of shyness was not curvilinear, as expected. However, the linear term indicated a positive relation between these two variables. Predictive

effects of implicit self-theories of shyness on shyness as a perceived problem and ideas about treatment for shyness were not found. Given the low internal consistency of the implicit self-theories of shyness measure used in this study, those unsupported relationships may be related to this psychometric issue. Although the lack of link between children's beliefs about the effectiveness of agents and strategies for changing shyness and their implicit theories of shyness, differences in perceived effectiveness were found among agents and strategies respectively. In general, children perceived that the shy children would experience negative emotions.

Theoretically, the current findings extend our knowledge of implicit theories. That is, in addition to the predictions of implicit theories of intelligence and personality in responses and attributions to academic and social behaviors, implicit self-theory of shyness predicts one's perception of others' theories. Practically, parents and friends should adapt their efforts to help shy children, and active strategies such as practice should be emphasized.

Based on the limitations of the current study, suggestions for future research include the following ideas: (1) more heterogeneous and larger samples, with a wider range of shyness and more variety of cultural backgrounds (2) longitudinal and experimental designs; (3) a more reliable implicit self-theories of shyness measure; (4) a better shyness scale which covers all of the subtypes of shyness; and (5) alternative measures of others' theories of shyness.

References

Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87,* 49-74.

Alfano, M. S., Joiner, T. E., Jr., & Perry, M. (1994). Attributional style: A mediator of the shyness-depression relationship? *Journal of Research in Personality, 28,* 287-300.

Anderson, C. A. (1995). Implicit theories in broad perspectives. *Psychological Inquiry, 6,* 286-321.

Anderson, C. A., & Arnoult, L. H. (1985). Attributional style and everyday problems in living: Depression, loneliness, and shyness. *Social Cognition, 3,* 16-35.

Anderson, C. A., Jennings, D. L., & Arnoult, L. H. (1988). Validity and utility of attributional style construct at a moderate level of specificity. *Journal of Personality and Social Psychology, 55,* 979-990.

Arkin, R. M., Appelman, A. J., & Berger, J. M. (1980). Social anxiety, self-presentation, and the self-serving bias in causal attributions. *Journal of Personality and Social Psychology, 38,* 23-35.

Arkin, R. M., Lake, E. A., & Baumgardner, A. H. (1986). Shyness and self-presentation. In W. H. Jones, J. M. Cheek, & S. R. Briggs (Eds.), *Shyness: Perspectives on research and treatment* (pp. 189-204). New York: Plenum.

Asendorph, J. B. (1990). Beyond social withdrawal: Shyness, unsociability and peer avoidance. *Human Development, 33,* 250-259.

Asendorph, J. B. (1993). Beyond temperament: A two-factorial coping model of the development of inhibition during childhood. In K. H. Rubin & J. B. Asendorph (Eds.),

Social withdrawal, inhibition and shyness in childhood (pp. 265-289). Hillsdale, NJ: Erlbaum.

Asendorpf, J. B., & Wilpers, S. (1998). Personality effects on social relationships. *Journal of Personality and Social Psychology*, *74*, 1531-1544.

Astington, J. (1993). *The child's discovery of the mind.* Cambridge, MA: Harvard University Press.

Bandura, A. (1977). *Social learning theories.* Englewood Cliffs, NJ: Prentice-Hall.

Beer, J. S. (2002). Implicit self-theories of shyness. *Journal of Personality and Social Psychology*, *83,* 1009-1024.

Bosacki, S. L. (2003). Psychological pragmatics in preadolescence: Sociomoral understanding, self-worth, and school behaviour. *Journal of Youth and Adolescence*, *32*, 141-155.

Bosacki, S. L. (2005). *The culture of classroom silence.* New York: Peter Lang.

Bosacki, S. L., & Astington, T. (1999). Theory of mind in preadolescence: Relations between social understanding and social competence. *Social Development, 8,* 237-255.

Bruch, M. A., & Belkin, D. K. (2001). Attribution style in shyness and depression: Shared and specific maladaptive patterns. *Cognitive Therapy and Research*, *25*, 247-259.

Bruch, M. A., & Pearl, L. (1995). Attributional style and symptoms of shyness in heterosocial interaction. *Cognitive Therapy and Research*, *17*, 91-107.

Buss, A. H. (1980). *Self-consciousness and social anxiety.* San Francisco: Freeman.

Buss, A. H. (1986). A theory of shyness. In W. H. Jones, J. M. Cheek, & S. R. Briggs (Eds.), *Shyness: Perspectives on research and treatment* (pp. 39-46). New York: Plenum.

Calkins, S. D., Fox, N. A., & Marshall, T. R. (1996). Behavioral and physiological antecedents of inhibition in infancy. *Child Development*, *67*, 523-540.

Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of Personality and Social Psychology, 41*, 330-339.

Cheek, J. M., & Melchior, L. A. (1990). Shyness, self-esteem, and self-consciousness. In H. Leitenberg (Ed.), *Handbook of social and evaluations anxiety* (pp. 47-82). New York: Plenum.

Chen, X., Rubin, K. H. & Li, D. (1995). Social and school adjustment of shy and aggressive children in China. *Developmental and Psychopathology, 7,* 337-349.

Chung, T. & Asher, S. R. (1996). Children's goal and strategies in peer conflict situations. *Merrill-Palmer Quarterly, 42*,125-147.

Cohen, J. (1988). *Statistical power analysis for the behavioural* sciences (2nd ed.). Mahwah, NJ: Erlbaum.

Cohen, J., Cohen, P., West, S. G., & Aliken, L. S. (2003). *Applied multiple regression/correlation for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Coplan, R. J. (2000). Assessing non-social play in early childhood: Conceptual and methodological approaches. In K. Gitlin-Weiner, A. Sandgrund, & C. Schaefer (Eds.), *Play diagnosis and assessment* (2nd ed., pp. 563-598). New York: Wiley.

Coplan, R. J., Gavinski-Molina, M. H., Lagace-Seguin, D., & Wichmann, C. (2001). When girls versus boys play alone: Gender differences in the associates of non-social play in kindergarten. *Developmental Psychology, 37*, 464-474.

Coplan, R. J., Girardi, A., Findlay, L. C., & Frohlick, S. L. (2005). *Understanding solitude: Young children's attitudes and responses towards socially-withdrawn peers.* Unpublished manuscript, University of Ottawa, Ottawa, Canada.

Coplan, R. J., Prakash, K., O'Neil, K., & Armer, M. (2004). Do you "want "to play? Distinguishing between conflicted shyness and social disinterest in early childhood. *Developmental Psychology, 40*, 244-258.

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information processing mechanisms in children's social adjustment. *Psychological Bulletin ,115*, 74-101.

Crozier W. R. (1995). Shyness and self-esteem in middle childhood. *British Journal of Educational Psychology, 65*, 85-95.

Damon, W., & Hart, D. (1988). *Self-understanding in childhood and adolescence.* New York: Cambridge University Press.

Delveax, K. D., & Daniels. T. (2000). Children's social cognitions: Physically and relationally aggressive strategies and children's goals in peer conflict situations. *Merrill-Palmer Quarterly, 46*, 672-692.

Diener, C. I., & Dweck, C. S. (1978). An analysis of learned helplessness: Continuous changes in performances, strategies and achievement cognitions following failures: *Journal of Personality and Social Psychology, 36*, 451-462.

Diener, C. I., & Dweck, C. S. (1980). An analysis of learned helplessness: The processing of success. *Journal of Personality and Social Psychology, 39*, 940-952.

Dijksterhuis, A., van Knippenberg, A., Kruglanski, A.W., & Schaper, C. (1996). Motivated social cognition: Need for closure effects on memory and judgment. *Journal of Experimental Social Psychology, 32*, 254-270.

Dodge, K. A. (1980). Social cognition and children's aggressive behaviour. *Child Development, 51,* 162-170.

Driscoll, D. M., Hamilton, D. L., & Sorrentino, R. L. (1991). Uncertainty orientation and recall of person-descriptive information. *Personality and Social Psychology Bulletin, 17*, 494-500.

Dweck, C. S., Chiu, C., & Hong, Y. (1995). Implicit theories and their role in judgments and reactions: A world from two perspectives. *Psychological Inquiry, 6,* 267-285.

Dweck, C. S., & Elliott, E. S. (1983). Achievement motivation. In P. Mussen &E. M. Hetherington (Eds.), *Handbook of child psychology, Vol IV(*pp. 643-691). New York: Wiley.

Dweck, C. S., Hong, Y., & Chiu. C. (1993). Implicit theories: Individual differences in the likelihood and meaning of dispositional inference. *Personality and Social Psychology Bulletin, 19*, 644-656.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*, 256-273.

Eisenberg, N., & Mussen, P. (1989). *The roots of prosocial behavior in children.* New York: Cambridge University Press.

Eisenberg, N., Shepard, A., Fabes, R. A., Murphy, B. C., & Guthrie, I. K. (1998). Shyness and children's emotionality, regulation, and coping: Contemporaneous, longitudinal, and across-context relations. *Child Development, 69*, 767-790.

Erdley, C. A., & Asher, S. R. (1996). Children's social goals and self-efficacy perceptions as predictors of their responses to ambiguous provocation. *Child Development, 67,* 1329-1344.

