Academic Self-Concept and Self-Perceptions as Learners: Do Poor Comprehenders Differ from Their Peers?

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Summary

The thesis is divided into two parts. Part A comprises a literature review of previous research on poor comprehenders (PCs), self-concept, children's attribution styles, and how children with learning difficulties (LD) perceive themselves as learners. Research has indicated that children with LD often hold negative academic self-perceptions. Part B describes the empirical study which explored PCs' vulnerability to negative self-perceptions as learners in comparison with their peers. Additionally their attribution styles were investigated. The sample comprised 114 children (aged 9-11) from a mainstream primary school. They were divided into groups of poor readers, good readers, PCs and low-average readers, using scores obtained using the Neale Analysis of Reading Ability (NARA-II). A structured interview was conducted to obtain information about each child's controllability attributions (i.e. how much perceived control he/she had over successes and failures). Each child then completed three self-report questionnaires measuring academic self-concept, reading self-concept, and self-perceptions as learners. Teachers' perceptions of their pupils as learners were sought through administration of a questionnaire. Results indicated that PCs were not differentiated from their peers in terms of attribution style, nor were they differentiated from good and low-average readers in their academic self-concept, reading self-concept or self-perceptions as learners. This is in contrast with poor readers, who held more negative self-perceptions than the other groups on all of these measures. Furthermore, only a small percentage of PCs recognised their reading comprehension difficulties. Class teachers' perceptions of their pupils as learners were similar to those of the pupils with reading and comprehension difficulties (poor readers and PCs). Teachers' perceptions of good and low-average readers were predominantly different from those of the pupils themselves. In addition, children's national curriculum levels indicated that the majority of PCs were performing in the average range. The implications of these findings for educational professionals are discussed.

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DECLARATION

This work has not been submitted in substance for any other degree or award at this or any other university or place of learning, nor is being submitted concurrently in candidature for any degree or other award.

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List of Abbreviations

ANOVA	Analysis of Variance
ASC	Academic Self-Concept
EP	Educational Psychologist
LA	Low-Average
LD	Learning Difficulties
NA	Normally-Achieving
PC	Poor Comprehender
SD	Standard Deviation
SLI	Specific Language Impairment
TD	Typically Developing

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PART A: LITERATURE REVIEW

Chapter 1: Introduction

Learning to read is considered to be a principle activity undertaken by children in their early schooling (Chapman & Tunmer, 1995). Most children develop sufficient word reading skills, but a minority do not. Children who are considered to have developmental dyslexia have well-established difficulties with decoding, which are linked to difficulties in phonological processing (Snowling, 2000). In the large body of research that has been conducted on children with reading difficulties, considerable attention has been given to children with specific deficits in word reading (Catts & Kamhi, 2005; Vellutino, Fletcher, Snowling & Scanlon, 2004). However, recently researchers have investigated children with specific deficits in reading comprehension (e.g., Cain & Oakhill, 2007; Cain, Oakhill & Lemmon, 2004; Pimperton & Nation, 2010). In order to have proficient reading comprehension of written text, decoding ability is a necessity, but the ability to read words does not ensure good comprehension. There are some children who have age-appropriate word reading skills but have significant difficulties with both reading and listening comprehension. These children are often referred to as *poor comprehenders* (PCs). Research has indicated that around 10% of children present with this specific reading comprehension difficulty (Nation & Snowling, 1997; Oakhill, 1994; Yuill & Oakhill, 1991).

The simple view of reading (Gough & Tunmer, 1986) is a widely recognised model of the process of learning to read which has been validated and given support by many research studies. It suggests that reading comprehension is the product of language comprehension and decoding and highlights the importance of not only decoding words but also comprehending the text in order to master the skill of reading. Both children with developmental dyslexia and PCs are predicted by the simple view. Those with dyslexia have good listening comprehension skills but poor word recognition and PCs have good word recognition but poor listening comprehension.

