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Abstract

Purpose:

To determine if lower global self-esteem, shyness and low sociability are outcomes associated with SLI in adolescence. Possible concurrent predictive relationships and gender differences were also examined.

Method:

Fifty-four adolescents with SLI, aged between 16 and 17 years, were compared with a group of 54 adolescents with typical language abilities on the Rosenberg Self-Esteem scale (Rosenberg, 1965) and the Cheek and Buss Shyness and Sociability scales (Cheek & Buss, 1981).

Results:

The SLI group had significantly lower global self-esteem scores than the group with typical language abilities. The adolescents with SLI were more shy than their peers, but the groups did not differ in their sociability ratings. Regression analysis found that language ability was not concurrently predictive of self-esteem but shyness was. Mediation analysis suggested that shyness could be a partial but significant mediator in the relationship between language ability and global self-esteem.

Conclusion:

Older adolescents with SLI are at risk of lower global self-esteem and experience shyness, although they want to interact socially. The relationship between language ability and self-esteem at this point in adolescence is complex, with shyness potentially playing an important mediating role.

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Specific language impairment (SLI) is a long-term developmental disorder with language difficulties persisting into adolescence and adulthood (Hall & Tomblin, 1978; Stothard, Snowling, Bishop, Chipchase, & Kaplan, 1998). Traditionally, SLI has been studied with a focus on psycholinguistic and cognitive implications (Bishop, 1997), but it is now clear that language difficulties are also associated with social functioning. Recent research has indicated that children and young people with SLI have a range of social difficulties, including poor social competence and poor peer relations (Conti-Ramsden & Botting, 2004; Durkin and Conti-Ramsden, 2007; Fujiki, Brinton, & Todd, 1996). Young people with SLI may be at risk for lower self-esteem due to their language difficulties and/or problems in other areas of functioning, particularly social difficulties.

Self-Esteem

The unidimensional construct of *global self-esteem* is defined as an overall feeling of self-regard – the extent to which one values oneself (Cooley, 1902; Coopersmith, 1967; James 1890). Global self-esteem is

conceptualized as a relatively permanent characteristic rather than a transient state. A recent meta-analysis demonstrated that global self-esteem is continuous over time and that it becomes more stable throughout adolescence (Trzesniewski, Donnellan, & Robins, 2003). Given the increased stability of self-esteem in adolescence, the establishment of low self-esteem at this time may have long-term implications. Self-esteem is regarded as essential for general well-being, and positive self-evaluation has been described as a basic human need (James, 1890). Rosenberg (1965) researched the construct of global self-esteem and its associates in depth, in a large-scale study with U.S. adolescents ($N > 5{,}000$). In his development of the Rosenberg Self-Esteem Scale (Rosenberg, 1965), he noted that individuals with high global self-esteem respect themselves and consider themselves worthy, whereas people with low global self-esteem are characterized by dissatisfaction and contempt for the self. Low self-esteem has been associated with numerous negative consequences such as an increased risk of experiencing bullying in childhood (Egan & Perry, 1998) and feelings of loneliness and anxiety in adolescence (Rosenberg, 1965).

Evidence on self-esteem among young people with SLI is scarce, and the few available findings are mixed. McAndrew (1999) found that 8- to14-year-olds with SLI were comparable to a standardized sample on both global and domain-specific ratings of self-esteem. This small study ($N = 14$) is as yet the only investigation of global self-esteem in children with SLI, and the author did not find evidence of lower global self-esteem (measured by the Coopersmith Self-Esteem Inventory; Coopersmith, 1967) in SLI. This is consistent with reviews of more than 20 studies of children with learning disabilities, which found little evidence of lower global self-esteem (Chapman, 1988; Gresham & MacMillan, 1997).

Although global self-esteem refers to the overall extent to which one values oneself, individuals may also hold more differentiated feelings about their capacities in specific domains of functioning (Harter, 1996). For example, an individual's evaluation of the self in the academic domain may differ from his or her evaluation of the self in the social domain. Recent studies of young people with SLI have focused on multidimensional or domain-specific self-esteem. To an extent, findings from these studies vary across age groups. Researchers have found that younger children with SLI (6- to 9-year-olds) have positive self-perceptions comparable to typically developing peers on Harter's multidimensional self-esteem measures (Jerome, Fujiki, Brinton, & James, 2002; Lindsay & Dockrell, 2000). However, one study did find lower social self-esteem in 7- to 10-year-olds with SLI ($N = 19$) when compared with age-matched controls, and this difference was large ($d = 0.9$) (Marton, Abramoff, & Rosenzweig, 2005). Generally, older children with SLI (10- to13-year-olds) have been found to have significantly lower domain-specific self-esteem scores compared with typically developing peers, particularly in the academic and social domains (Jerome et al., 2002; Lindsay, Dockrell, Letchford, & Mackie, 2002). Jerome et al. (2002) argued that young children with SLI may have adequate self-esteem because they are unaware of their academic and social failings. Lower self-esteem may emerge as children with SLI get older, face new difficulties, and become increasingly aware of their own limitations. A primary purpose of the present study was to determine in a larger sample of 16- to 17-year-olds whether there is evidence of lower global self-esteem among adolescents with a history of SLI. Lower self-esteem could both reflect and exacerbate the conversational and social difficulties that they experience.

Theoretically, there are reasons to expect social factors to affect self-esteem. Particularly, an individual's self-esteem may be in part derived from her interpretation of others' reactions toward her. Cooley (1902) used the term *looking-glass self* to describe how individuals' perception of the self is based on how they imagine others think of them. Similarly, Mead (1934) put forward the idea of *reflected appraisals,* referring to how our perception of the appraisals of significant others become incorporated into our self-concept. The self-concept, and therefore self-esteem, may be "shaped" by social interactions (Wylie, 1961), and by extension, difficulties in social interaction may negatively affect self-esteem. There is empirical evidence that social difficulties are associated with low self-esteem in childhood. Low self-esteem has been associated with a preference for withdrawal over interaction (Coopersmith, 1967), rejection by peers (Asher & Gazelle, 1999), and a lack of friends or peer group (Brown & Lohr, 1987; Mannarino, 1980). In the context of SLI, negative reactions by others to an individual's poor communication and social behaviors may have a negative impact on self-esteem.