Erdley, C. A., & Dweck, C. S. (1993). Children's implicit personality theories as predictors of their social judgments. *Child Development, 64,* 863-878.

Evers-Pasquale, W. (1978). The peer preference test as a measure of reward value: Item analysis, cross validation, concurrent validation, and replication. *Journal of Abnormal Child Psychology, 6*, 175-188.

Evers-Pasquale, W., & Sherman, M. (1975). The reward value of peers: A variable influencing the efficacy of filmed modeling in modifying social isolation in preschoolers. *Journal of Abnormal Child Psychology, 3, 179-189.*

Fincham, F. D., Diener, C. I., & Hokoda, A. (1987). Attributional style and learned helplessness: Relationship to the use of causal schema and depressive symptoms in children. *British Journal of Social Psychology*, 26, 1-7.

Fordman, K., & Stevenson-Hinde, J. (1999). Shyness, friendship quality, and adjustment during middle childhood. *Journal of Child Psychology and Psychiatry, 40*, 757-768.

Fox, N. A., Sobel, A., Calkins, S., & Cole, P. (1996). Inhibited children talk about themselves; Self-reflection on personality development and change in 7-year-olds. In M. Lewis & M. W. Sullivan (Eds.), *Emotional development in atypical children* (pp. 131-147). Mahwah, NJ: L&A.

George, D., & Mallery, P. (1999). *SPSS for windows step by step: A simple guide and reference* (2nd ed.). Boston: Allyn & Bacon.

Giles, J. W., & Heyman, G. D. (2004). Conceptions of aggression and withdrawal in early childhood. *Infant and Child Development, 13,* 407-421.

Goetz, T. W., & Dweck, C. S. (1980). Learned helplessness in social situations. *Journal of Social Psychology, 39,* 246-255.

Goosens, F. A., Bokhorst, K., & van Boxtel, H. W. (2002). Judgments of aggressive, withdrawn and prosocial behavior: Perceived control, anger, pity, and sympathy in young Dutch children. *Journal of Social Psychology, 40* , 309-327.

Gough, H. G., & Thorne, A. (1986). Positive, negative, and balanced shyness. In W. H. Jones, J. M. Cheek, & S. R. Briggs (Eds.), *Shyness: Perspectives on research and treatment* (pp.205-225). New York: Plenum.

Greenwald, A. G., Banaji, M. R., Rudman, L. A., Farnham, S. D., Nosek, B. A., & Mellott, D. S. (2002). A unified theory of implicit attitudes, stereotypes, self-esteem, and self-concept. *Psychological Review, 109,* 3-25.

Girodo, M., Dotzenroth, S. E., & Stein, S. J. (1991). Causal attribution bias in shy males: Implications for self-esteem and self-confidence. *Cognitive Therapy and Research, 5,* 325-338.

Griffin, S. (1995). A cognitive-developmetal analysis of pride, shame, and embarrassment in middle childhood. In J. Tangney & K. Fischer (Eds.), *Self-conscious emotions: The psychology of shame, guilt, embarrassment, and pride* (pp. 219-236). New York: Guilford.

Harter, S. (1999). *The construction of the self: A developmental perspective*. New York: Guilford.

Heider, F. (1958). *The psychology of interpersonal relations*. New York:Wiley.

Heyman, G. D., & Dweck, C. S. (1998). Children' thinking about traits: Implications for judgments of the self and others. *Child Development, 2,* 391-403.

Hymel, S., Woody, E., & Bowker, A. (1993). Social withdrawal in childhood: Considering the child's perspectives. In K. H. Rubin & J. B. Asendorph (Eds.), *Social withdrawal, inhibition, and shyness*(pp. 237-261). Hillsdale, NJ: Lawrence Erlbaum Associates.

Jones, W. H., Cheek, J. M., & Briggs, S. R. (1986). *Shyness: Perspectives on research and treatment.* New York: Plenum.

Kagan, J. (1997). Temperament and the reactions to the unfamiliarity. *Child Development*, *68*, 139-143.

Kagan, J., Reznick, J. S., & Snidman, N. (1985). Temperamental inhibition in early childhood. In R. Plomin & J. Dunn (Eds.), *The studies of temperament: Changes, continuities, and challenges*(pp. 53-65). Hillsdale, NJ: Lawrence Erlbaum Associates.

Kagan, J., Reznick, J. S., & Snidman, N. (1987). The physiology and psychology of behavioural inhibition in children. *Child Development*, *58,* 1459-1473.

Kagan, J., Snidman, N., & Arcus, D. (1998). Childhood derivatives of high and low reactivity in infancy. *Child Development*, *9*, 1483-1493.

Kelly, G.A. (1955). *The psychology of personal constructs*. New York: Norton.