Researchers in the field of education have investigated the many factors that can lead to difficulties in reading comprehension for PCs. As a result there is a growing knowledge base on the academic profiles of these children, comprising their main areas of strength and difficulties and their performances in relation to their normally achieving (NA) peers. What is less certain however, is how the difficulties faced by these children impact upon their self-perceptions as learners, including self-concept across different dimensions such as academic self-concept (ASC), reading self-concept and their attribution beliefs.

In Western societies literacy is a valued skill and perceptions of incompetence in acquiring the necessary skills associated with literacy could have a negative effect upon a person's self-concept. Therefore, a particular difficulty in either reading comprehension or decoding (i.e., essential reading skills) could potentially have significant effects on the self-concepts of Western children. As a child develops, he or she will be aware of others' achievements and make comparisons between his or her own abilities and those of others, which will in turn shape his or her feelings of well-being. Enhancement of self-concept could be considered an important goal of education since research has shown the impact it can have upon educational aspirations, academic achievement and behaviour (Craven, Marsh, & Burnett, 2003; Mujis,1997). It can therefore be considered an area worthy of further study.

Children with reading difficulties often have to cope with the implications of poor school attainment (e.g., Snowling, Adams, Bishop & Stothard, 2001). This can be manifested as a lack of motivation to learn, since these children might be so used to 'failing' in the classroom. The explanations that students give for their successes and failures provide more in-depth information regarding their attitudes and approach to learning. Research has indicated that personal characteristics such as locus of control and learning attributions can influence pupils' approaches to learning (Dart et. al., 1999, 2000). Once again, these motivational variables have previously been investigated with regards to children with decoding difficulties (e.g., Frederickson & Jacobs, 2001) but have yet to be investigated in PCs.

At one time a child's personal and social needs were regarded as fundamental to educational success (Britain & Plowden, 1967), but gradually the focus shifted towards the importance of skill development (e.g. national literacy and numeracy strategies, Department for Education and Employment, 1998,1999). In recent years there appears to be a gradual realisation of the need to consider children's mental health and the impact this has on education. This is reflected in recent educational mandates such as Every Child Matters (Department for Education and Skills, 2003) and Rights to Action (Welsh Assembly Government, 2006). Furthermore, with an increasing attention given to students' academic performance on assessments and teacher accountability, it seems pertinent to investigate underlying factors that may contribute to performance.

A number of studies have indicated that children with learning difficulties (LD) may be at particular risk in the development of their learning identities, for example, studies have indicated that during children's early and middle school years, those with LD often call into question their intellectual abilities and lose motivation (e.g., Palombo, 2001; McNulty, 2003). Other research has indicated that children characterised as having LD (e.g., Moller, Streblow, & Pohlmann, 2009; Zeleke, 2004), dyslexia (Humphrey & Mullins, 2002a; Thomson & Hartley, 1980) and Specific Language Impairment (SLI) (Jerome, Fujiki, Brinton & James, 2002) often view themselves more negatively than their peers. Like these groups of children, PCs also present with difficulties in the cognitive domain. For example, there is a tendency for most PCs to have poor listening comprehension and weaknesses in aspects of spoken language processing (Nation & Snowling, 1998, 1999, 2000; Stothard & Hulme,1992). In comparison with NA peers they perform worse on verbal tasks and some achieve lower scores on non-verbal tasks (Nation, Clarke & Snowling, 2002) and on national curriculum based tests (Cain & Oakhill, 2006). If these difficulties negatively affect their self-perceptions of their ability to learn, then they may not perform to their highest ability.

Another key observation from the literature is that PCs often go unnoticed in the classroom (Nation, Clarke, Marshall & Durand, 2004) in contrast to poor decoders, whose difficulties are more easily identifiable. Not only is it important to identify PCs early so that their work

can be differentiated accordingly to match their level of competence, it is also important to monitor their self-concept. If these children come to recognise their difficulties then this could negatively impact upon their confidence and feelings of self-efficacy (Bandura, 1997). It is not unrealistic to suggest that children with significant LD will view their academic abilities more negatively than those without LD. If they did not, then they would have an unrealistic perception of their competencies. If these children do not receive support then their ASC may remain unchanged or even decrease (Burden, 2008). From this perspective it may seem logical to suggest that children with significant comprehension difficulties might have negative self-concepts, but without any empirical research in this area, it is not possible to make this assumption.