Gender differences in global self-esteem are often observed. A meta-analysis of 216 effect sizes from 184 studies found a small overall effect size ($d = 0.21$), favoring males (Kling, Hyde, Showers, & Buswell, 1999). Interestingly, Kling et al. found the largest gender difference in self-esteem ($d = 0.33$) in 15- to18-year-olds. Given that males are more likely than females to be diagnosed as having SLI (Tomblin et al., 1997), are gender differences in global self-esteem also found in this population? A range of social and cultural advantages experienced by males has been linked to high self-esteem—for example, masculine traits such as self-confidence (Kling et al.). These advantageous characteristics may transcend other individual differences such as language ability; thus, a gender difference in self-esteem favoring males might be apparent in the SLI group, as with typically developing populations. Alternatively, there is evidence that self-esteem in males is associated with successful attainment of a sense of independence (Josephs, Markus, &

Tafarodi, 1992). Living with SLI may impede the development of this aspect of autonomy. If this is the case, adolescent males with SLI should be less likely to show the typical advantage in self-esteem over their female counterparts.

Shyness

Shyness is regarded as an enduring trait characterized by tension, discomfort, and inhibition in the presence of other people (Cheek & Buss, 1981; Jones, Briggs, & Smith, 1986). Shyness inhibits interpersonal communication, social acceptance, and the development of interpersonal relationships (Jones, Briggs, & Smith, 1986). Shyness may be particularly burdensome for older adolescents, as they are likely to encounter more unfamiliar social situations in the transition to adulthood. Shyness is an example of a social factor that may be associated with self-esteem. Shy adults have been found to experience low self-esteem, and global measures of self-esteem consistently correlate with shyness with scores of –.50 and stronger (Jones, Cheek, & Briggs, 1986). In a large university student sample (340 males, 572 females), a substantial negative correlation of –.51 between shyness and global self-esteem was observed (Cheek & Buss, 1981). Shyness has also been associated with low global self-esteem in childhood (Crozier, 1995) and adolescence (Lawrence & Bennett, 1992).

Little has been written about how shyness could lead to low self-esteem. It is possible that shy behavior provokes negative reactions from others that could lower self-esteem through reflected appraisals. Indeed, shyness has been associated with receiving more negative ratings from other people (Jones & Carpenter, 1986). Furthermore, shy people tend to be intensely aware of themselves as social objects (Cheek & Buss, 1981). This intense self-awareness may lead to increased criticism of the self, which in turn leads to lower self-esteem. Any relationship between shyness and self-esteem may be bidirectional. Simply having doubts about social competence may lead to doubts about self-worth. Conversely, low self-esteem could instigate doubts about social competence and increase shyness (Arkin, Lake, & Baumgardner, 1986). A vicious cycle may emerge, with shyness lowering self-esteem and low self-esteem increasing shyness (Buss, 1980).

Constructs and behaviors similar to shyness have been investigated in children and adolescents with SLI. *Reticent behavior* is described as a type of withdrawal characterized by fearful and anxious behavior in social situations that occurs despite the child being motivated to interact (Asendorpf, 1991; Coplan, Rubin, Fox, Calkins, & Stewart, 1994). Reticent behavior is frequently observed in children (5–12 years of age) with SLI (Fujiki, Spackman, Brinton, & Hall, 2004; Hart, Fujiki, Brinton, & Hart, 2004). A large-scale longitudinal study found that internalizing behavior such as withdrawal is also prevalent among older children with SLI (Conti-Ramsden & Botting, 2004). In addition, social phobia was the most common anxiety disorder observed in young adults with SLI (Beitchman et al., 2001). Evidence of socially withdrawn and reticent behavior among young people with SLI implies that shyness may be associated with language impairment.

Sociability

Sociability is a "preference for being with others rather than being alone" (Cheek & Buss, 1981) and is often studied alongside shyness. Individuals with low sociability need others less, and they initiate and respond to fewer interactions than people with high sociability (Buss, 1980). Shyness and sociability are conceptualized as largely independent personality dispositions (Cheek & Buss, 1981); shyness is not simply low sociability. This conclusion is supported by the modest correlation (r = –.30) between shyness and sociability (Cheek & Buss, 1981) and by the fact that the two constructs show distinct patterns of correlation with other behavioral and personality variables. For example, fearfulness and negative emotionality in adults are significantly correlated with shyness but not with sociability (Cheek & Buss, 1981; Eisenberg, Fabes, & Murphy, 1995).

Level of sociability may affect self-esteem. However, unlike shyness, sociability was found to have only a modest positive correlation with global self-esteem of .18 (Cheek & Buss, 1981). Rosenberg (1965) found that adolescents with low self-esteem were less likely to be described as active class participants and were notable for their "social invisibility." Alternatively, as low sociable people are not necessarily motivated to interact with others, a lack of social interaction may not adversely affect their self-esteem.

Sociability has not been, to the authors' knowledge, directly studied in young people with SLI. However, mounting evidence of social difficulties and poor social interactions in SLI suggests that this may be an area of weakness. Fujiki, Brinton, Morgan, and Hart (1999) found that children with SLI were rated lower on some dimensions of sociable behavior by their teachers. Specifically, the children with language impairment were rated as less prosocial than their typically developing peers and as having greater difficulty controlling their temper and being accepted by other children. What remains to be examined is whether young people with SLI differ in level of sociability, compared with typically developing adolescents.

Self-Esteem, Social Behaviors, and SLI

It could be anticipated that language difficulties would have a direct impact on adolescents' self-esteem—that is, lower self-esteem could result from language impairment alone, so a clear relationship between language ability and global self-esteem should be evident. However, it seems highly likely that there would be some intervening/mediating factors between language impairment and self-esteem. In particular, given the link between social functioning and self-esteem discussed earlier, young people with SLI may find it difficult to maintain high self-esteem if their language impairment negatively affects their social functioning. Social difficulties are associated with SLI throughout childhood, adolescence, and even early adulthood. Young children with SLI are less socially competent and less successful in peer relations (Fujiki et al., 1996; Gertner, Rice, & Hadley, 1994; McCabe, 2005). Older children with SLI demonstrate poor social competence, poor social cognitive knowledge (Conti-Ramsden & Botting, 2004; Marton et al., 2005), and difficulties with particular social skills, including applying negotiation strategies (Brinton, Fujiki, & Mckee, 1998) and accessing established interactions (Craig & Washington, 1993). Young adults with a history of language difficulties were found to have few close friends and poor-quality social relations (Howlin, Mawhood, & Rutter, 2000).

