Commentary:
Bashful Boys and Coy Girls:
A Review of Gender Differences in Childhood Shyness

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Abstract

In this commentary we argue that subjective reviews of gender differences, as opposed to empirical meta-analyses, can be more affected by influences which may not yield an objective evaluation of the available evidence, including the potential overrepresentation of articles that do versus do not find gender differences and lack of a systematic evaluation of factors that influence findings. We consider theoretical bases for considering shyness to be detrimental to the development and wellbeing of girls. These include perspectives that characterize girls as being particularly affected by their personal relationships and children of both genders as influenced by patterns of same-gender interaction. Some perspectives are helpful in conceptualizing why gender difference patterns can be nuanced over the course of development, across different outcomes, contexts, and historical periods. We also briefly consider the utility of diathesis $\times$ stress and differential susceptibility models in understanding gendered patterns of adjustment. We argue that reviews of gender differences in childhood shyness should address the gender difference paradox in childhood shyness and anxiety. That is, why are gender differences in the prevalence of shyness typically absent in early to middle childhood (as concluded in the review article), but girls and women consistently demonstrate higher rates of anxiety disorders, including social anxiety disorder, than their male counterparts in adolescence and adulthood? Finally, we conclude with comments encouraging researchers to consider the potential consequences of how they convey messages about gender differences in childhood shyness. We suggest how such information can be communicated in a responsible manner.

Keywords: shyness, childhood, gender differences, anxiety, social withdrawal

Commentary:

Bashful Boys and Coy Girls: A Review of Gender Differences in Childhood Shyness

The story typically told about gender differences in correlates of childhood shyness is that boys suffer more negative interpersonal consequences of shyness than girls, because shyness contradicts male gender norms emphasizing self-assertion and dominance (Coplan, Gavinski-Molina, Lagace-Seguin, & Wichmann, 2001). This familiar line of reasoning is the central argument in the review article that is the focus of this commentary (hereafter referred to as “the review article,” Doey, Coplan, & Kingsbury, 2013). We do not disagree with the assertion that shyness is more discrepant with male versus female gender norms (at least in many cultures; the review article covers those articles listed in Table 1 and the country from which each of these sample was drawn is listed in Table 2, with North America, Europe, Australia, and China predominating). However, subjective reviews of gender differences, as opposed to empirical meta-analyses, can be more strongly affected by a number of influences which may not yield an objective evaluation of the available evidence, including the potential overrepresentation of articles that do versus do not find gender differences and lack of a systematic evaluation of factors that influence findings.

We also consider theoretical bases for considering shyness to be detrimental to the healthy development and wellbeing of girls. These include perspectives that characterize girls as being particularly affected by their personal relationships and children of both genders as influenced by patterns of same-gender interaction. Some perspectives are helpful in conceptualizing why gender difference patterns can be nuanced over the course of development, across different outcomes, contexts, and historical periods. We also briefly consider the utility of diathesis $\times$ stress and differential susceptibility models in understanding gendered patterns of adjustment. Each of these issues is discussed in turn in the sections below.

We argue that reviews of gender differences in childhood shyness should address what we term the gender difference paradox in childhood shyness and anxiety. That is, why

are gender differences in the prevalence of shyness typically absent in early to middle childhood (as concluded in the review article), but girls and women consistently demonstrate higher rates of anxiety disorders, including social anxiety disorder, than their male counterparts in adolescence and adulthood?

Finally, we conclude with comments encouraging researchers to consider the potential consequences of how they convey messages about gender differences in childhood shyness. We make suggestions for how such information can be communicated in a responsible manner.

Need for a Meta-analysis

There is a need for a systematic, empirical meta-analysis to evaluate gender differences in the correlates of childhood shyness, as well as its prevalence. Although there is a meta-analysis of infant and childhood temperament (Else-Quest, Hyde, Goldsmith, & Van Hulle, 2006), including a dimension labeled shyness, it only analyzes gender differences in the prevalence but not the correlates of shyness. Furthermore, no meta-analysis has been conducted on gender differences in the prevalence and correlates of shyness as typically assessed in the broader developmental research literature (e.g., including much of the literature covered in the review article which focuses on constructs that fall under the umbrella term of shyness, such as social withdrawal). Such an analysis should systematically review the research literature on childhood shyness, rather than selecting articles partially on the basis of whether gender differences are prominently featured. In meta-analyses careful attention is given to the method of selecting research to be reviewed and articulating this method (Johnson & Eagly, 2000), whereas in other reviews methods for selecting articles are typically less systematic and transparent. Additionally, a rigorous meta-analysis must distinguish between evidence that is more or less objective, so that higher quality evidence can be given more weight when reaching conclusions.

As a step in this direction, Tables 1 to 5 summarize the empirical studies that were covered in the review article (excluding those that did not test gender differences, focused on evaluations of hypothetical rather than actual children, examined adult populations only, or could not be located) and their critical features. Table 2 reveals that when gender differences in the prevalence of shyness and related constructs were found (in about a third of articles that tested for gender differences in prevalence), girls predominantly demonstrated higher levels of shyness than boys. This finding of higher prevalence of shyness in girls is consistent with the meta-analysis cited in the review article which found that shy temperament was somewhat more prevalent for girls (Else-Quest et al., 2006), but in contrast to the conclusion drawn in the review article itself that there is an absence of gender differences in childhood shyness (except that girls self-report more shyness in later childhood and adolescence). Higher rates of shyness among girls versus boys were found in investigations that included a variety of informants and spanned preschool through adolescence. Tables 1 to 5 are intended to provide insight into the different conclusions that can be reached in subjective versus more systematic empirical summaries. However, it is important to note these tables are a simple summary of findings and some of the critical features of articles covered in the review (prepared in the short time available to write this commentary). Therefore, it does not address the potential biases in articles selected for the review and it is certainly not tantamount to a meta-analysis. Indeed, discrepancies between the patterns observed in these tables and the conclusions of the review highlight the need for a meta-analysis in this area.

Underrepresentation of non-significant gender differences

Most investigations of childhood shyness include tests of gender differences in the prevalence of shyness and related constructs, although tests of gender differences in the interpersonal and emotional correlates of shyness are less systematic (see Tables 3 & 4). Although some articles on childhood shyness feature gender differences prominently (e.g., in the title), for many others this is a minor but obligatory portion of the article. Those articles that contain gender differences, rather than the lack thereof, are more likely to fall in

the first category. Therefore these articles are more likely to be selected for a review of gender differences than those articles that report a lack of gender differences. This could occur even if the latter articles are more numerous. The conclusions reached in the review article may be influenced by this phenomenon. In contrast, a systematic meta-analysis of gender differences in the relevant research literature (preferably not selected for emphasis on gender differences) would lead to more confidence about the accuracy of conclusions. In fact, the meta-analysis covered in the review article came to a conclusion which differs from the review article itself – that temperamental shyness is somewhat more prevalent among girls than boys (Else-Quest et al., 2006). Yet, the review article does not report what degree of overlap there was between research covered in the meta-analysis versus the review article or analyze whether there are other systematic factors that might explain this difference.