The implications for the practice of educational psychologists (EPs) and other educational professionals are twofold. Given that recognition of PCs is potentially low, one role of the EP could be to help raise teachers' awareness of children who are PCs and work with them to use preventative strategies so that this group of children do not become disaffected or demotivated. Secondly, if the aforementioned difficulties experienced by PCs affect their self-perceptions of their ability to learn, then EPs could help facilitate interventions to enhance self-concept.

In light of current research an exploration of the self-concept literature will be reviewed in relation to children with LD. Attribution theories will also be explored in relation to this population. Despite evidence to suggest that children with LD have more negative self-concepts that their NA peers, some children show remarkable resilience (Miller, 2002) and so it is important for protective factors to be investigated also.

1.1 Overview of Literature Review
The literature review aims to focus on children's perceptions of themselves as learners and is structured into four parts. The first section reviews the literature relating to PCs. The profiles of strengths and difficulties of these children will be discussed along with their attainments in the school curriculum.

The second part reviews self-concept research from early models to current research studies. Specifically the review will look at different elements of self-concept including ASC and reading self-concept in relation to children with some LD making them vulnerable to low academic achievement. This is due to the absence of research on the self-perceptions of PCs.

The third part outlines the general attribution styles of children with LD and then specifically focuses on reading attributions.

The fourth part will focus on the impact that awareness (or knowledge) of a LD can have on children's self-perceptions, along with the influence of teacher perceptions on pupils' views of themselves as learners. Protective factors will also be explored, which can lead to the resiliency of some pupils with LD who do not experience negative self-concepts despite their vulnerability.

The review concludes with a summary and critical analysis of the reviewed research, including a set of questions to be answered by the proposed study.

A framework outlined by Mertens (1998) was adopted to conduct the review. Firstly each topic was identified and secondary sources reviewed. After an initial overview was gained, some review questions were identified (e.g., what does the empirical literature tell us about the self-concept of children with LD?). Next, the ERIC and PsychINFO databases were used to search for journal articles on the key topics. Key terms such as, 'poor comprehenders', 'reading comprehension', 'dyslexia', 'self-concept', 'academic self-concept', self-worth', 'self-perceptions', 'attributions' were entered into the search engines. Relevant books were also reviewed. Unpublished work such as dissertations, conference presentations, theses and non peer-reviewed articles were excluded. The information provided is considered factual, up-to-date[1] and relevant to the topics being researched. Many of the studies included in the literature review took place in Western countries and so cultural differences might not be fully reflected.

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[1] Final database searches were completed in November 2012.

1.1.1 Inclusion/exclusion criteria.

A meta-analytic review of studies investigating aspects of self-concept and learning disabilities performed by Zeleke (2004) found little evidence for differences between the social self-perceptions of children with learning difficulties and their typically developing peers. It was therefore decided that social self-concept would not be explored in any detail in this review. Investigations of psychopathological and affective factors were also beyond the scope of this review. Previous research has not identified these as factors which discriminate children with reading comprehension difficulties from children without these difficulties (Sideridis, Mouzaki, Simos & Protopapas, 2006).

Research suggests that there is quite a significant proportion of children in the population who acquire word reading skills appropriate for their age-group, but experience poor reading comprehension. There are many possible causes for this difficulty (see, Cain, 2010). However, it is beyond the scope of this paper to explore this issue, instead the focus will be placed upon the effects that these difficulties have upon children who experience them.