Redmond and Rice (1998) provide a conceptual framework to guide studies of the developmental relationship between language ability and socioemotional behaviors. They proposed two models, namely the social adaptation model (SAM) and the social deviance model (SDM). The SAM holds that individuals with SLI have intact psychosocial mechanisms but develop negative adaptive social behaviors, such as being withdrawn, as a result of their difficulties with language in social situations. In this model, socioemotional problems may follow from language impairment. The processes, however, are dependent not on inherent psychosocial deficits but on how the child deals with the communicative demands of different situations and the reactions of others. Different situations make different demands, and different observers may hold different biases and expectations about the same child. Hence, in early childhood, as children are faced with the task of adjusting to different social settings (e.g., home, school), the relationship between language impairment and social behaviors should be unstable, varying with context.

The SDM, in contrast, maintains that in addition to language impairment children with SLI have comorbid social difficulties because of an underlying impaired psychosocial mechanism. On this account, children with SLI exhibit deviant social behaviors (such as shyness or low sociability) that are not considered to be the consequence of language difficulties. These behaviors co-occur with language problems but are not necessarily strongly correlated to them because an individual could have different levels of deficit in different domains. Redmond and Rice (1998) attribute to this model the prediction that a child's clinical classification with respect to socioemotional behaviors should persist over time, reflecting an inherent and enduring trait deficit.

Redmond and Rice (1998) found support for the SAM, but not the SDM, in a small longitudinal study of children with SLI. First, parent and teacher ratings of the same children's socioemotional functioning differed significantly, indicating that the children's social competencies varied with context and/or that different interactants evoked different behaviors. Second, there was very little stability of congruence between teacher and parent ratings across two time points (separated by a year), suggesting that the children were adjusting to their early school setting.

This evidence suggests, then, that socioemotional development in children with SLI is indeed developmental rather than an early-emerging invariant. However, Redmond and Rice (1998) stress that additional studies are essential if we are to understand the complex relationships between language impairment and social behavior. Their study focused on the period of transition into formal schooling, and there is a need for evidence at different points in development. In this article, we investigate whether an adaptive model can account for the concurrent relationships among language ability, social behavior, and self-esteem in adolescence (16–17 years of age). Although only very long-term longitudinal studies can address fully the questions of causality, an examination of concurrent relationships in adolescence does enable us to examine outcomes that should follow from the framework.

If individuals with SLI adapt their social behaviors (such as becoming withdrawn) as a result of their difficulties with using language, then by adolescence (i.e., after many years of adjusting to one's limitations), positive correlations should be obtained between level of language ability and negative social characteristics. Specifically, a history of social difficulties and negative interpersonal experiences may affect self-esteem (Lindsay & Dockrell, 2000). However, the strength of this relationship may be influenced by the ways in which young people have accommodated to their difficulties. For example, according to an adaptive framework, individuals who have found social interactions challenging because of their language impairments may adjust by restricting their social participation (withdrawal). Measures of shyness and/or sociability reflect negative adaptive processes, and these will vary among individuals. It follows that the extent to which a young person manifests shyness and/or

low sociability should mediate the relationship between language ability and self-esteem (see Figure 1). Therefore, at this point in adolescence, an association between social behavior (shyness and/or low sociability) and low global self-esteem is also expected. In this extension of the adaptive framework, the relationship between language ability and self-esteem is conceptualized as being concurrently mediated by shyness and/or low sociability. Note that this mediation effect may be full, with no direct relationship between language ability and global self-esteem, or partial, with both a direct and a mediated relationship present.

The theoretical framework on which the SDM is based can also be extended to include global self-esteem. In this framework, global self-esteem should be concurrently related to both language ability and to comorbid deviant social behaviors (shyness and low sociability; see Figure 2). In comparison with the SAM adaptive account, the SDM should predict more severe and consistent psychosocial difficulties in adolescents with SLI because these difficulties reflect an underlying deficit rather than transient adaptive strategies. In this study, this prediction should be reflected in the SLI group evidencing significant and severe social difficulties (shyness and low sociability), compared with the typical language ability (TL) group.

The Present Study

Adolescence is assumed to be a crucial developmental period for self-esteem formation. Particularly, adolescence is a time of self-exploration, with young people examining the self to "discover who they really are, and how they fit in the social world in which they live" (Steinberg & Sheffield Morris, 2001, p. 91). Within this context, this study examined language ability, social behaviors (shyness and sociability), and global self-esteem in 16- and 17-year-olds with SLI and their typical language ability peers.

Specifically, the aims of this study were twofold: (a) to examine global self-esteem, shyness, and sociability as they relate to group status (SLI group vs. TL group) and gender; and (b) to examine linguistic and psychosocial variables (i.e., shyness and sociability) concurrently associated with global self-esteem.

Figure 1. An adaptive framework: Low self-esteem is an indirect consequence of language impairment.

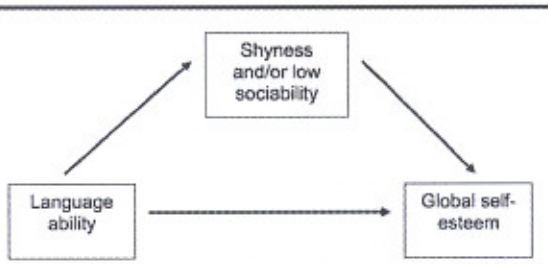
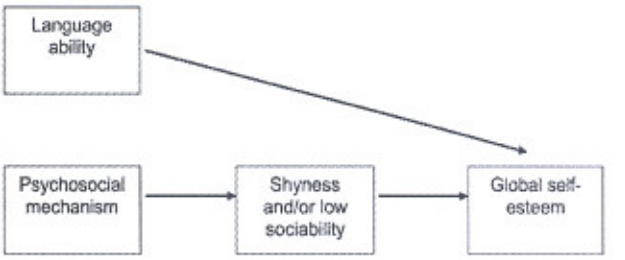


Figure 2. A social deviance framework: Low self-esteem results from co-morbid language difficulties and impaired psychosocial mechanism.