Quality and nature of the evidence

It is essential that reviews distinguish between research of differing quality (e.g., in regard to methodology and sampling), so that higher quality research can be assigned more weight when reaching conclusions on the basis of the review. Although a number of important methodological and design factors are mentioned throughout the review article (e.g., informant, method (behavioral observation vs. questionnaire), age and nationality of participants, assessments of adjustment of actual children versus perceptions of hypothetical children, longitudinal versus concurrent findings), these factors were often not systematically analyzed in a way that yields an understanding of their impact on results. Consequently, the degree of confidence in conclusions is necessarily less than might be achieved in a systematic meta-analysis.

Critically, distinctions between studies that examine gender differences in extreme groups of shy children versus continuous shy variables (a person versus variable-oriented approach) are not systematically made in the review article. Such investigations are

fundamentally addressing different (though not unrelated) questions and may legitimately come to different conclusions.

Theoretical Perspectives Framing Shyness as Detrimental to Girls

Research on gender differences in the correlates of childhood shyness is often descriptive in nature and does not make reference to a specific conceptual rationale to explain potential differences (e.g., Bishop, Spence, & McDonald, 2003). When differences are found they are almost invariably attributed to shyness as a violation of male gender norms emphasizing self-assertion and dominance (e.g., Coplan et al., 2001). Although gender norms may be influential, they may not provide a complete understanding of the phenomenon. There are a number of other conceptual perspectives that may contribute to understanding of gender differences in the correlates of childhood shyness, including perspectives that emphasize girls as more affected by relationships (Rose & Rudolph, 2006), gendered patterns of same-gender affiliation (Maccoby, 1990, 1995), developmental changes in expectations of girls (Gazelle & Rudolph, 2004), and historical and cultural patterns in expectations of girls (Asendorpf, Denissen, & van Aken, 2008; Kerr, Lambert, & Bem, 1996), and gendered patterns in diathesis $\times$ stress and differential susceptibility processes (Ellis, Boyce, Belsky, Bakermans-Kranenburg, & Van IJzendoorn, 2011). These perspectives are not necessarily mutually exclusive – together they may provide a fuller explanation of gender differences in the correlates of childhood shyness.

The Flip Side of the Gender Norms Argument: Girls as Especially Affected by Relationships

The flip side of the gender norms argument is that girls are typically characterized as prioritizing affiliative goals such as achieving collaboration, intimacy, and emotional sharing (Rose & Rudolph, 2006). Although shyness may not contradict these norms as strongly as gender norms relating to boys, shyness can be a barrier to establishing and maintaining close, high-quality social interaction and

relationships – ultimately interfering with gender norms relating to girls as well. Furthermore, when shy girls encounter difficulties with their peer relationships, they may be especially likely to suffer emotionally given the value their gender typically places on the importance of relationships. Consistent with this idea, in one study covered in the review article anxious solitary girls versus boys demonstrated depressive symptoms more rapidly when they encountered peer exclusion (Gazelle & Rudolph, 2004). Although, ironically, this finding (more rapid response to peer exclusion among anxious solitary girls than boys) was actually portrayed in the review article as indicating that boys suffer more negative outcomes of shyness than do girls (the logic of that conclusion is not apparent).

The review article discusses several cognitive processes that may act as mechanisms by which gender norms serve as guides for children's behavior (gender schema) and influence how social partners perceive and respond to shy children (reporting and recall biases). These are important phenomena and highlight the need to distinguish between data that may be influenced by reporting and recall biases versus more objective in nature. Moreover, a fuller account of how gender norms reside in child actors and social perceivers and how this influences the course of interpersonal interaction and emotional functioning would be valuable.

Gendered Patterns of Affiliation

Children generally prefer playing with peers of the same gender in middle childhood, with this pattern increasing in the preschool period from 3 to 5 years of age (Ramsey, 1995). Thus, shy children face the challenge of engaging in play in a manner that is compatible with their same-gender peers. Shyness may interfere to a greater extent with patterns of boys' play. The large peer group context and physically active nature (e.g., sports) typical of boys' play (Maccoby, 1990, 1995) may be especially difficult for shy boys to enter successfully (Gazelle & Ladd, 2003). In contrast, shy girls may find it comparably easier to enter the dyadic and

less physically active interactions typical of girls' play. This possibility is in need of empirical evaluation.

Developmental Changes in Peer Treatment and Expectations of Girls

Although many studies have documented greater peer difficulties (peer rejection and exclusion) of shy boys versus girls in early childhood and early middle childhood (Coplan et al., 2001; Gazelle & Ladd, 2003; Stevenson-Hinde & Glover, 1996), in one study peer exclusion was found to be equally prevalent among highly shy early adolescents of both genders (Gazelle & Rudolph, 2004, see additional studies documenting a lack of gender differences in interpersonal correlates of shyness in Table 3). It may be that boys' peer interactions demand social initiative from an early age, whereas successful peer interaction in early adolescence demands social initiative from both genders (Gazelle & Rudolph, 2004). Careful evaluation of the impact of developmental period on gender differences in interpersonal and emotional domains is needed.

Pubertal changes may also contribute to gender differences in the correlates of youth shyness. Physical changes accompanying puberty often correspond to changes in responses from social partners (e.g., romantic attention, Magnusson, Stattin, & Allen, 1985) and may also present a particular social challenge for shy girls. Additionally, hormonal changes may be involved in increased rates of internalizing difficulties in adolescent girls (Brooks-Gunn & Warren, 1989) and this may be particularly salient among shy girls who may be especially vulnerable to internalizing problems.

Historical and Cultural Patterns in Expectations of Girls and Women

The longitudinal studies of long-term outcomes of childhood shyness conducted in different historical contexts and cultures covered in the review article suggest that in times and places when girls and women are expected to independently pursue education and careers, shyness in girls is a disadvantage in achieving educational, occupational, and sometimes relationship milestones (Asendorpf et al., 2008; Kerr et al., 1996). In contrast, in

times and places when societal expectations of girls and women promote relatively passive family-based roles, then shyness in girls does not appear to be a disadvantage in achieving life-course milestones (e.g., marriage) on-time relative to age-mates (Caspi, Elder, & Bem, 1988). These patterns are a reminder that individual development takes place in historical and cultural context and that the interplay of individual affective-behavioral tendencies and contextual forces jointly influence individual developmental pathways (Magnusson & Stattin, 2006).

Gender Differences, Diathesis $\times$ Stress, and Differential Susceptibility

The review makes the argument that because shy boys encounter more negative interpersonal consequences, this cumulative stress may contribute to greater internalizing problems in shy boys versus girls. This is an important process to investigate. However, the review stops short of identifying a theoretical model to conceptualize how such stress processes may work. The diathesis $\times$ stress model would seem well suited to this aim and has already been employed to conceptualize why anxious solitary children demonstrate diverse interpersonal and emotional development trajectories over time (Gazelle & Ladd, 2003; Gazelle & Rudolph, 2004). This model would suggest that internalizing problems are most likely to occur when children with pre-existing vulnerabilities (i.e., shyness) encounter stress (e.g., peer difficulties). If highly shy boys versus girls are more likely to encounter peer difficulties and demonstrate internalizing problems, then this model would appear to be well suited to understanding this phenomenon. Nonetheless, it is unclear whether the balance of evidence supports greater risk for internalizing problems among shy boys versus girls.

More recently the differential susceptibility model has offered a related but larger perspective: vulnerable children may not just suffer more in stressful circumstances, but be more responsive to environmental conditions -- whether enriching or impoverished (Ellis et al., 2011). Are there some conditions under which shy girls or boys thrive more than other children? This is an intriguing question motivated by differential susceptibility theory. The

relevance of this theory for the development of shy children of both genders is yet to be determined.