Chapter 2: Poor Comprehender Research

A wealth of research has been conducted that focuses on children with reading disabilities (e.g., Catts & Kamhi, 2005; Vellutino, et al., 2004). But this has predominantly been directed at children who have difficulties at the word reading level (i.e., decoding difficulties). However, more recently researchers have been exploring a group of children who have specific reading comprehension difficulties, who are often termed as *PCs* (e.g., Cain, et al., 2004; Cain & Oakhill, 2007; Pimperton & Nation, 2010). Many of these studies have compared PCs with other groups of typically developing control children. This section of the literature review outlines what is known about PCs which indicates that this group could be at risk of academic underachievement. This could leave PCs vulnerable to negative ASC and negative self-perceptions as learners.

2.1 Poor Comprehenders' Language and Literacy Difficulties

Much of the previous research in the PC literature has focused on the profiles of this group, investigating deficits and difficulties that these children face when completing academic tasks as well as areas of strength. Studies have shown that PCs have poor listening skills (Nation & Snowling, 1997; Nation & Snowling, 1998; Stothard & Hulme, 1992), deficits in receptive vocabulary and semantic processing (Nation, et al., 2004), and weak oral language skills (Nation et. al 2004), but are competent in their word reading due to good phonological skills (Catts, Adolf & Weismer, 2006). Other research has shown that PCs can have deficits in many different areas that affect the processes that support the construction of meaning (Cain & Oakhill, 2007). Some research studies have indicated that PCs have difficulties making inferences from text (Cain, Oakhill & Elbro, 2003; Oakhill, Cain & Bryant, 2003, Catts, et al,. 2006) and have poor working memory when words or digits are presented (DeBeni & Palladino, 2000; Nation, Adams, Bowyer-Crane, & Snowling, 1999; Yuill, Oakhill & Parkin,1989).

2.2 Heterogeneity of Poor Comprehenders

The strengths and weaknesses of PCs' memory and metacognitive skills were investigated by Cornoldi, de Beni and Pazzaglia (1996), who found that not all of the children showed deficits on all measures. Similarly, in a study investigating discourse comprehension of PCs, Cain and Oakhill (2006) did not find a single task where all PCs performed poorly. Further research has shown that some but not all PCs have difficulties in semantic fluency (Cain, et al., 2004) and that PCs have weak syntactic knowledge (Cragg & Nation, 2006; Nation et al., 2004), but other studies have not found any differences between good and PCs in terms of syntactic knowledge (Cain & Oakhill, 2006; Cain, Patson & Andrews, 2005). Collectively these studies give a strong indication that PCs are not a homogenous group, but it is clear that these children do all have difficulties in reading comprehension and more often than not, have weak oral language skills and deficits in other areas that affect the processes that support meaning.

2.3 Difficulties in Other Academic Domains

Given that PCs have reading comprehension difficulties it is unsurprising that much other research to date has focused on these children's performances on literacy or language-based tasks. However, more recent research has investigated PCs' skills in a different domain. In a study that explored the mathematical abilities of PCs, Pimperton and Nation (2010) concluded that the difficulties experienced by poor comrehenders is not limited to literacy tasks alone, but they also show some deficits in components of other domains, in this case mathematical reasoning ability. The authors assert that these findings are not due to the possible low ASC experienced by the PCs because they performed slightly better than a control group on an arithmetic test. They would have expected low scores to be consistent across all measures if this were the case. Instead they proposed that the differences between the two groups were related to oral language difficulties experienced by the PCs. Specific deficits in PCs' cognitive skills could make them more vulnerable to lower academic achievements and negative self-perceptions.

2.4 General Cognitive Difficulties

The above studies have mostly investigated specific aspects of learning. If we are to consider how these children are functioning in the broader sense it is important to investigate their more general abilities. A study by Nation, Clarke and Snowling (2002) looked at the general cognitive abilities of children with reading comprehension difficulties. PCs tended to score lower than the control group (matched on chronological age and reading ability) on most subtests of the British Ability Scales (2nd edition; BAS II), particularly on verbal tasks. However, their scores still tended to be in the normal range for most of this group. For these children, ability on non-verbal tasks was very similar to the control group. This is in concurrence with the findings of studies by Stothard and Hulme (1992) and Nation and Snowling (1998). Interestingly a subset of PCs with a below-average cognitive ability were identified as having a hyperlexic profile whereby their comprehension was not unexpectedly poor but their decoding abilities were surprisingly good. This again, shows the heterogeneous nature of PCs.