Method

Participants

Fifty-four adolescents with SLI and 54 adolescents with typical language abilities, aged between 16 and 17 years, participated in this study. These participants were initially recruited as part of The Manchester Language Study (Conti-Ramsden & Botting, 1999a; Conti-Ramsden & Botting, 1999b; Conti-Ramsden, Crutchley, & Botting, 1997), a nationwide longitudinal study of SLI. Participants for the current study were selected from this larger study according to the selection criteria detailed below.

Participants with SLI. The participants with SLI were first identified at 7 years of age while attending language units attached to mainstream schools. Ninety young people with a history of SLI were available for selection for this study. Young people whose language difficulties had resolved or who had developed more global impairments were not included in the SLI group. Young people with current language impairments at 16 and 17 years were identified using the following criteria:

- Core language score below 1 *SD* of the mean (16th percentile) on the Clinical Evaluation of Language Fundamentals (4th ed.; CELF-4; Semel, Wiig, & Secord, 2003). This was a standard score of less than 85.
- Performance (nonverbal) IQ standard score of 80 points and above, as measured by the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999).
- No definite diagnosis of autism.
- No hearing impairment or major physical impairment.
- English used as primary language.

The attention-deficit/hyperactivity disorder (ADHD) status of the participants was not formally tested. However, when parents were interviewed about professionals' opinions of their children's difficulties, none of the parents of the SLI group reported their child as having received a diagnosis of ADHD (at 14 years of age).

Participants with typical language abilities. The comparison group participants were initially recruited at 16 years of age as part of The Manchester Language Study. For this study, 91 young people with typical language abilities were available for selection. Appropriate comparison participants aged between 16 and 17 years (TL group) were selected using the following criteria:

- CELF-4 core language score not below 1 *SD* from the mean. This was a standard score of 85 and above.
- WASI performance (nonverbal) IQ of 80 points and above.

The comparison participants selected from The Manchester Language Study were matched to participants with SLI on chronological age. The mean ages for the SLI and TL group are presented in Table 3. The gender distributions of the SLI and TL groups were matched, and the final groups both included 38 males and 16 females. In an attempt to control for socioeconomic status, we matched the participants with typical language to the SLI group on maternal education and household income band. Table 1 shows the percentage of SLI and TL group participants in each maternal education category. The proportions of SLI and TL participants in each category were similar. There was no significant association between group (SLI or TL) and maternal education level, $\chi^2(2, N = 104) = 4.0, p = .14$. Table 2 shows the percentage of participants with or without SLI in each income band category. The percentages of SLI and TL participants in each income band category were similar. There was no significant association between group (SLI or TL) and income band, $\chi^2(4, N = 105) = 3.9, p = .42$. The SLI and TL groups appeared to be comparable in terms of socioeconomic status, as indexed by maternal education and household income band.

Table 1. Maternal education level for participants with and without SLI.

	Maternal education level (%)		
Group	No education	GCSEs/A-levels/college	Higher education
SLI	38.0%	52.0%	10.0%
TL	20.4%	68.5%	11.1%

Note. SLI = specific language impairment; TL = typical language; GCSE = General Certificate of Secondary Education; A-levels = Advanced Level (General Certificate of Education).

The psycholinguistic profiles of the SLI and TL groups are presented in Table 3. Receptive and expressive language mean scores for the SLI group confirm that their language abilities fell below the 16th percentile (score below 85). The majority (48) had receptive language standard scores below 85. All but one had expressive language standard scores below 85 (one participant scored 87). Therefore, the majority of the SLI group participants would fall into the expressive–receptive SLI subgroup (Conti-Ramsden & Botting, 1999b; Conti-Ramsden et al., 1997).

Although within the normal range, the SLI group had lower performance IQ (PIQ) scores than the TL group, and this group difference in PIQ was significant and large, $F(1, 106) = 22.99, p < .001, d = 0.92$. Note that it is not uncommon in SLI research for SLI participants to have PIQs in the lower normal range (Leonard, 2000). This situation is not exclusive to SLI, with other clinical groups (e.g., children with ADHD) attaining lower PIQ scores than typically developing comparison groups (e.g., Mahone et al., 2003). One possibility is that the comparison group participants, who are selected by schools/volunteer, are higher achievers, thus inflating the PIQ scores in the comparison group.

Measures

Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). The RSES was designed as a unidimensional self-report measure of feelings of global self-esteem in adolescents. This measure was selected because of its ease of administration and brevity (important considerations for a sample including participants with SLI) and its widespread use with adolescents and adults. The wording of the test items is regarded as appropriate for 12-year-olds (Keith & Braken, 1996). The RSES consists of 10 items—5 positive statements and 5 negative statements about the self. Example statements include: "On the whole, I am satisfied with myself," "At times I think I am no good at all," and "I feel that I have a number of good qualities."A four-point response format was used: strongly agree, agree, disagree, and strongly disagree (Blascovich & Tomaka, 1991). Scores for each item are summed, giving a total score range from 10 to 40, with higher scores signifying higher self-esteem. Previous researchers have reported reasonable levels of internal consistency for their samples with Cronbach's alphas of between .72 and .88 (see Byrne, 1996, for a review). The test–retest correlation on 28 participants after a 2-week interval was .85 (Silber & Tippett, 1965). Rosenberg (1965) provided substantial evidence of the construct/predictive validity of the scale, relating poor self-esteem to social and behavioral consequences such as anxiety, depression, and loneliness. The satisfactory convergent and discriminant validity of the RSES has been

Table 2. Income band for participants with or without SLI.