The Gender Difference Paradox in the Prevalence of Shyness and Anxiety

The review concludes that gender differences are typically not found in the prevalence of the shyness-related constructs of behavioural inhibition (Bishop et al., 2003) or social withdrawal (Coplan et al., 2001) in early and early middle childhood. In contrast, girls demonstrate more social anxiety disorder and other anxiety disorders by puberty (Albano & Krain, 2005). The review article notes that girls self-report higher rates of shyness by late childhood or adolescence and argues that this may be due to rising rates of social anxiety disorder in girls during this period. This statement is not terribly helpful without defining commonalities and differences between shyness and social anxiety disorder. For a discussion of this issue see Gazelle and Rubin (2010) and Gazelle, Workman, and Allan (2010).

Some theorists would not view the lack of childhood gender differences in shyness and the predominance of social anxiety disorder in adolescent girls and adult women as a paradox, because they do not expect to see continuities between childhood shyness and adolescent and adult anxiety disorders and view anxiety disorders as emerging in adolescence and thereafter (Canino, Shrout, Rubio-Stipec, Bird, & Bravo, 2004; Kessler, Berglund, Demler, Jin, & Walters, 2005; Ost, 1987). However, developmentally-oriented researchers have become increasingly critical of this perspective and draw attention to evidence for continuity in anxiety over time beginning in early childhood (Gazelle & Rubin, 2010; Rapee, Schniering, & Hudson, 2009). Therefore, we argue that the gender difference paradox in childhood shyness and adolescent and adult anxiety deserves research attention. If children of both genders are equally likely to experience shyness in early childhood to early middle childhood and boys experience greater peer difficulties as a result, then why is clinical anxiety most prevalent among girls and women in adolescence and adulthood? (Chen, Rubin, & Sun, 1992)

Responsibly Communicating Information About Gender Differences

Too often discussions of gender differences in the consequences of childhood shyness come to the conclusion that shy boys often suffer more negative consequences than their female shyness is often positively associated with poor adjustment for both genders. Many readers may therefore come away from such articles concluding that shyness is not a risk for girls. However, this conclusion is clearly not supported by the research literature (e.g., Gazelle et al., 2005). Responsibly summarizing this body of research requires clearly stating what is common to both genders, in addition to reporting gender differences in relative strength of adjustment patterns and characterizing the size of such differences.

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Table 1. Shyness construct and informants by study

Publication		Shyness Construct			
No.	Authors	Year	Name	Assessment	Informant
1	Arbeau, Coplan & Weeks	2010	Shyness	CSPS ¹	Mother
2	Arbelle, Benjamin, Golin, Kremer, Belmaker & Ebstein	2003	Shyness	K-SADS ²	Self
			Shyness	TABC ³	Parent
			Shyness	CBCL ⁴	Parent
			Shyness	TRF ⁵	Teacher
3	Asendorpf, Denissen & van Aken	2008	BI	CCQ ⁶ - Inhibition subscale	Teacher
			BI	Preschool observation ⁷	Observer
			BI	Stranger lab procedure ⁸	Observer
4	Bishop, Spence & McDonald	2003	BI	BIQ ⁹ - parent form	Mother
			BI	BIQ ⁹ - parent form	Father
			BI	BIQ ⁹ - teacher form	Teacher
			BI	TABC-R (Inhibition subscale) ¹⁰	Both parents
			BI	TABC-R (Inhibition subscale) ¹⁰	Teacher
			BI	Stranger lab procedure ¹¹	Observer
5	Blöte, Bokhorst, Miers & Westenberg	2012	Social anxiety	SAS-A ¹²	Self
6	Bohlin, Hagekull & Andersson	2005	BI	Stranger procedure ¹³	Observer
			BI	TBQ ¹⁴	Parent
			BI & shyness	EAS Temperament Survey for Children ¹⁵	Parent & Observer
7	Bowker & Raja	2011	Social withdrawal subtypes	CSPS ¹	Self
8	Caspi, Bem & Elder	1988	Shyness	Interview about shyness and excessive reserve ¹⁶	Mother
			Shyness	Teacher Report ¹⁷	Teacher
			Adult shyness	CCQ ⁶	Self
9	Chang	2004	Social withdrawal	Peer nomination ¹⁸	Peer
10	Chen, DeSouza, Chen & Wang	2006	Reticent behavior	POS ¹⁹	Observer
11	Chen, Cen, Li & He	2005	Shyness	RCP ²⁰	Peer nomination
12	Chen, Chen & Kaspar	2001	Shyness-inhibition	RCP ²⁰	Peer nomination
13	Chen, Rubin & Sun	1992	Shyness-sensitivity	RCP ²⁰	Peer nomination
14	Chen, Wang & Wang	2009	Shyness-sensitivity	RCP ²⁰	Peer nomination
15	Chronis-Tuscano, Degnan, Pine, Perez-Edgar, Henderson, Diaz, Raggi & Fox	2009	BI	TBAQ ²¹ - Social Fearfulness scale & unfamiliar stimuli in the laboratory ²²	Mother
			Shyness	CCTI ²³	Mother
16	Colder, Mott & Berman	2002	BI	IBQ ²⁴	Mother
17	Coplan, Arbeau & Armer	2008	Shyness	CSPS ¹	Mother
			Reticent behavior	POS ¹⁹	Observer
			Shy-reticent behavior		Teacher
18	Coplan, Closson & Arbeau	2007	Reticent behavior	POS ¹⁹	Observer
19	Coplan, DeBow, Schneider & Graham	2009	BI	BIQ ⁹	Mother
			Reticent behavior	POS ¹⁹	Observer
20	Coplan & Prakash	2003	Reticent behavior	POS ¹⁹	Observer
21	Coplan, Prakash & Armer	2004	Conflicted shyness, social disinterest	CSPS ¹	Parent
			Fearful shyness	CCTI ²³	Mother
			Reticent behavior	POS ¹⁹	Observer
22	Coplan & Rubin	1998	Reticent behavior	PPBS ²⁵	Teacher

Table 1. Shyness construct and informants by study (continued..)