Kerr, M., Lambert, W. W., & Bem, D. J. (1996). Life course sequelae of childhood shyness in Sweden: Comparison with the United States. *Developmental Psychology, 32*, 1100-1105.

Kohlberg, I., Lacrosse, J., & Ricks, D. F. (1972). The predictability of adult mental health from childhood behaviour . In B.Wolman (Ed.), *Manual of child psychopathology* (pp. 1217-1283). New York: Mc-Graw-Hill.

LeMare, L., & Rubin, K. H. (1987). Perspective-taking and peer interactions: Structural and developmental analysis. *Child Development*, *58,* 306-315.

Lochman, J. E., Wayland, K. K., & White, K. J. (1993). Social goals: Relationship to adolescent adjustment and to social problem-solving: *Journal of Abnormal Child Psychology, 21*, 135-151.

Mead, G. (1934). *Mind, self, and society.* Chicago: Chicago University Press.

Meichenbaum, D., Bream, L. A., & Cohen, J. S. (1984). A cognitive-behavioral perspective of child psychology: Implications for assessment and training. In R. J. McMahon & R. D. Peters (Eds.), *Childhood disorders: Behavioral-developmental approaches*. New York: Brunner-Mazel.

Miller, R. S. (1996). *Embarrassment: Poise and peril in everyday life.* New York: Guildford.

Mills, R. S. L., & Rubin, K. H. (1990). Parental beliefs about problematic social behaviors in early childhood. *Child Development, 61,*138-151.

Molina, M. G., Coplan, R. J., & Younger, A. J. (2003). A closer look at children's knowledge about social isolation. *Journal of Research in Childhood Education, 18,* 93-104.

Moore, T. (1996). Theory of mind in infancy. *British Journal of Developmental Psychology, 14,*19-40.

Murphy, K. R., & Davidshofer, C. O. (2005). *Psychological testing: Principles and applications* (6th ed.). NJ: Pearson Prentice Hall.

Nasby, W., & Hayden, B. M. (1980). Attributional bias among aggressive boys to interpret unambiguous social stimuli as displays of hostility. *Journal of Abnormal Psychology, 89,* 459-468.

Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin, 102,* 289-357.

Pedlow, R., Sanson, A., Prior, M., & Oberklaid, F. (1993). Stability of maternally reported temperament from infancy to 8 years. *Developmental Psychology, 29, 998-1007.*

Phillip, S. D., & Bruch, M. A. (1988). Shyness and dysfunction in career development. *Journal of Counselling Psychology, 35,* 159-165.

Pilkonis, P. A. (1977a). The behavioural consequences of shyness. *Journal of Personality, 45 ,* 596-611.

Pilkonis, P. A. (1977b). Shyness, public and private, and its relationship to other measures of social behavior. *Journal of Personality, 45,* 585-595.

Plomin, R., & Daniels, D. (1986). Genetics and shyness. In W. H. Jones, J. M. Cheek, & S. R. Briggs (Eds.), *Shyness: Perspectives on research and treatment*(pp. 63-80). New York: Plenum.

Rabiner, D. L., & Gordon, L.V. (1992). The coordination of conflicting social goals: Differences between rejected and unrejected boys. *Child Development, 63,* 1344-1350.

Ross, A. O. (1980). *Psychopathological disorders of children,* Second Edition. New York: Mc-Graw-Hill.

Rothbart, M. K., Ahadi, S. A., & Hershey, K. L. (1994). Temperament and social behavior in childhood. *Merrill-Palmer Quarterly,* 40, 21-39.

Rubin, K. H. (1982). Nonsocial play in preschoolers: Necessarily evil? *Child Development, 53,* 651-657.

Rubin, K. H. (1985). Socially withdrawn children: An "at risk" population? In B. Schneider, K. H. Rubin & J. Ledingham (Eds.), *Children's peer relations: Issues in assessment and intervention* (pp.125-140). New York: Springer-Verlag.

Rubin, K. H. (1998). Social and emotional development from a cultural perspective. *Developmental Psychology, 4,* 611-615.

Rubin, K. H., Burgess, K. B., & Hastings, P. D. (2002). Stability and social-behavioural consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development, 73*, 483-495.

Rubin, K. H., Burgess, K. B., Kennedy, A. E., & Stewart, S. L. (2003). Social withdrawal in childhood. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (pp.372-408). New York: Gilford.

Rubin, K. H., Cheah, C. S. L., & Fox, N. A. (2001). Emotion regulation, parenting, and the display of social reticence in preschoolers. *Early Education and Development, 12*, 97-115.

Rubin, K. H., Chen, X., & Hymel, S. (1993). Socialemotional characteristics of withdrawn and aggressive children. *Merrill- Palmer Quarterly, 39,* 518-534.