Group	Income band (%)				
	<£10,400[a]	£10,400–£20,800[b]	£20,801–£31,200[c]	£31,201–£41,600[d]	>£41,600[e]
SLI	21.6%	21.6%	27.5%	15.7%	13.7%
TL	11.1%	33.3%	25.9%	11.1%	18.5%

[a]Equivalent to $20,384. [b]Equivalent to $20,384–$40,768. [c]Equivalent to $40,769–$61,152. [d]Equivalent to $61,153–$81,536. [e]Equivalent to $81,536.

well-documented (Blascovich & Tomaka, 1991). The internal consistency for the sample used in this study was good (Cronbach's α = .80).

12-item Revised Cheek and Buss Shyness Scale (RCBS; Stritzke, Nguyen, & Durkin, 2004; adapted from Cheek, 1983). The shyness scale consists of 12 questions, adapted from the 13-item RCBS, which has been used widely in empirical studies of shyness. The RCBS was designed to measure tension and inhibition when in the presence of others (Cheek, 1983) by assessing how the respondent feels when interacting with strangers and acquaintances. Example items include: "It does not take me long to overcome my shyness in new situations," "It is hard for me to act natural when I am meeting new people," and "I am often uncomfortable at parties and other social functions." Participants respond to the questions on a 5-point scale (1 = *very untrue*, 5 = *very true*). The maximum score is 60, and a score of 34 or above indicates shyness. The 12-item version has been shown to have high internal consistency in a sample of university students, with a Cronbach's α of .86 (Stritzke et al., 2004). The 12-item version was found to have good internal consistency with the sample used in this study (Cronbach's α = .89). The 13-item RCBS had good test–retest reliability (α = .88) after 45 days (Cheek, 1983). The RCBS has been shown to be a valid measure of the construct of shyness as it is commonly conceptualized (discomfort and/or inhibition when with others). The RCBS has adequate convergent validity, with moderate to strong correlations with other measures of shyness and social anxiety (Hopko, Stowell, Jones, Armento, & Cheek, 2005; Jones, Briggs, & Smith, 1986). Some evidence of discriminant validity is provided by the small correlations with somatic anxiety and depressive symptomatology (Hopko et al., 2005).

Cheek and Buss Sociability Scale (Cheek & Buss, 1981). The sociability scale was developed alongside the shyness scale to measure preference for being with others rather than being alone. The scale has 5 items, with responses from 1 (*very untrue*) to 5 (*very true*), requiring the respondent to indicate how much he or she wants to be/interact with people. Example items include: "I like to be with people," "I prefer working with others rather than alone," and "I welcome the opportunity to mix socially with people." The maximum score is 25, with higher scores representing higher sociability. Psychometric details for the scale are lacking, but the internal consistency with a previous sample was reasonable for a short scale, with a Cronbach's α of .70 (Cheek & Buss, 1981). A Cronbach's α of .78 was found for the sample in the present study. The treatment of sociability as a construct distinct from shyness was supported by a factor analysis of the items on the two scales (see Cheek & Buss, 1981).

Procedure

Each young person was individually assessed in one session, in a quiet room or area, and at home or in school/college. The measures detailed in the previous paragraphs were administered as part of a larger battery of assessments and interviews. The standardized assessments of language and IQ were administered in the manner specified by the test manuals. The 10 statements on the RSES were read aloud to the participants. The participants indicated how much they agreed with each

Table 3. Mean age, expressive language score, receptive language score, and performance IQ for both groups.

Group	Age (years;months)	Expressive Language Index		Receptive Language Index		Performance IQ	
	M	*M* (*SD*)	95% CI for *M*	*M* (*SD*)	95% CI for *M*	*M* (*SD*)	95% CI for *M*
SLI	17;1	62.56 (10.04)	59.81–65.30	69.30 (12.54)	65.87–72.72	97.96 (10.62)	95.07–100.86
TL	16;10	102.80 (9.16)	100.30–105.30	100.35 (7.99)	98.17–102.53	107.39 (9.80)	104.71–110.06

Note. CI = confidence interval.

statement, either by responding verbally or by pointing to the response options presented visually. The shyness and sociability scales were also presented in this manner.

The data were collected by a team of researchers, including the first author. Care was taken to ensure that all of the participants comprehended the items on the scales and the response options. All of the items were read aloud, and the participants were given additional clarification where needed, although this occurred rarely. Inconsistent and unexpected responses were checked for meaning (particularly when the items were negatively worded).

Results

Global Self-Esteem

Descriptive statistics for self-esteem are provided in Table 4. Note that both groups' mean scores were above the midpoint of 25 and were consistent with the mean RSES score of 30.55 (SD = 4.95) reported with U.K. college students (Schmitt & Allik, 2005). Nevertheless, the mean self-esteem score for the SLI group was lower than that for the TL group. There was a significant main effect of group on self-esteem, $F(1, 104) = 6.10$, $p = .015$, $d = 0.66$ (medium effect size).

There was also a significant main effect of gender on self-esteem, $F(1, 104) = 6.23$, $p = .014$, $d = 0.51$ (medium effect size), with males having higher self-esteem than females. In the TL group, males ($M = 33.21$, $SD = 3.04$) had higher self-esteem scores than females ($M = 29.88$, $SD = 3.22$). A gender difference was not apparent in the SLI group, with males ($M = 29.89$, $SD = 4.09$) having similar self-esteem scores as females ($M = 29.05$, $SD = 3.56$). This Group × Gender interaction on self-esteem was borderline significant, $F(1, 104) = 3.87$, $p = .052$.

Table 4. Descriptive statistics for self-esteem, shyness, and sociability.

Variable	Statistic	Group	
		SLI	TL
Self-esteem	*M*	29.78	32.22
	SD	3.91	3.43
	95% CI	28.71–30.85	31.29–33.16
	Range	19–39	24–40
Shyness	*M*	34.98	27.76
	SD	7.53	8.45
	95% CI	32.93–37.04	25.45–30.07
	Range	19–47	12–50
Sociability	*M*	19.61	20.39
	SD	3.14	3.09
	95% CI	18.75–20.47	19.55–21.23
	Range	13–25	11–25

Shyness

Descriptive statistics for shyness are presented in Table 4. As expected, the SLI group had significantly higher shyness scores than the TL group. The analysis of variance (ANOVA) revealed a large and significant main effect of group on shyness scores, $F(1, 104) = 16.82$, $p < .001$, $d = 0.90$. There was no significant main effect of gender on shyness scores, $F(1, 104) = 1.11$, $p = .295$, and no significant interaction effect, $F(1, 104) = 0.17$, $p = .684$.