Publication		Shyness Construct			
No.	Authors	Year	Name	Assessment	Informant
24	Coplan & Weeks	2009	Shyness	CSPS ¹	Mother
25	Coplan & Weeks	2010	Shyness	CSPS ¹	Mother
26	Crick & Ladd	1993	Social anxiety	SASAS ²⁶	Self
27	Crozier	1995	Shyness	CSQ ²⁷	Self
28	Crozier & Hostettler	2003	Shyness	EAS Temperament Survey for Children ¹⁵	Teacher
29	Eisenberg, Shepard, Fabes, Murphy & Guthrie	1998	Shyness	CBQ ²⁹	Mothers & teacher
30	Essau, Conradt & Petermann	1999	Social fear	CIDI ³⁰	Interviewer
31	Findlay, Coplan & Bowker	2009	Shyness	CSQ ³¹	Self
32	Fox, Henderson, Rubin, Calkins & Schmidt	2001	BI	Kagan's BI lab procedure ³²	Observer
33	Gazelle & Ladd	2003	Anxious solitude	TRF ⁵	Teacher
34	Gazelle & Rudolph	2004	Anxious solitude	TRF ⁵	Teacher
35	Gazelle, Workman & Allan	2010	Anxious solitude	Peer nominations ³⁴	Peer
36	Gest	1997	BI	rating scales ³⁵	Interviewer
37	Graham & Coplan	2012	Shyness	CSPS ¹	Mother
38	Harrist, Zaia, Bates, Dodge & Pettit	1997	Social withdrawal	Free play observation ³⁶	Observer
39	Henderson, Fox, & Rubin	2001	Social wariness	POS ¹⁹	Observer
40	Henderson, Marshall, Fox & Rubin	2004	Reticent behavior	POS ¹⁹	Observer
41	Hughes & Coplan	2010	Shyness	CSQ ²⁷	Self
42	Janson & Mathiesen	2008	Shyness	EAS Temperament Survey for Children ¹⁵	Mother
43	Justice, Cottone, Mashburn & Rimm-Kaufman	2008	Shyness	CBQ ²⁹	Teacher
44	Kagan, Reznick & Snidman	1988	BI	Kagan's BI lab procedure ³²	Observer
45	Kerr, Lambert & Bem	1996	Shyness	shyness with strange peers and adults ³⁸	Mother (1-16 yrs, once a year) Psychologist's ratings (1-6 yrs) Teacher and self-ratings (11 & 13 yrs) Self (35 yrs)
46	Kienbaum, Volland & Ulich	2001	BI	Buss (1980) shyness scale Questionnaire designed by Asendoprpf (1993)	Parent (nearly always the mother)
47	Kim, Rapee, Oh & Moon	2008	Social withdrawal	SWMS ³⁹	Self
48	Ladd, Kochenderfer-Ladd, Eggum, Kochel & McConnel	2011	Social withdrawal	Peer nominations ³⁴ TRF ⁵ CBS ³³	Peer Teacher Teacher
49	Lazarus	1982	Shyness	Do you consider yourself a shy person?	Self
50	Lemerise	1997	Shyness	Interview (Asher et al. 1979)	Experimenter
51	Mian, Wainwright, Briggs-Gowan & Carter	2011	BI	ITSEA ⁴¹	Parent
52	Miers, Blote & Westenberg	2010	Social anxiety	SAS-A ¹²	Self
53	McDermott, Perez-Edgar, Henderson, Pine & Fox	2009	BI	Not reported	Not reported
54	Muris, van Brake, Arntz & Schouten	2011	BI	BII ⁴²	Parent
55	Nelson, Rubin & Fox	2005	Reticence, social withdrawal	POS ¹⁹	Observer
56	Ranta, Kaltiala, Heino, Koivista, Tuomisto, Pelkonen & Marttunen	2007	Social anxiety	SPIN ⁴³	Self
57	Rimm-Kaufman & Kagan	2005	BI	Kagan's BI lab procedure ³²	Observer
58	Rubin, Chen & Hymel	1993	Anxious-passive withdrawal Shy-anxious behavior	RCP ²⁰ T-CRS ⁴⁴	Peer Teacher
59	Rubin, Wojslawowicz, Rose-Kranor, Booth-LaForce & Burgess	2006	Shyness/withdrawal	RCP ³¹	Peer
60	Scarpa, Raine, Venables & Mednick	1995	BI	Kagan's BI lab procedure ³²	Observer

Table 1. Shyness construct and informants by study (continued..)

Publication		Shyness Construct			
No.	Authors	Year	Name	Assessment	Informant
61	Schmidt, Fox, Rubin, Sternberg, Gold, Smith & Schulkin	1997	BI	Kagan's BI lab procedure ³² (motor activity)	Observer
62	Simpson & Stevenson-Hinde	1985	Approach/withdrawal	The Garside et al. (1975) temperament interview	Mother
				Teacher reports of shy behavioral profiles	Teacher
				Recess Observations	Observer
				CBS ³³	Parent
63	Smith, Rhee, Corley, Friedman, Hewitt & Robinson	2012	BI	Behavioral Observation	Examiner
				Kagan's BI lab procedure ³²	
				CCTI ²³	
64	Spangler & Gazelle	2009	Anxious solitude	Peer nomination ³⁴	Peer
65	Stevenson-Hinde & Glover	1996	Shyness	TABC ³	Parent
66	Theall-Honey & Schmidt	2006	Shyness	CCTI ²³	Parent
67	White, McDermott, Degnan, Henderson & Fox	2011	BI	Kagan's BI lab procedure ³²	Observer
68	Williams, Fox, Lejuez, Reynolds, Henderson, Perez-Edgar, Steinberg & Pine	2010	BI	Kagan's BI lab procedure ³²	Observer

No. = Article number, Y = Yes, N = No, Familiar = F, UN = Unfamiliar, BI = behavioral inhibition, yrs = years, mos = months, ♀ girls' value larger, ♂ boys' value larger, *ns* = no gender difference found
 $p < .10$, $*p < .05$, $**p < .01$, $***p < .001$

1 - Child Social Preference Scale (Coplan, 2004)

2 - Schedule for Affective Disorders and Schizophrenia for School-Age Children—Present and Lifetime Version (Orvaschel, Thompson, Belanger, Prusoff & Kidd, 1982)

3 - The Martin Temperament Assessment Battery (Martin, 1988)

4 - Achenbach Child Behavior Checklist (Achenbach & Edelbrock, 1981)

5 - Teacher's Report Form (Achenbach & Edelbrock, 1981)

6 - California Child Q-Set (Block, 1971; Block & Block, 1980)

7 - Children's contact initiation behavior during free play in class was coded by an observer sitting in the classroom for at least eight 10-min periods (Asendorpf, 1990)

8 - Children's behavior at age 4 toward an adult stranger was videotaped immediately after the children had entered the laboratory together with their main caregiver for the first time in their lives (Asendorpf, 1990)

9 - Behavioral Inhibition Questionnaire (Bishop, Spence, & McDonald, 2003)

10 - Temperament Assessment Battery for Children – Revised (Presley & Martin, 1994)

11 - Children's behavior at age 4 toward an adult stranger was videotaped immediately after the children had entered the laboratory together with their main caregiver for the first time in their lives (Asendorpf, 1990)

12 - Social Anxiety Scale for Adolescents (La Greca & Lopez, 1998)

13 - BI to female stranger at 13 mos and parent ratings at 15 mos (Thompson & Lamb, 1983; and Bohlin & Hagekull, 1993)

14 - The Toddler Behavior Questionnaire Approach-Withdrawal Subscale (Hagekull & Bohlin, 1981)

15 - Emotionality, Activity, Sociability (EAS) Temperament Survey for Children (Buss & Plomin, 1984)

16 - Clinical interviews with their mothers were converted into ratings on 5-point behavior scales (Macfarlane, 1938; Macfarlane, Allen, & Honzik, 1954)

17 - Teachers rated shy and reserved behaviors on six 7-point scales to tap (Caspi, Bem & Elder, 1988)

18 - Students nominated up to three children from the class who are often alone, are shy, are quiet, are submissive, would rather be alone, and did not join others (Schwartz et al., 2001)

19 - Play Observation Scale (Rubin, 1989)

20 - Revised Class Play (Masten, Morison, & Pelligrini, 1985)

21 - Toddler Behavior Assessment Questionnaire (Goldsmith, 1996)

22 - Social Phobia and Anxiety Inventory for Children (Beidel et al., 1998)

23 - Colorado Children's Temperament Inventory (Rowe & Plomin, 1977)

24 - Infant Behavior Questionnaire (Rothbart, Derryberry, & Hershey, 2000)

25 - Preschool Play Behavior Scale (Coplan, 1998)

26 - Social Anxiety and Social Avoidance Scale (Franke & Hymel, 1984)

27 - Children's Shyness Questionnaire (Crozier, 1995)

28 - A set of nine items, five chosen from the Teacher Rating Form of the EAS Temperament Survey for Children and four reticence items from Evans (1996)

29 - Child Behavior Questionnaire & Teacher Behavior Questionnaire (Ahadi et al., 1993)

30 - Composite International Diagnostic Interview (WHO CIDI, 1990)

31 - Children's Shyness Questionnaire (Crozier, 1995)

32 - Kagan, 1994; Kagan & Snidman, 1991; Kagan et al., 1998

33 - Child Behavior Scale (Ladd & Profilet, 1996)

Table 1 . Shyness construct and informants by study (continued..)