Rubin, K. H., Chen, X., McDougall, P., Bowker, A., & McKinnon, J. (1995). The Waterloo Longitudinal Project: Predicting internalizing and externalizing problems in preadolescence. *Development and Psychopathology, 7*, 751-764.

Rubin, K. H., & Coplan, R. J. (2004). Paying attention to and not neglecting social withdrawal and social isolation. *Merrill-Palmer Quarterly, 50,* 506-534.

Rubin, K. H., Daniels- Bierness, T. & Bream, L. (1984). Social isolation and social problem solving: A longitudinal study. *Journal of Consulting and Clinical Psychology*, *52,*17-25.

Rubin, K. H., & Krasnor, L. R. (1986). Social-cognitive and social behavioural perspectives on problem solving. In M. Perlmutter(Ed.), *Minnesoda Symposia on Child Psychology,* Vol.18(pp. 1-18). Hillsdale, NJ: Lawrence Erlbaum Associates.

Rubin, K. H., & Lollis, S. P. (1988). Origins and consequences of social withdrawal. In J. Belsky& T. Nezworski (Eds.), *Clinical implications of attachment*(pp. 219-253). Hillsdale, NJ: Lawrence Erlbaum Associates.

Rubin, K. H., Stewart, S. L., & Coplan, R. J. (1995). Social withdrawal in childhood: Conceptual and empirical perspectives. In T. H. Ollendick &R. J. Prinz(Eds.), *Advances in clinical child psychology*(pp. 157-192). New York: Plenum Press.

Schlenker, B. R., & Leary, M. R. (1982). Social anxiety and self-presentation: A conceptualization and model. *Psychological Bulletin, 92*, 641-669.

Schmidt, L. A., Fox, N. A., Rubin, K. H., Sternberg, E., Gold, P.W., Smith, C., & Sckulkin, J. (1997). Behavioural and neuoroendocrine responses in shy children. *Developmental Psychology, 30,*127-140.

Schmidt, L. A., & Schulkin, J. (1999). *Extreme fear, shyness, and social phobia*. Oxford: Oxford University Press.

Schneider, B. H., Attili, G., Vermigly, P., & Younger, A. (1997). A comparison of middle class English-Canadian and Italian mothers' beliefs about children's peer directed aggression and social withdrawal. *International Journal of Behavioral Development, 21, 133-154.*

Seligman, M. E. P., Abramson, L.Y., Semmel, A., & von Baeyer, C. (1979). Depressive attributional style. *Journal of Abnormal Psychology, 83*, 242-247.

Shaffer, R. (1996). *Social development.* Oxford, UK: Blackwell.

Shaffer, D. R. (2000). *Social and personality development* (4th Ed.). Belmont, CA: Wadsworth.

Slaby, R. G., & Guerra, K. (1988).Cognitive mediators of aggression in adolescent offenders: Assessment. *Developmental Psychology, 24,* 580-588.

Sobol, M. P., & Earn, B. M. (1985). Assessment of children's attributions for social experiences: Implications for social skills training. In B. H. Schneider, K. H. Rubin & J. E. Ledingham(Eds.), *Children's peer relations: Issues in assessment and intervention*(pp.93-110). New York: Springer-Verlag.

Spooner, A. L., Evans, M. A., & Santos, R. (2005). Hidden shyness in children: Discrepancies between self-perceptions and perceptions of parents and teachers. *Merrill-Palmer Quarterly, 4,* 437-466.

Stewart, S. L., & Rubin, K. H. (1995). The social problem-solving skills of anxious-withdrawn children. *Development and Psychopathology, 7,* 323-336.

Sullivan, K., Zaitchil, D., & Tager-Flusberg, H. (1994). Preschoolers can attribute second-order beliefs. *Developmental Psychology, 30,* 395-402.

Tabachnick, B. G., & Fidel, L. S. (2001). *Using multivariate statistics (4th ed.*). Needham Heights, MA: Allyn & Bacon.

Teglasi, H., & Hoffman, M. A. (1982). Causal attributions of shy subjects. *Journal of Research in Personality, 16,* 376-385.

Weiner, B. (1985). An attributional theory of achievement, motivation, and emotion. *Psychological Review*, *92*, 548-573.

Wheeler, V., & Ladd, G. W. (1982). Assessment of children's self-efficacy for social interaction with peers. *Developmental Psychology, 18,* 795-805.

Wichmann, C., Coplan, R. J., & Daniels, T. (2004). The social cognitions of socially withdrawn children. *Social Development*, *13,* 377-392.

Wurf, E. (1989). Negativity in the self-concept: Self-construal and feedback-seeking. *Dissertation Abstracts International, 49,* 55-75.