The mean shyness score of 34 for the SLI group (see Table 4) slightly exceeded the cutoff for being classified as shy (Cheek & Buss, 1981). Table 5 presents the number of participants in the SLI group and TL group exceeding the cutoff score for the shyness scale. The majority of participants in the SLI group, approximately 62%, could be classified as shy. In the TL group, more participants scored below the cutoff, with only approximately 20% being classified as shy. This association was found to be significant, $\chi^2 (1, N = 108) = 20.15$, $p < .001$.

Sociability

The descriptive statistics for sociability are provided in Table 4. Both groups scored toward the higher end of the scale (maximum score being 25), suggesting high sociability in the SLI group and TL group. The distribution of sociability scores showed considerable deviations from the normal distribution in terms of skewness and an extreme outlier (in the TL group). The sociability scores were therefore transformed using the following calculation recommended for cases of negative skewness:

$$\sqrt{(\mathrm{K} - \text{sociability total})},$$

where K equals 26, the maximum score possible on the sociability scale plus 1 (Tabachnick & Fidell, 2001). Following this transformation, sociability scores better approximated the normal distribution, and the extreme outlier had disappeared. An ANOVA revealed no significant main effect of group, $F(1, 104) = 0.63$, $p = .428$, and no significant main effect of gender on sociability,

Table 5. Participants with and without SLI who scored below and above the Shyness scale cutoff point.

Group	Nonshy participants (<34)	Shy participants (≥34)	Total participants
SLI	20	34	54
TL	43	11	54
Total	63	45	108

$F(1, 104) = 3.46$, $p = .066$. The Gender × Group interaction was also nonsignificant, $F(1, 104) = 0.98$, $p = .324$.

Concurrent Predictors of Self-Esteem

Although the SLI group had self-esteem scores within the expected range, the group difference on self-esteem scores was moderate in size. In addition, 48.1% of participants in the SLI group had self-esteem scores below 30 (i.e., below the U.K. norm), compared with only 11.1% in the TL group. This finding suggested that self-esteem, and its possible associates, warranted further investigation.

The next step in the analysis was to examine variables associated with self-esteem and to identify concurrent predictors of self-esteem. Table 6 presents the Pearson correlation coefficients for self-esteem and the linguistic and psychosocial variables hypothesized to be associated with self-esteem. As expected, high self-esteem was associated with low shyness. High self-esteem was also weakly associated with high sociability. Self-esteem had small but significant positive correlations with receptive and expressive language as well as with PIQ.

To examine possible concurrent predictors of global self-esteem, a hierarchical regression was conducted. The first block of the regression included shyness, sociability, core language, and gender (dummy coded: 0 = *male*, 1 = *female*). PIQ was also included in the first step to control for its effect (given the group difference in PIQ and its small but significant correlation with self-esteem). The second block added group status (dummy coded: 0 = *TL group*, 1 = *SLI group*). Table 7 presents the results of the hierarchical regression of variables hypothesized to be associated with self-esteem in adolescents. At the final step, the regression model was significant, $F(6, 101) = 12.56$, $p < .001$.

The model at Step 1 accounted for 39.1% of the variance in self-esteem. Including group status at Step 2 did not add to the regression model. Shyness contributed significantly to the prediction of self-esteem at Steps 1 and 2 ($p < .01$ in both instances). Gender was also a significant predictor of self-esteem at Step 1 ($p = .039$) and Step 2 ($p = .047$). Notably, PIQ and core language score were not significant predictors of self-esteem. The standardized β values confirm that shyness was the most influential factor in the regression model. An additional regression analysis included the same variables but separated language into the receptive and expressive domains. Neither expressive nor receptive language ability predicted global self-esteem.

Shyness was a significant and strong concurrent predictor of global self-esteem. In contrast, sociability was not predictive of global self-esteem. Furthermore, shyness (but not sociability) was significantly and moderately correlated with expressive and receptive language ability (see Table 6). Mediation analysis allowed further examination of the contemporaneous relationship between language ability and global self-esteem as well as the possible concurrent mediation effect of shyness in this relationship (as suggested within an adaptive framework; see Figure 1).

Table 6. Pearson correlations among self-esteem and shyness, sociability, performance IQ, and language.

Variable	1	2	3	4	5	6
1. Self-Esteem	1	−.61*	.26*	.26*	.32*	.33*
2. Shyness		1	−.54*	−.29*	−.35*	−.39*
3. Sociability			1	.11	.09	.09
4. Performance IQ				1	.58*	.45*
5. Receptive language					1	.88*
6. Expressive language						1

*$p < .01$.

Table 7. Hierarchical regression analysis predicting self-esteem from concurrent variables.

Variable	*B*	*SE B*	β
Step 1			
WASI PIQ	0.01	0.03	.02
Shyness	−0.24	0.04	−.54**
Sociability	0.01	0.54	.00
Gender	−1.39	0.66	−.17*
CELF core language	0.02	0.02	.14
Step 2			
WASI PIQ	0.01	0.03	.02
Shyness	−0.24	0.04	−.55**
Sociability	−0.01	0.54	.00
Gender	−1.34	0.66	−.16*
CELF core language	0.05	0.03	.31
Group status	1.48	1.28	.19

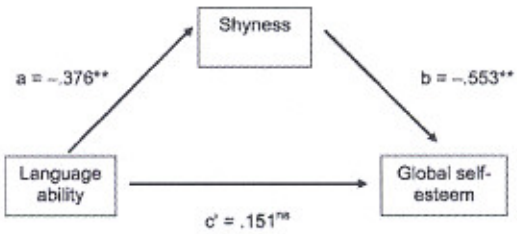
Note. $R^2 = .42$ ($p < .001$) for Step 1; $\Delta R^2 = .008$ ($p = .251$) for Step 2. WASI PIQ = Wechsler Abbreviated Scale of Intelligence, Performance IQ; CELF = Clinical Evaluation of Language Fundamentals.