- 34 - Items adapted from previous peer nominations (e.g., Gazelle & Ladd, 2003)
- 35 - A semistructured interview which covered a wide range of content (e.g., activities, school, family, peers, and future plans)
- 36 - Greenwood, Walker & Hopes, 1977
- 37 - Children's Shyness Questionnaire (Crozier, 1995)
- 38 - "Is your child shy with strange peers?"; "Is your child shy with strange adults?"
- 39 - The Social Withdrawal Motivation Scale for Adolescents (Kim et al., 2008)
- 40 - The Social Withdrawal Frequency Scale for Adolescents (Kim et al., 2008)
- 41- The Infant-Toddler Social and Emotional Assessment (Carter & Briggs-Gowan 2006; Carter et al. 2003)
- 42 - Behavioral Inhibition Instrument (Muris et al. 1999)
- 43 - Social Phobia Inventory (Connor, Davidson, Churchill, Sherwood, Foa, Weisler, 2000)
- 44 - Teacher Child Rating Scale (Hightower et al., 1986)

Table 2. Study demographics and gender differences in shyness prevalence by study

No.	Study Demographics			Gender Differences or Parity		
	Sample Size	% Girls	Age in Years	Era	Country	Shyness Prevalence
1	169	50%	6.41	Not reported	Canada	Statistical test value not reported, <i>ns</i>
2	98	33%	7.29	Not reported	Israel	Not reported
3	203	48%	4-6 (at longitudinal start)	1980	Germany	$\chi^2 < 1$, <i>ns</i>
	99	unclear	"	"	"	
	"	unclear	"	"	"	
4	612	50%	4.08	Not reported	Australia	♀ Performance, $F = 54.45^*$, adult situations, $F = 54.47^*$, total BIQ = (Statistical test value not reported), <i>ns</i>
	506	"	"	"	"	♀ Adult situations, $F = 54.69^*$, total BIQ = (Statistical test value not reported), <i>ns</i>
	585	"	"	"	"	♀ Physical situations, $F = 516.81^{**}$, total BIQ = (Statistical test value not reported), <i>ns</i>
	613	"	"	"	"	
	585	"	"	"	"	
	100	Not reported	Not reported	"	"	
5	609	"	14.5	Not reported	Netherlands	$F(1, 407) = 3.29$, <i>ns</i>
6	90	52%	1.1	Not reported	Sweden	Statistical test value not reported, <i>ns</i>
	"	"	1.3	"	"	
	"	"	4.25	"	"	Statistical test value not reported, <i>ns</i>
7	194	48%	13.35	Not reported	India	♀ only for unsociability $F(1) = 6.16^{**}$, for other subtype <i>ns</i> (statistical test value not reported)
8	182	52%	childhood	1928-1929	USA	♀ 32% of girls and 28% of boys with childhood history of shyness (No statistical test reported)
	"	"	30, 40	"	"	
9	4650	51%	15.08	Not reported	China	♂ $t(4648) = -4.65^{**}$
10	200, 180	53%, 49%	4.16, 4.25	Not reported	China, Canada	Not reported
11	429, 390, 226	47%, 53%, 57%	10	1990, 1998, 2002	China	♀ $F = 53.44^{***}$, for 2002 sample <i>ns</i> (statistical test value not reported)
12	460	47%	12.5	Not reported	China	♀ $F = 19.53^{***}$
13	480, 296	48%, 50%	China: 7.83, 10.08, Canada: 7.83, 9.91	"	China, Canada	Not reported
14	929	46%	10.5	"	China	♀ $F = 131.72^{***}$
15	178	51%	1.3, 2, 4	"	USA	Not reported
	"	"	4, 7	"	"	Not reported
16	523	47%	.08 - .91	1986	USA	$t(513) = -1.75$, <i>ns</i>
			4, 6, 8	1990, 1992, 1994		
17	193	47%	5.34	Not reported	Canada	Statistical test value not reported, <i>ns</i>
	"	"	5.59	"	"	
18	139	47%	5.39	Not reported	Canada	Not reported
19	248	45%	4.58	Not reported	Canada	$t = .67$, <i>ns</i>
	24	unclear	"	"	"	Not reported
20	135	54%	4.05	Not reported	Canada	Statistical test value not reported, <i>ns</i>
21	119, 127	53%, 46%	4.04, 4.3	"	Canada	$F(1, 114) < 1$, <i>ns</i>
22	337	48%	4.29	Not reported	Canada	Statistical test value not reported, <i>ns</i>
23	48	58%	4.5	Not reported	USA	Not reported
24	167	50%	6.41	"	Canada	Statistical test value not reported, <i>ns</i>
25	186	52%	6.39, 7.59	Not reported	Canada	Statistical test value not reported, <i>ns</i>
26	338	46%	9.5, 11.4	Not reported	USA	♀ $F(1, 225) = 4.91^*$
27	146	47%	9, 10, 11, 12	"	UK	♀ $F = 2.77^{\dagger}$
28	240	49%	10.08	"	UK	Statistical test value not reported, <i>ns</i>
	230 (time 2)	44%	2.48	"	"	"
29	82	46%	7.25	"	USA	Statistical test value not reported, <i>ns</i>
30	1035	59%	14.3	Not reported	Germany	♀ $\chi^2 = 7.71^{**}$
31	355	49%	9 - 11	"	Canada	♀ $t = -5.01^{***}$
32	153	48%	0.3	Not reported	Not reported	Statistical test value not reported, <i>ns</i>
33	388	50%	5 - 9	Not reported	USA	♂ $t = 2.09^*$
34	519	50%	11.73 at start	"	USA	
35	688	51%	8.72	2005-7	USA	Not reported

Table 2. Study demographics and gender differences in shyness prevalence by study (continued...)