Younger, A., & Daniels, T. (1992). Children's reasons for nominating their peers as withdrawn: Passive withdrawal versus active isolation. *Developmental Psychology, 28,* 955-960.

Younger, A. J., Schwartzman, A. E., & Ledingham, J. E. (1985). Grade-related changes in children's perceptions of aggression and withdrawal in their peers. *Developmental Psychology, 21*, 70-75.

Younger, A. J., Schwartzman, A. E., & Ledingham, J. E. (1986). Age-related differences in children's perceptions of social deviance: Changes in behaviour or in perspective? *Developmental Psychology, 22,* 531-542.

Yule, W. (1981). Epidemiology of child psychopathology. In B. Lahey & A. Kazdin(Eds.), *Advances in child-clinical psychology, vol.4.* NY: Plenum Press.

Zhao, W., & Dweck, C. S. (1994). *Implicit theories and vulnerability to depression-like responses.* Unpublished manuscript, Columbia University.

Zimbardo, P. G. (1977). *Shyness: What it is, what to do about it.* Reading, MA: Addision-Wesley.

Zimbardo, P. G. (1990). *Shyness.* Reading, MA: Addison-Wesley (original work published in 1977).

Appendix A

Ethics Clearance Obtained from Brock University's Research Ethics Board

DATE: December 22, 2005
FROM: Cameron Muir, Acting Chair
Research Ethics Board (REB)
TO: Linda Rose-Krasnor, Psychology
Junru Zhao
FILE: 05-162 ZHAO
TITLE: Parents' and Children's Ideas about Shyness
[] The Brock University Research Ethics Board has reviewed the above research proposal.
DECISION: Accepted as clarified.

This project has received ethics clearance for the period of December 22, 2005 to August 31, 2006 subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The clearance period may be extended upon request. The study may now proceed.

Appendix B

Written Explanation of Study

(Debriefing form)

Project Title: Parents' and Children's Ideas about Shyness

Principal Investigator:

Junru Zhao
M.A. Student
905-688-5550, ext. 4519
Jz04zy@brocku.ca

Faculty Supervisor:

Linda Rose-Krasnor
Professor
905-688-5550, ext.3870
linda.rose-krasnor@brocku.ca

In recent years, researchers have become interested in the children's beliefs about shyness and how these beliefs might be important in understanding the emotions and consequences of being shy. Although, almost everyone has felt shy at some time in their lives, some children suffer from extreme shyness and social anxiety. Extreme shyness has been linked with some developmental difficulties. For example, in the preschool years, shyness is related social anxiety during free play with peers. During later childhood and into adolescence, extreme shyness becomes increasing associated with loneliness, depressive symptoms. In addition, shy children are more likely to have lower self-esteem and poor social relationships, display lower social competence, and have more academic difficulties and school refusal behaviour than non-shy children. We believe that extremely shy children who believe that it is very difficulty - if not impossible- to change a person's level of shyness will be more negatively affected by their shyness than children who are more optimistic about the possibility of change. For these reasons, it is important to know more about children's beliefs about the potential for changing shyness and explore possible reasons for such ideas.

The first purpose of this study is to explore parents' and children's views of shyness as a stable personality trait. In other words, we were interested in whether children and their parents see shyness as changeable or fixed. The second goal is to know whether parents' and children's level of shyness might be related to their ideas about how easily shyness can be changed. Finally, we want to see how children's ideas about the stability of shyness are associated with other shyness-related ideas (e.g., beliefs about others' theories of shyness, whether shyness is seen as a problem, and ideas about how shy children might be helped).This study will provide information about the origin of children's ideas about shyness and may help researchers and educators design programs to help extremely shy children.

Thank you for participating in this study; we appreciate it very much! If you have any questions or concerns, feel free to contact the principal investigator Junru Zhao at jz04zy@brocku.ca. If you are interested in more information on shyness, you can contact the faculty supervisor Dr. Linda Rose-Krasnor at linda.rose-krasnor@brocku.ca. If you are concemed about your treatment in this study, you may contact the Research Ethics Officer at 905-688-5550, ext.3035.Thanks again!