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

Mediation Analysis

The mediation analysis was carried out following the steps recommended by Baron and Kenny (1986). The results of the mediation analysis are presented in Figure 3. Regression analysis revealed a significant total effect (direct and mediated effects combined) of language ability on global self-esteem, $\beta = .36$, $p < .01$. A second regression analysis found a significant negative

Figure 3. Model depicting the relationship between language ability and global self-esteem, mediated by shyness. a = effect of language ability on shyness and/or sociability (mediator); b = effect of shyness and/or sociability on global self-esteem (outcome variable); c' = effect of language ability on global self-esteem (controlling for the effect of shyness); ns = not significant. **$p < .01$.



relationship between language ability and shyness (path a), $\beta = -.38$, $p < .01$. When language ability and shyness were entered into a regression model predicting self-esteem, the effect of shyness on self-esteem (controlling for language ability) was significant and negative (path b), $\beta = -.55$, $p < .01$. In comparison, the direct effect of language ability on self-esteem (path c', controlling for shyness) was nonsignificant, $\beta = .15$, $p = .069$, and smaller than the total effect reported above. This suggests a partial mediation effect.

The indirect effect of language ability on self-esteem through shyness was given by the product of a and b: $(-.38 \times -.55) = .21$. This indirect effect was larger than the direct effect of language on self-esteem ($\beta = .15$), suggesting a strong mediation effect. The Sobel test was carried out and indicated that the mediation effect was significant, $z = 3.57$, $p < .01$ (Baron & Kenny, 1986; Preacher, 2006). Therefore, the mediation analysis suggests that the relationship between language ability and global self-esteem was partially and significantly mediated by shyness.

Discussion

Global Self-Esteem and SLI

The SLI group had a significantly lower mean global self-esteem score than the TL group. Both groups had relatively high self-esteem scores on the RSES that were above the midpoint of 25. These scores were also in line with the mean RSES scores of approximately 30 found in typical populations in the United Kingdom and other nations (Schmitt & Allik, 2005). Overall, it appears that 16- and 17-year-olds with SLI may be at risk of experiencing lower global self-esteem compared with their peers but not low self-esteem, per se.

A previous study of global self-esteem in 8- to 14-year-olds found that the participants with SLI had global self-esteem scores that were comparable to a standardized sample (McAndrew, 1999). The present study adds to this research by extending it to older adolescents with SLI, with the caveat that in adolescence, a group difference was evident (with lower self-esteem in SLI). Other SLI studies have examined domain-specific self-esteem, thus complicating the picture. Studies of younger children (6–9 years) with SLI have not found evidence of lower domain-specific self-esteem in these children when compared with typically developing peers (Jerome et al., 2002; Lindsay et al., 2002). Alternatively, Marton et al. (2005) found that 7- to 10-year-olds did have lower social self-esteem scores (using a different scale) than age-matched peers. Jerome et al. (2002) found that older children (10- to 13-year olds) with SLI had lower self-esteem scores in the academic and social domains compared with typically developing peers. However, the self-esteem scores for the children with SLI were all within a standard deviation of the normative sample. This indicates that, as in this study, the SLI participants had lower self-esteem than peers but these scores were within the expected range (i.e., not abnormally low). Similarly, Lindsay et al. (2002) found that 10- to 13-year-olds with SLI had lower academic and social self-esteem compared with typically developing peers, but their self-esteem scores were regarded as positive, as they fell above the mean of the scale range (2.5).

Taken together, the research available presents a somewhat mixed picture of self-esteem in young people with SLI. This is mirrored in the research focusing on children with learning disabilities (Chapman, 1988; Gresham & MacMillan, 1997). Chapman (1988) found that in studies where children with learning disabilities did have lower self-esteem scores than their peers, these scores fell within the normal range as represented in the scale manuals. In considering the research to date and the present findings, it is clear that lower self-esteem—but not abnormally low self-esteem—may be expected in young people with SLI. Cross-sectional comparisons suggest that lower self-esteem (either global or domain-specific) may develop mainly in older children or adolescents with language impairment. This is consistent with an adaptive framework, which predicts adjustments as young people with SLI engage with the demands of varying contexts, although confirmation via longitudinal studies remains to be demonstrated.

Self-Esteem, SLI, and Gender

A significant but modest gender difference in self-esteem was observed for the whole sample, with males having higher global self-esteem than females. This is in line with previous research that has observed lower self-esteem in females compared with males, especially among adolescents (Kling et al., 1999). A trend toward the

interaction of the effects of group and gender on self-esteem was found. The gender difference in self-esteem favoring males was only evident in the group with typical language abilities. There was no gender difference apparent in the adolescents with SLI. A study of 10- and 11-year-olds with SLI also found no gender difference in multidimensional self-esteem (Lindsay et al., 2002). These researchers proposed that the difficulties experienced by the children with SLI were severe enough to mask gender differences. Thus, it may be the case that the presence of language difficulties, (i.e., living with SLI) reduces the advantage that males usually have over females in terms of global self-esteem. In a way, SLI leaves its mark on males more than females in terms of self-esteem.

Shyness

The adolescents with SLI had significantly higher shyness scores than the adolescents with typical language abilities—that is, young people with SLI experience more tension and inhibition when interacting with others compared with their peers. Note that there was no gender difference in shyness, consistent with previous research (Crozier, 2005). The majority of the adolescents with SLI could be described as shy, as they scored above the cutoff identified by Cheek and Buss (1981). In this study, more than 60% of the adolescents with SLI were shy, which is much higher than the proportion of adolescents with TL (20%). The prevalence of shyness in the SLI group exceeds the proportions reported in other samples. For example, the estimated prevalence rate for social phobia (chronic shyness) in the general population is around 16% (Furmark et al., 1999). The present results support the prediction that shyness is associated with SLI. This is in line with the tendency toward internalizing difficulties such as withdrawn and reticent behavior in children with SLI (Conti-Ramsden & Botting, 2004; Fujiki et al., 2004; Hart, Fujiki, Brinton, & Hart, 2004). The present study does not address how or when the adolescents with SLI became shy, but it does confirm that shyness is a likely characteristic of these young people into adolescence.