No.	Study Demographics				Gender Differences or Parity	
	Sample Size	% Girls	Age in Years	Era	Country	Shyness Prevalence
36	205	56%	9.96	Not reported	USA	Statistical test value not reported, <i>ns</i>
37	79	44%	4.74	"	Canada	Not reported
38	297	48%	5	1987	USA	$\chi^2 (3, 150) = 9.2^*$, ♂ Passive-anxious, ♀ unsociable, ♂ active isolated
39	97	52%	.75, 4	1989, 1996	USA	Not reported
40	147	54%	4	Not reported	"	♂ $\chi^2 (2) = 15.13^{**}$
41	125	52%	9 - 12	Not reported	Canada	Statistical test value not reported, <i>ns</i>
42	939	51%	1.5, 2.5, 4-5, 8-9	Not reported	Norway	Statistical test value not reported, <i>ns</i>
43	133	44%	4	Not reported	USA	Not reported
44	120 (60 consistently BI, 60 consistently uninhibited)	50%	2.3 - 6	Not reported	Germany	Not reported
45	179 (32 shy, 147 non-shy)	44, 43%	1.3, 2.08, 2.91	mid 1950s	Sweden	Not reported
46	105	39%	6	Not reported	Germany	Statistical test value not reported, <i>ns</i>
47	78, 130	78, 36%	19.10, 19.78	Not reported	Australia & South	Statistical test value not reported, <i>ns</i>
48	2437	51%	10.25	Not reported	USA	Not reported
49	396	Not reported	10	Not reported	USA	♀ 49% girls, 26% boys (No statistical test reported)
50	135, 803	50, 52%	4.8, 8.1	Not reported	Not reported	♀ $F (1, 926) = 4.77^*$
51	135, 803	50, 52%	4.8, 8.1	Not reported	Not reported	♀ $F (1, 926) = 4.77^*$
52	80 (40 low socially anxious, 40 high socially anxious)	50%	14.5	Not reported	The Netherlands	Statistical test value not reported, <i>ns</i>
53	153	52%	1.16, 2, 4	Not reported	Not reported	Not reported
54	261 (124 BI, 137 control)	53, 58%	5, 6, 8	Not reported	The Netherlands	Not reported
55	163	55%	4, 7	Not reported	USA	♂ $t (161) = 2.30^*$ (Reticence -7 yrs)
	"	"	"	"	"	♂ $t (161) = 2.03^*$ (Solitary-passive withdrawal - 7 yrs)
56	5262	51%	15.3	Not reported	Finland	♀ $Z = -2.49^*$ (Avoidance)
	"	"	"			♀ $Z = -13.41^{***}$ (Physiological)
						♀ $Z = -13.41^{***}$ (Physiological)
57	31 (14 high reactive BI, 17 low reactive uninhibited)	48%	1.16, 1.75, 5.47	Not reported	USA	Not reported
58	31	50%	10.6	Not reported	Canada	Statistical test value not reported, <i>ns</i>
	"	"	"	"	"	Statistical test value not reported, <i>ns</i>
59	827	51%	10.33	Not reported	Not reported	Statistical test value not reported, <i>ns</i>
60	1795	49%	3	Not reported	Mauritius	Statistical test value not reported, <i>ns</i>
	"	"	8	"	"	Statistical test value not reported, <i>ns</i>
	"	"	11	"	"	Statistical test value not reported, <i>ns</i>
61	207	54%	0.3	Not reported	USA	Not reported
62	41	43%	1.3, 7.83	"	Not reported	Statistical test value not reported, <i>ns</i>
63	441 monozygotic & 346 dizygotic twin pairs	52, 46%	1.16, 1.6, 2, 3	Not reported	USA	♀ $\beta = .09^*$, $.11^{**}$, $.13^{**}$ (14, 20, 36 mos)
	"	"	"	"	"	Statistical test value not reported, <i>ns</i>
	"	"	"	"	"	♀ $\beta = .09^*$, $.13^{**}$ (14, 36 mos)
64	163	59%	8.7	2005	USA	Not reported
65	126	54%	4	Not reported	UK	
66	400	50%	4.15	Not reported	Canada	Statistical test value not reported, <i>ns</i>
67	291	46%	2, 4	Not reported	Not reported	Not reported
68	137	53%	15.3	Not reported	Not reported	Statistical test value not reported, <i>ns</i>

No. = Article number (See Table 1), Y = Yes, N = No, yrs = years, mos = months, ♀ girls' value larger, ♂ boys' value larger, ns = no gender difference found

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3. Gender differences or parity in interpersonal functioning among shy children

No.	Gender Differences or Parity Among Shy Children			
	Interpersonal Construct	Informant	Assessment	Interpersonal Results
1	Excluded by peers	Teacher	CBS ¹	$\beta = .001, ns$
2	Social dissatisfaction	Self	ILSDQ ²	Not reported
3				
4	Attachment	Observer	The Strange Situation ³	Statistical test value not reported, <i>ns</i>
5	Similarity to self	Peer	JSQ ⁴	$F(1, 407) = 2.19, ns$
6	rejected by peers	Peer	DFI ⁵	$\delta F(1, 407) = 21.28***$
7				
8	Timing of role transitions ⁶	Self	interview about timing of role transitions ⁷	delay in marrying $\delta t(15) = 3.80***$, φ Statistical test value not reported, <i>ns</i> $\delta t(67) = 3.25**$, delay in becoming parent, φ Statistical test value not reported, <i>ns</i> $\delta t(75) = 2.35*$, delay in establishing stable careers $\varphi F(1, 85) = 5.25*$, they have no work history at all or to terminate employment at marriage or childbirth
9				
10	Negative peer initiations & responses	Observer	Peer interaction	Statistical test value not reported, <i>ns</i>
11				
12				
13				
14				
15				
16				
17				
18				
19	Children's peer activities	Parent	Daily log of social activities ⁸	Not reported
20				
21	Maternal overprotection	Mother	PSDQ ⁹	$\delta \beta = .33*$
22				
23				
24	Peer difficulties	Mother & Teacher	SDQ ¹⁰ & CBS ¹	$F(2, 171) = 3.06*$
25	School liking	Self	SLAQ ¹¹	$F(2, 171) < 1, ns$
26	School avoidance	Self	SLAQ ¹¹	$F(2, 171) < 1, ns$
27				
28				
29	Social interaction	Observer	Free play observation	$\varphi r = -.36*$, shyness for girls was correlated with low social interaction
30				
31				
32				
33	Peer Exclusion	Teacher	CBS ¹	$\delta t = 2.87**$
34				
35				
36	Peer Relations	Peer	RCP ¹²	Statistical test value not reported, <i>ns</i>
37	Sibling relationship quality	Self	QRS ¹³	Not reported
38	Adjustment at preschool.	Teacher	CBS ¹	Not reported
39				
40				

Table 3. Gender differences or parity in interpersonal functioning among shy children (continued...)

No.	Gender Differences or Parity Among Shy Children			
	Interpersonal Construct	Informant	Assessment	Interpersonal Results
41				
42				
43	Quality of the teacher–child relationship	Teacher	STRS ¹⁴	Not reported
44				
45	Age at marriage and parenthood	Self	Interview about life events	Marital age (♀ range = 13 yrs; ♂ range = 16 yrs); ♂ $t(39) = -2.15^*$ (Shy boys married 4 yrs later) ♂ $t(58) = -1.9^*$ (Shy boys had their first child 3 yrs later) Shy girls & non-shy girls did not differ in marital age & motherhood
46				
47				
48	Mutual classroom friendships	Peer	Peer nomination	Not reported
	Exclusion	Peer	Peer nomination	Not reported
	Peer victimization	Peer	Peer nomination	♂ $F(1, 1345) = 5.22^*$
	Peer acceptance	Peer	Peer nomination	Not reported
49				
50	Peer acceptance	Peer	Peer nomination	Not reported
51				
52				
53				
54	Attachment	Parent	ASQ ¹⁵	Not reported
55	Peer acceptance ¹⁶	Observer	successful social initiations	Not reported
	Perceived competence and acceptance (7 yrs)	Self	PSPCSAYC ¹⁷	Not reported
56				
57	Interactive behaviors (e.g., talking)	Observer	Classroom Observations	Not reported
58	Peer acceptance/popularity	Peer	Sociometric Assessments	Not reported
	Perceived competence	Self	SPPC ¹⁸	Not reported
59	Aggression	Peer	RCP ¹²	Not reported
	Victimization/exclusion	Peer	RCP ¹²	Not reported
	Popularity/sociability	Peer	RCP ¹²	Not reported
	Friendship	Peer	Friendship nominations ¹⁹	Not reported
	Friendship Quality	Self	FQQ ²⁰	Not reported
60				
61				
62	Relationship with family members	Mother	Relationship interview	Not reported
63				
64	Peer Exclusion	Peer	Peer nominations ²¹	♂ $r = .88$ vs. $.51$, Fisher's $Z = 5.01$ (AS & Peer Exclusion)
	"	Self	Self nominations	Not reported
	"	Teacher	Teacher reports	Not reported
	"	Observer	Peer Interaction Observation System	Not reported
	"	Parent	CBS ¹	Not reported
65				
66				
67				
68				