Floyd, Bergeron and Alfonso (2006) compared the cognitive abilities of PCs with children with average achievements in reading comprehension, decoding skills and mathematical skills and also with children with below-average achievements in these areas. The PCs scored lower on all individual cognitive ability measures than the average ability group and lower than the normative population on seven out of nine measures. PCs performed worst on the three language-based and knowledge-based activities.

2.5 Attainment in the Curriculum

There has been very limited research on how PCs are achieving in the school curriculum. Cain and Oakhill (2006) found PCs to obtain significantly lower Standard Assessment Test scores in English, Mathematics and Science than good comprehenders, when assessed in Key Stage 2. It is important to note that despite this discrepancy between the two groups, the PCs' scores corresponded to Level 4, which is considered to be an average score for this age group. Working memory has been shown to be correlated with low curriculum assessment scores (Gathercole & Pickering, 2000) and so this could offer an explanation of the PCs' lowers scores in Cain & Oakhills's study, however, the authors did not find the participants in their sample to have poor working memory. Although this area is under-researched the research available indicates that PCs are at risk of lower cognitive ability and of underachievement in the school curriculum. This could make them vulnerable to negative academic self-perceptions.

Chapter 3: Self-Concept

In order to investigate PCs' self-perceptions as learners, it is important to determine what exactly needs to be measured. This section will focus on self-concept and how this area of research has developed over time.

3.1 Definitions and Terminology Used in the Literature

Self-concept research dates back more than 100 years to authors such as William James (1890) who described the self as a 'sum total' of what a person can call their own. He asserted that in order to survive we must make choices about how to interpret events to extract meanings so that we might make informed choices about what actions to take. This

enables us to have some control over our lives. A criticism of James's work was that he failed to take into account the effect of environmental factors on concepts of the self (Bracken, 1996). Later definitions such as that by Shavelson, Hubner & Stanton (1976) acknowledge the role of the environment. They define self-concept as being a person's self-perceptions, formed from experiences with and interpretations of the person's environment. In addition the authors acknowledged the impact of social influences and self-attributions and asserted that self-concept could be useful for predicting behaviour.

One of the major issues linked to research on self-perception is the use of terminology in the literature. It is important to make a distinction between self-concept and self-esteem. Burns (1982) defines self-concept as "That individual and exceedingly personal, dynamic and evaluative picture which each person develops in his transactions with his psychological environment" (p1). In essence it is a composite of what we think we are, what we can achieve, what others think of us and what we would like to be. On the other hand, self-esteem can be defined by the degree of difference between how a person sees him or herself now (actual self) and how he or she would like to be (ideal self) (Harter, 1985). There is a focus on competence at meeting challenges, rather than just being successful or doing something effectively (Mruk, 1999). Despite these distinctions, the concept of the self has been referenced in the literature by many different terms, including self-concept, self-esteem, self-worth, self image, self-perception. Indeed a meta-analysis by Hansford & Hattie (1982) revealed the use of as many as 15 different terms with the most widely used terms being 'self-concept, self-esteem and self-concept of ability'. Some of these terms have been used interchangeably in the academic literature (Byrne, 1996) as well as in 'popular' psychology (Lawrence, 1996). It has been well established in the literature that each of the above terms are qualitatively distinguishable from one another (Mruk, 1999).Without clear delineations between each term, measuring self-concept and interpreting research findings is problematic.

3.2 Models of Self-Concept

Self-concept research has been typically guided by two different perspectives; unidimensional and multidimensional. The unidimensional perspective describes self-

concept as being a general factor rather than a collection of separate characteristics. A popular model of its time, based on this perspective is the nomothetic model (see Byrne, 1984) which describes self-concept as being consistent across different circumstances and so is unaffected by the environment. Based upon this unidimensional perspective, global self-concept or self-worth has often been measured using scales produced by Rosenberg (1979). This perspective is criticised as more specific components of self-concept are ignored (e.g., academic, social, and physical).