BROCK UNIVERSITY

⌘CERTIFICATE OF APPRECIATION⌘

Thank you for your help in our study
"Parents' and Children's Ideas about Shyness"

Principal Investigator: Junru Zhao
M.A. Student, Psychology Department

Faculty Supervisor: Dr. Linda Rose-Krasnor
Professor, Psychology Department

Date _____

Appendix D

Self-Reported Shyness Scale

1. I find it hard to talk to someone I don't know.
2. I am easily embarrassed.
3. I am usually quiet when I am with others.
4. I blush when people sing 'happy birthday' to me.
5. I feel nervous when I am with important people.
6. I feel shy when I have to read in aloud in front of the class.
7. I feel nervous about joining a new class.
8. I go red when someone teases me.
9. I say a lot when I meet someone for the first time.
10. I enjoy singing aloud when others can hear me.
11. I am usually shy in a group of people.
12. I feel shy when I am the centre of attention.
13. I blush a lot.
14. I feel shy when the principal speaks to me.
15. If the teacher asked for someone to act in a play, I would put up my hand.
16. It is easy for me to make friends.
17. I would be embarrassed if the teacher put me in the front row on stage.
18. When grown-ups ask me about myself, I often don't know what to say.
19. I go red when the teacher praises my work.
20. I feel shy when I have to go into a room of people.
21. I am embarrassed when my friends look at photos of me when I am little.
22. I am too shy to ask someone to sponsor me for a good cause.
23. I enjoy have my photograph taken.
24. I usually talk to one or two close friends.
25. I am usually shy when I meet girls/boys.
26. I go red whenever I speak to a girl/boy of my age

Adapted from Crozier (1995)

Appendix E

Mother-Reported Shyness Scale

1. Seem to be at ease with almost any person.
2. Is sometimes shy even when around people s/he has known a long time.
3. Sometimes seems nervous when talking to adult s/he has just met.
4. Acts shy around new people.
5. Is comfortable asking other children to play.
6. Sometimes turns away shyly from new acquaintances.

Adapted from Rothbart, Ahadi,& Hershey(1994)

Appendix F

Implicit Self-Theories of Shyness Scale

1. I have a certain level of shyness, and it is something that I can't do much about.
2. I can change how outgoing I appear in social situations, but I can't change my true level of shyness
3. My shyness is something about me that I can't change very much.
4. I can change aspects of my shyness if I want to.
5. How shy I am changes as I go through my life.
6. My shyness is not fixed, but changes with time.

Adapted from Beer (2002)

Appendix G

Perceptions of Others' Theories of Shyness Scenarios (developed for this study)

Name | Boy/girl | Age | Date

Think about Shyness ... ...

Instruction: You will hear six stories about shy children and see their pictures. After each story, we would like you to answer two questions. You will be able to click or type your answers. Do you have any questions? (**Note: this is not a test and there is no 'true' or "false" for all the questions you will answer)**

Let us try an example:

A child named Sarah doesn't like very many foods. When her mother prepared meat, vegetables, milk, and pizza for her, she still refused to eat.
The mother stopped and thought about what to do next ... ...

Questions:

A. How much do you think Sarah 's mom would try again to help her ?

Definitely not	Probably not	Maybe	Probably yes	Definitely yes
1	2	3	4	5
○	○	○	○	○

B. Why will the mother act that way/

Now you can start from story 1

Story 1

On the first day of school, the teacher introduced Sue to other children. Sue began to feel afraid and tried to escape. The teacher said, "Sue, the other children would be glad to play with you", but Sue wouldn't play.

The teacher stopped and thought about what to do next ...

Questions:

A. How much do you think Sue's teacher would try again to help her play with the others?

Definitely not	Probably not	Maybe	Probably yes	Definitely yes
1	2	3	4	5
○	○	○	○	○

B.Why will the teacher act that way?

Story **2**

Sue's friend Judy brought Sue to a birthday party. Sue stood far away from other children. Judy said, "Sue, go to those guys and introduce yourself to them", but Sue was too afraid to do that.

Sue's friend Judy stopped and thought about what to do next .

Questions:

A. How much do you think Sue's friend would try again to help her talk to other children?

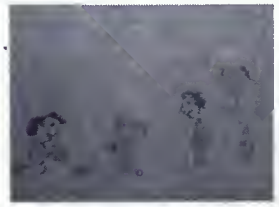
Definitely not	Probably not	Maybe	Probably yes	Definitely yes
1	2	3	4	5
○	○	○	○	○

B.Why will the friend act that way?

Story **3**

Several girls came to Sue's home to play cards with her. Although Sue knew all of them, it was hard for her to play with them. Her mom said, "Sue, talk to them about the cards". However, Sue just watched them playing.

The mother stopped and thought about what to do next ..



Questions:

A. How much do you think Sue's mom would try again to help her play with the other girls?

Definitely not	Probably not	Maybe	Probably yes	Definitely yes
1	2	3	4	5
○	○	○	○	○

B.Why will the mother act that way?

Story **4**

In the classroom, the teacher wanted each of the children to tell stories in front of the class. When Sue's turn came, she was very uncomfortable about talking in front of the other children. The teacher said, " Sue, just relax and talk, don't worry", but she didn't say a word.

The teacher stopped and thought about what to do next ..