No. = Article number (See Table 1), Y = Yes, N = No, Familiar = F, UN = Unfamiliar, BI = behavioral inhibition, yrs = years, mos = months, ♀ girls' value larger, ♂ boys' value larger, ns = no gender difference found

* $p < .05$

Table 3. Gender differences or parity in interpersonal functioning among shy children (continued...)

- 1 - Child Behavior Scale (Ladd & Profilet, 1996)
- 2 - Illinois Loneliness and Social Dissatisfaction Questionnaire (Cassidy & Asher, 1992)
- 3- The Strange Situation (Ainsworth, Blehar, Waters & Wall, 1978)
- 4 - Judgments of Similarity Questionnaire (Papsdorf &
- 5 - Desire for Future Interaction Scale (Coyne, 1976)
- 6 - Shy males and females were compared to their same-sex non-shy counterparts
- 7 - Subjects were interviewed about education, work, marriage and parenthood at about 30 years of age (1960) and again when they were about 40 (1968-1971)
- 8 - Ladd & Golter, 1988; Schneider et al., 2000
- 9 - Parenting Styles and Dimensions Questionnaire (Robinson, Mandelco, Olsen, & Hart, 2001; Wu et al., 2002)
- 10 - Strength and Difficulties Questionnaire (Goodman, 199
- 11 - School Liking and Avoidance Questionnaire (Ladd, Buhs, & Seid, 2000)
- 12 - Revised Class Play (Masten, Morison, & Pelligrini, 1985)
- 13 - Quality of Relationship Scale (Ross, Woody, Smith, & Lollis, 2000)
- 14 - Student–Teacher Relationship Scale–Short Form (Pianta, 2001)
- 15 - The Attachment Style Questionnaire (Hazan & Shaver, 1987)
- 16 - Stoneman, Brody & McKinnon (1984)
- 17 - The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984)
- 18 - Social Phobia Inventory (Connor, Davidson, Churchill, Sherwood, Foa, Weisler, 2000)
- 19 - Bukowski, Hoza & Boivin (1994)
- 20 - Friendship Quality Questionnaire-Revised (Parker & Asher, 1993)
- 21 - Items adapted from previous peer nominations (e.g., Gazelle & Ladd, 2003)

Table 4. Gender differences or parity in emotional functioning among shy children

No.	Gender Differences or Parity Among Shy Children			
	Emotional Construct	Informant	Assessment	Emotional Results
1	Loneliness	Self	ILSDQ ¹	$\phi^2 \beta = .22^*$
2				
3				
4				
5				
6				
7	Loneliness	Self	Loneliness ²	Statistical test value not reported, <i>ns</i>
8				
9				
10				
11				
12				
13	Anxiety disorders	Mother & Self	K-SADS ³ & SCARED-R ⁴	Statistical test value not reported, <i>ns</i>
14				
15				
16				
17				
18				
19	Internalizing symptoms	Mother	CBCL ⁵	$t(1, 163) = -1.27, ns$
20				
21				
22				
23				
24				
25	Externalizing symptoms	Mother	CBCL ⁵	$\phi^2 t(1, 181) = 3.02^{**},$ for low fear and high activity infant boys
26				
27				
28				
29				
30				
31	Loneliness	Self	ILSDQ ¹	$\phi^2 \beta = .26^*$
32				
33				
34				
35				
36				
37	Loneliness	Self	ILSDQ ¹	Statistical test value not reported, <i>ns</i>
38				
39				
40				
41				
42				
43	Internalizing problems	Mother & Teacher	SDQ ⁶ & CBS ⁷	$F(2, 171) < 1, ns$
44				
45				
46				
47				
48				
49	Loneliness & social dissatisfaction	Interviewer	ILSDQ ¹	$F(2, 171) < 1, ns$
50				
51				
52				
53				
54				
55	Self-esteem	Self	SPPC ⁸	Statistical test value not reported, <i>ns</i>
56				
57				
58				
59				
60				
61	Depressive Symptoms	Teacher	CBCL-D ⁵	Not reported
62				
63				
64				
65				
66				
67	Depressive Symptoms	Self	CDI ⁹	Not reported
68				
69				
70				
71				
72				
73	Social Anxiety Symptoms	Self	SPAI-C ¹⁰	Not reported
74				
75				
76				
77				
78				
79	Emotional Distress	Parent	CBCL ⁵	$\phi^2 \beta = .31^*$
80				
81				
82				
83				
84				
85	Emotionality, Sociability & Activity	Mother	EAS Temperament Survey for Children ¹¹	Not reported
86				
87				
88				
89				
90				
91	Behavior Problems	Mother	BCL ¹² (1-5 yrs)	Statistical test value not reported, <i>ns</i>
92				
93				
94				
95				
96				
97	Behavior Problems	Mother	SDQ ⁶ (8-9 yrs)	Statistical test value not reported, <i>ns</i>
98				
99				
100				
101				
102				

Table 4. Gender differences or parity in emotional functioning among shy children (continued...)

No.	Gender Differences or Parity Among Shy Children			
	Emotional Construct	Informant	Assessment	Emotional Results
42	Anger/frustration scale	Teacher	CBQ ¹³	Not reported
43				
44				
45				
46	Sympathy assessments	Observer	distress simulation procedures	Not reported
47	Social Phobia	Self	SPS ¹⁴	Statistical test value not reported, <i>ns</i>
	Depressive Symptoms	Self	BDI-2 ¹⁵	Statistical test value not reported, <i>ns</i>
	Loneliness	Self	UCLA-LS (3) ¹⁶	Statistical test value not reported, <i>ns</i>
48				
49				
50				
51				
52	Depressive Symptoms	Self	CDI ¹⁷	Not reported
	Clinical Anxiety	Self & Parent	SADS ¹⁸	Not reported
53				
54				
55				
56				
57				
58				
59				
60				
61				
62	Fearfulness	Mother	DES ¹⁹	Not reported
63				
64				
65	Problem Behavior	Play Group Leader	The Preschool Behavior Checklist ²⁰	Not reported
	Negative Mood	Mother	The Mc Devitt & Carey (1978) Temperament questionnaire	Not reported
	Negative Mood	Observer	Observer ratings at home & Lab	Not reported
66	Anxiety	Experimenter	Self-presentation Task	Not reported
67				
68	Substance-related behavior problems	Self	The Drug Use Screening Inventory ²⁰	(gender × BI interaction) $\beta = -1.18^*$ ♂ boys - more substance problems at high BI ♀ girls -more substance problems at low BI
	Risk-taking propensity	Self	BART-Y ²¹	Statistical test value not reported, <i>ns</i>