More recently the models based on a multidimensional perspective of self-concept have become more widely accepted (Harter, 1985; Marsh, 1990). This allows for self-concept to be measured across different domains and accepts that variations across these domains may occur. For example, a person might have a different opinion of him or herself in the social sense than he or she does in an academic sense. Harter (1996) points out that these models do not eliminate general self-concept (or global self-esteem) from existence, instead suggesting that it still exists but is distinguishable from specific areas of self-perception. For a detailed review of the structural models of self-concept see Marsh and Hattie (1996).

Before the 1980s, reviews on self-concept (e.g., Burns, 1979; Wylie, 1979) indicated that there was a lack of models, and instruments used to measure self-concept were poor. Shavelson and colleagues addressed these issues and developed another model of self-concept which is multifaceted and hierarchical (Shavelson, et al., 1976). In this multidimensional model there was a general facet at the apex and then self-concept was divided into non-ASC and ASC. These two components were then divided again into further parts, for example subject areas and social, emotional and physical self-concepts. A third model of self-concept offers a taxonomic approach whereby self-concept is considered to be a collection of very specific independent factors without an underlying factor (Winne, Marx & Taylor, 1977). A further compensatory model was also identified in the literature. This approach is unsupportive of facets being independent, instead, is supporting of there being a general self-concept, but that it is made up of inversely related facets. If a person sees him or herself as failing in a particular domain he or she may compensate for this by viewing him or herself more highly in a different domain (Ross &

Parker, 1980). By narrowing the focus of research to more precise topics or domains of self-concept, researchers can be more confident in what exactly they are measuring.

3.3 Academic Self-Concept

For educational professionals such as EPs working with PCs, ASC is a key area of interest to research. In order to explore PCs' self-perceptions as learners it is important to investigate their self-concept in different academic domains so that support can be targeted if necessary.

3.3.1 Models and measures.

Similarly to self-concept in the broad sense, ASC has been described using many different terms (Byrne, 1996). It refers to self-concept in relation to academic subjects such as reading, writing and mathematics (Chapman, 1988).

Marsh (1990) asserts that students have distinct self-concepts in a variety of school subjects. A set of Self Description Questionnaires (SDQ: Marsh 1988) were developed to measure these different areas of self-concept and to test the original Shavelson et al. (1976) model by means of factor analysis. Whilst support for the multidimensional nature of self-concept is strong, the particular hierarchical aspect proposed by the Shavelson et al.'s model was a lot weaker than first thought (Byrne 1996; Marsh, 1990) and the specific components of self concept could be greatly differentiated (Marsh & Craven, 1997). The model originally proposed by Shavelson et al. was revised and modified to become the Marsh-Shavelson model (Marsh & Shavelson, 1985). This new model included a wider variety of specific academic facets, and specifically two second order factors, namely mathematics/academic and verbal/academic in place of the ASC, higher order facet. Shavelson et al.'s (1976) 'landmark' review on the theoretical construction of self-concept has led to great advance in self-concept research including improved instruments and measures, and better quality research due to improved methodologies.

The Piers-Harris Children's Self-Concept Scale (PCSCS; Piers & Harris, 1964) takes the unidimensional approach to self-concept, producing a global rating score rather than

domain specific scores. Other measures such as The Self-Perception Profile for Children (Harter,1982,1985), which differentiate elements of self-concept, appear to have been more popular. Another tool developed to measure ASC is the Perception of Ability Scale for Students (PASS; Boersma & Chapman, 1992). The scale was initially developed in the mid 1970s to explore the affective aspects of learning in children with learning difficulties. The new scale comprises 70 items which aim to measure attitudes and perceptions of ASC in five different academic subject areas and also perceptions of school in general. This instrument was highly regarded by Byrne (1996) who described it as "a soundly constructed measure of academic self-concept that has undergone continuous testing of its psychometric properties" p.95.