Shyness Mediates the Relationship Between Language Impairment and Self-Esteem

The hierarchical regression indicated that shyness, but not core language ability, was concurrently predictive of global self-esteem. A mediation analysis clarified these findings and looked at the possible concurrent mediation effect of shyness in this relationship. An initial step of the mediation analysis revealed that core language ability was a significant predictor of shyness. This association is consistent with an adaptive framework, where shyness may be an accommodation to poor language ability and the demands of the social environment (Redmond & Rice, 1998). In contrast, a social deviance framework assumes relative independence between social behavior and language ability and suggests a much weaker (or nonexistent) relationship between language ability and shyness, which was not the case in this study.

In subsequent steps of the mediation analysis, language ability was found to have a small direct effect on global self-esteem, compared with the larger indirect effect via shyness. Thus, the relationship between language ability and global self-esteem was partially mediated by shyness. This mediation analysis describes concurrent relationships only, not longitudinal effects. The data in the present study fit the mediation model derived from an adaptive framework.

Sociability

There was no significant difference between the sociability scores of the SLI group and the TL group. Both groups had scores at the higher end of the scale, and so the adolescents with and without language disorders had high sociability (i.e., a preference for being with others rather than being alone). Unlike shyness, low sociability was not associated with SLI. This means that the 16- and 17-year-olds with SLI in this study were motivated to interact with others. In a previous study, children with SLI were rated by their teachers as less sociable (Fujiki et al., 1999). This discrepancy in findings may reflect the use of self-ratings versus other-ratings of sociability. Teachers may view the behavior of children with SLI as less sociable, but young people with SLI may still consider themselves sociable. Future research could usefully address this possibility by collecting ratings from both sources for the same sample.

Unlike shyness, low sociability was not a problem evident in the SLI group. Within a social deviance framework, young people with SLI are expected to have consistent and pathological levels of psychosocial difficulties. It seems unlikely that an impaired psychosocial mechanism would lead to shyness but also high sociability. Therefore, the concurrent data from this study appear to fit better with an adaptive framework (but note that the intact/impaired status of any psychosocial mechanism has not been directly measured here).

Limitations

This study, similar to many investigations of adolescent social functioning, relied on self-report measures. An advantage of self-report measures is that they tap the perspective of the individual being studied. This is useful, as adolescent social interactions occur in a wide range of settings that may not be easily accessed by an outside

observer (Furman & Burmester, 1985). However, the SLI and TL participants may not have been similarly accurate in their self-reporting. Children with SLI have been found to underestimate their difficulties. For example, in a self-esteem study using a lie scale, more than 60% of the children with language impairments evidenced socially desirable responding (McAndrew, 1999). A social desirability bias could result in the SLI group obtaining higher scores, despite their difficulties. However, children with SLI have also been found to overestimate their difficulties. For example, self-report responses gave a higher incidence of behavior problems in children with SLI, compared with a teacher report scale (Conti-Ramsden & Botting, 2004). Therefore, SLI participants do not appear to consistently misreport in any particular direction. If the SLI participants in this study were under- (or over-) reporting social difficulties, the SLI group should have had consistently inaccurate positive (or negative) scores on all three self-report scales, which was not the case.

Children with SLI have high rates of concurrent ADHD (Beitchman, Nair, Clegg, Ferguson, & Patel, 1986). The ADHD status of the SLI participants in this study was not known. If a large proportion of the SLI group also had ADHD, they may have achieved poorer scores, particularly on the language and IQ measures, due to inattention. The parental reports of the SLI group participants did not suggest that these adolescents had been diagnosed with ADHD. Nonetheless, this potential effect of this confound on observed group differences should be kept in mind when interpreting the findings of this study.

Conclusion

Young people with SLI, aged 16 and 17 years, had lower self-esteem than the adolescents with typical language abilities, although their self-esteem scores were still in the normative range. Having positive regard for the self is favorable for general well-being and may protect adolescents with SLI from long-term negative outcomes, such as mental health problems and loneliness (e.g., Jerome et al., 2002). The relationship between language ability and global self-esteem at this point in adolescence was complex, possibly mediated in part by shyness.

The adolescents with SLI were more shy compared with their peers, but both groups were comparable in their high sociability. Interestingly, language was not as currently predictive of self-esteem as shyness. Self-esteem is expected to be lower in individuals who are more shy. The shyness associated with SLI in this study may also negatively affect these young people's social behavior, mental health, and others' attitudes towards them (Cheek & Buss, 1981; Schmidt & Fox, 1995). Shyness may be especially problematic in adolescence as young people are increasingly required to initiate social relationships with peers. Particularly, a vicious cycle of shyness, poor social skills, and limited interactions can develop, thus sustaining shyness (Buss, 1980; Caspi, Elder, & Bem, 1988).

It is interesting that the adolescents with SLI want to interact with people (high sociability) but are shy about doing so. Cheek and Buss (1981) found that among shy people, sociable individuals were more inhibited, tense, and anxious than unsociable ones. This echoes the reticent behavior commonly observed in children with SLI (Fujiki et al., 2004; Hart et al., 2004), where the child wants to approach others but is fearful of doing so. It may be that, in SLI, this type of shy/withdrawn behavior, accompanied by a motivation to interact, persists through childhood and adolescence.

The implications for clinical work with language-impaired adolescents need to be considered. Many, although not all, of these young people will present with social limitations, higher-than-average levels of shyness, and lower-than-typical levels of global self-esteem. If these characteristics are confirmed via converging parental, teacher, and self-report measures (cf. Redmond & Rice, 1998), then therapists should consider strategies that may be beneficial. Importantly, the present findings are consistent with the inferences drawn from the adaptive (SAM) model that any difficulties in the social domain should be seen as reflecting responses to language-related challenges rather than an underlying psychosocial deficit. In this case, approaches designed to support assertiveness and ameliorate social anxieties may be more apt than generalized social skills training.

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