Questions:

A. How much do you think Sue's teacher would try again to help her tell her story?

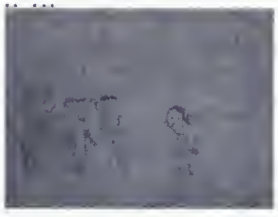
Definitely not	Probably not	Maybe	Probably yes	Definitely yes
1	2	3	4	5
○	○	○	○	○

B.Why will the teacher act that way?

Story **5**

On the playground, children from Sue's class were playing with a ball. Sue knew them and wanted to play. Sue's friend Judy said, " Come on Sue , join us", but Sue just walked around the other children.

Sue's friend Judy stopped and thought about what to do next ... ...



Questions:

A. How much do you think Sue's friend would try again to help her play ball with other children?

Definitely not	Probably not	Maybe	Probably yes	Definitely yes
1	2	3	4	5
○	○	○	○	○

B.Why will the friend act that way?

Story **6**

Sue's mom took her to her friend's house for the first time. Her friend's children are friendly and they said "hello" to Sue. Mom gently told Sue to g to the children to talk to them, but Sue was afraid.

The mother stopped and thought about what to do next ...

Questions:

A. How much do you think Sue's mom would try again to help her talk to the children?

Definitely not	Probably not	Maybe	Probably yes	Definitely yes
1	2	3	4	5
○	○	○	○	○

B.Why will the mother act that way?

More questions:

***Should people help Sue to be less shy?**

Definitely not	Probably not	Maybe	Probably yes	Definitely yes
1	2	3	4	5
○	○	○	○	○

*** What things could people do or say to make Sue be less shy?**

*** Is she likely to be less shy as she gets older?**

○ Yes

○ Maybe

○ No

*** How do you think Sue feels about her shyness?**

	Not at all	A little bit	So-so	Quite a lot	Extremely
Sad	1 ○	2 ○	3 ○	4 ○	5 ○
	Not at all	A little bit	So-so	Quite a lot	Extremely
Embarrassed	1 ○	2 ○	3 ○	4 ○	5 ○
	Not at all	A little bit	So-so	Quite a lot	Extremely
Ashamed	1 ○	2 ○	3 ○	4 ○	5 ○
	Not at all	A little bit	So-so	Quite a lot	Extremely
Happy	1 ○	2 ○	3 ○	4 ○	5 ○
	Not at all	A little bit	So-so	Quite a lot	Extremely
Angry	1 ○	2 ○	3 ○	4 ○	5 ○
	Not at all	A little bit	So-so	Quite a lot	Extremely
Other	1 ○	2 ○	3 ○	4 ○	5 ○

Now you have finished all the questions. Thank you very much!

Appendix H

Shyness as a Perceived Problem Scale (developed for this study)

1. Do you think you are a shy person now?
2. How much of a problem is shyness to you?
3. Do you think you were shy in the past?
4. How much of a problem was shyness to you?
5. If you were shy, how much of a problem would it be?
6. How much of a problem is shyness for children in general?

Appendix I

Open-Ended Interview Questions (developed for this study)

1. Do you know any children who are shy? *(do not ask their names)*. How do you know if someone is shy?

2. Do you think shy children want to be less shy? Why?

3. Do you think shyness is a good thing, bad thing, or something in-between? Why?

4. In your opinion, who could help a shy child be less shy?

5. In your opinion, what are the best ways to help a shy child to be less shy?

6. Is there anything else you think we should know about shyness?

Appendix J

Ideas about Treatment for Shyness Items

Motivation to change shyness items (developed for this study):

1. If you presently consider yourself as shy, how much do you want to change your shyness?
2. If you were shy in the past, how much did you want to change your shyness?

Perceived effectiveness of agents for changing shyness items (revised from Giles & Heyman, 2004):

1. Could a doctor help a shy child be less shy?
2. Could a mother help a shy child be less shy?
3. Could a father help a shy child be less shy?
4. Could a teacher help a shy child be less shy?
5. Could a friend help a shy child be less shy?
6. Could a shy child help himself or herself be less shy?
7. Could an older sister or brother help a shy child be less shy?
8. Could anyone else other than those mentioned above help a shy child be less shy?

Perceived effectiveness of strategies for changing shyness items (developed for this study):

1. How well would medicine work to make a child be less shy?
2. How well would just waiting until the shy child gets older work to make a child be less shy?
3. How well would practice meeting new people work to make a child be less shy?
4. How well would getting rewards (e.g., when the shy child talked to someone new) work to make a child be less shy?
5. How well would watching what nonshy children do work to make a child be less shy?
6. How well would getting taught or taking lessons work to make a child be less shy?
7. How well would telling himself/herself being shy is not so bad work to make a child be less shy?
8. How well would learning how to relax and not to be afraid work to make a child be less shy?