Y = Yes, N = No, Familiar = F, UN = Unfamiliar, BI = behavioral inhibition, yrs = years, mos = months, ♀ girls' value larger, ♂ boys' value larger, *ns* = no gender difference found

†*p* < .10, **p* < .05, ***p* < .01, ****p* < .001

1 - Illinois Loneliness and Social Dissatisfaction Questionnaire (Cassidy & Asher, 1992)

2 - Asher et al., 1984

3 - Schedule for Affective Disorders and Schizophrenia for School-Age Children—Present and Lifetime Version (Orvaschel, Thompson, Belanger, Prusoff & Kidd, 1982)

4 - Screen for Child Anxiety Related Emotional Disorders- Revised (Muris, Dreessen, Bogels & Weckx, 2004)

5 - Achenbach Child Behavior Checklist (Achenbach & Edelbrock, 1981)

6 - Strength and Difficulties Questionnaire (Goodman, 1997)

7 - Self-perception Profile for Children (Harter, 1985)

8 - Achenbach Child Behavior Checklist (Achenbach & Edelbrock, 1981)

9 - Children's Depression Inventory (Kovacs, 1985)

Table 4. Gender differences or parity in emotional functioning among shy children (continued...)

- 10 - Social Phobia and Anxiety Inventory for Children (Beidel et al., 1998)
- 11 - Emotionality, Activity, Sociability (EAS) Temperament Survey for Children (Buss & Plomin, 1984)
- 12 - Norwegian translation of the Behavior Checklist (Richman & Graham, 1971)
- 13 - Strength and Difficulties Questionnaire (Goodman, 1997)
- 14 - Child Behavior Questionnaire & Teacher Behavior Questionnaire (Ahadi et al., 1993)
- 15 - Social Phobia Scale (Mattick & Clarke, 1998)
- 16 - Beck Depression Inventory-II (Beck, Steer & Brown, 1996)
- 17 - The UCLA Loneliness Scale-Version 3 (Russell, 1996)
- 18 - Differential Emotions Scale (Izard et al., 1980)
- 19 - McGuire & Richman, 1986
- 20 - The Drug Use Screening Inventory (Tarter, 1990)
- 21 - Balloon Analogue Risk Task-youth version (Lejuez et al., 2007)

Table 5. Gender differences or parity in behavioral functioning among shy children

No.	Gender Differences or Parity Among Shy Children			
	Behavioral Construct	Informant	Assessment	Behavioral Results
1	Prosocial with peers	Teacher	CBS ¹	$\beta = .00, ns$
	Asocial with peers	Teacher	CBS ¹	$\beta = .01, ns$
	Anxious-fearful	Teacher	CBS ¹	$\beta = .01, ns$
2				
3	Aggression ²	Teacher	CCQ ³	Not reported
4				
5				
6	Positive social behavior	Observer, Parent, Teacher	Observation ⁴ & SCI ⁵	Statistical test value not reported, <i>ns</i>
7	Socioemotional behaviors	Peer	Peer nomination ⁶	Statistical test value not reported, <i>ns</i>
8				
9				
10				
11				
12				
13				
14				
15				
16	Activity level	Mother	IBQ ⁷	$t (518) = .19, ns$
17				
18				
19				
20	Prosocial behavior	Teacher	CBS ¹	$\delta \beta = .39 ***$
21	Social disinterest	Mother	CSPS ⁸	Statistical test value not reported, <i>ns</i>
	Solitary-passive play	Teacher	PPBS ⁹	Statistical test value not reported, <i>ns</i>
	Solitary-active play	Teacher	PPBS ⁹	Statistical test value not reported, <i>ns</i>
	Social play	Teacher	PPBS ⁹	Statistical test value not reported, <i>ns</i>
22	Rough play	Teacher	PPBS ⁹	$\delta t (1,335) = 13.05 **$
	Prosocial with peers	Teacher	CBS ¹	Statistical test value not reported, <i>ns</i>
	Asocial with peers	Teacher	CBS ¹	Statistical test value not reported, <i>ns</i>
23	Social disinterest	Mother	CSPS ⁸	Statistical test value not reported, <i>ns</i>
24	Social disinterest	Mother	CSPS ⁸	Statistical test value not reported, <i>ns</i>
	Externalizing problems	Mother & Teacher	SDQ ¹⁰ & CBS ¹	$F (2, 171) = <1, ns$
25	Negative emotionality	Mother	CCTI ¹¹	Not reported
26				
27				
28				
29	Solitary activity	Observer	Free play observation ¹²	$\eta^2 r = .43*$
	Reticence	Observer	Free play observation ¹²	$\eta^2 r = .27, -.38^\dagger$
30				
31				
32				
33				
34	Prosocial Behavior	Teacher	TASB ¹³	Not reported

Table 5. Gender differences or parity in behavioral functioning among shy children

No.	Gender Differences or Parity Among Shy Children			
	Behavioral Construct	Informant	Assessment	Behavioral Results
34	Socially Helpless Behavior	Teacher	Social Helplessness Scale ¹⁴	Not reported
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47	Prosocial behavior	Peer	Peer nomination	♀ $F(1, 1358) = 35.33^{**}$
48				
49				
50				
51				
52				
53				
54				
55				
56				
57	Aggressiveness-disruptiveness	Peer	RCP ¹⁵	Not reported
58	Sociability-leadership			Not reported
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				

No. = Article number (See Table 1), Y = Yes, N = No, Familiar = F, UN = Unfamiliar, BI = behavioral inhibition, yrs = years, mos = months, ♀ girls' value larger, ♂ boys' value larger, *ns* = no gender difference found
 $p < .10$, $*p < .05$, $**p < .01$, $***p < .001$

1 - Child Behavior Scale (Ladd & Profilet, 1996)

2 - Aggressive behavior was defined as the percentage of initiations involving verbal or physical aggression or taking objects from another child without asking (Asendorpf, 1990)

3 - California Child Q-Set (Block, 1971; Block & Block, 1980)

4 - Observations of positive social behaviors at school

5 - Social Competence Inventory (Rydell et al., 1997)

6 - Peers named children who display (1) shyness (2) depressed/sad affect: "A person who is often sad"; (3) anxious affect; and (4) verbal reticence (Wojslawowicz & Bowker et al. 2006)

Table 5. Gender difference or parity in behavioral functioning among shy children

- 7 - Infant Behavior Questionnaire (Rothbart, Derryberry, & Hershey, 2000)
- 8- Child Social Preference Scale (Coplan, 2004)
- 9 - Preschool Play Behavior Scale (Coplan, 1998)
- 10 - Strength and Difficulties Questionnaire (Goodman, 1997)
- 11 - Colorado Children's Temperament Inventory (Rowe & Plomin, 1977)
- 12 - Mize & Ladd, 1988
- 13 - Teacher Assessment of Social Behavior (Cassidy & Asher, 1992)
- 14 - Fincham et al., 1989; Nolen-Hoeksema et al., 1982
- 15 - Revised Class Play (Masten, Morison, & Pelligrini, 1985)