3.4 Self-Concept and Children with Learning Difficulties

The majority of the research on self-concept and children with LD has been carried out in the United States of America where participants have been identified as 'learning disabled'[2]. Current researchers feel that children within this category include children who would generally be classified as being dyslexic in the UK (Burden, 2008; Riddick, Sterling, Farmer & Morgan, 1999) and that as many as 80% of individuals with LD are affected by a developmental reading disability commonly known as dyslexia (Shaywitz, Gruen & Shaywitz, 2008). It is therefore important to review these more recent studies in the literature, which target this population in order to gain a better knowledge of the self-concepts of children with LD. Since children with dyslexia, who are characterised as having specific decoding difficulties, are considered to have LD, it is not unreasonable to suggest that PCs, who are characterised as having specific comprehension difficulties, might fall under this same umbrella term. This section of the literature review investigates the self-concepts of children with LD.

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[2] The term 'learning difficulties' is commonly used in the United Kingdom to describe students who have intellectual/learning disabilities (Woolfson & Brady, 2009) and so this term rather than 'learning disabled' is used throughout the paper.

3.4.1 ASC and achievement.

The relationship between ASC and academic achievement has been well established in the literature, through correlational studies that show positive correlations between the two factors (Burns, 1982; Hansford & Hattie, 1982; Marsh & Craven, 2006; Marsh & Martin, 2011; Muijs, 1997; Seaton, Marsh, & Craven, 2010). McInerney, Cheng, Mok and Lam (2012) assert there is a reciprocal relationship between ASC and achievement. According to Boersma & Chapman (1992) ASC is seen as a collection of relatively stable feelings around one's ability to perform academic tasks.

Researchers in the LD field are in agreement that children with LD are typically characterised with underachievement in school (Kavale & Forness, 1996). In their meta-analytic review, Hansford and Hattie (1982) found a mean correlation of 0.4 between students' self-concept of a subject and their actual achievement in that subject. However, due to the different measurements used in each study the exact strength of this relationship between ASC and academic achievement is unclear. Given that children with LD generally perform poorly on academic tasks, either globally or on specific tasks, then it could be expected that they might experience negative feelings or low ASC in these domains (Gans, Kenny & Ghany, 2003). This notion has been supported in a meta-analysis by Bear, Minke and Manning (2002). From the evidence obtained from the literature, it can be hypothesised that PCs might be at risk of academic under-achievements due to the cognitive difficulties they so often reportedly experience. This in turn suggests that they might be at risk of lower ASC than their NA peers.

3.4.2 Do children with LD have negative self-concepts?

Many earlier studies did not break down self-concept into specific domains, instead examining only general self-concept and ASC in the broadest sense. Two meta-analytic reviews have sought to test the hypothesis that children with LD have more negative self-concepts than those without LD. Firstly, Chapman (1988) reviewed studies published between 1947 and 1986. He concluded that most studies from the time period inspected indicated that children with LD were more likely to have negative self-perceptions than NA children on all counts measured (e.g., general self-concept and ASC).

A more recent meta-analytic review carried out by Zeleke (2004) inspecting the self-concept of LD pupils in comparison with NA pupils took a more rigorous approach. As evidenced by 70% of the 28 studies reviewed by Zeleke, later studies on the whole, failed to find any differences between children with LD and NA comparison groups when general self-concept was measured (Bear, Clever & Proctor, 1991; Bear & Minke, 1996; Clever, Bear & Juvonen, 1992; Hagborg, 1996; Kistner, et al., 1987; Kistner & Osborne, 1987). However one possibility for this discrepancy is the differences in the types of measures used. For example, many of the studies in Chapman's review had used the PCSCS (Piers, 1969) which included ASC as a component of general self-concept. Therefore if children with LD had a more negative ASC than their NA peers then they will have appeared to have lower general self-concept when it may not have been the case (Zeleke, 2004). More recent studies did not use measures of general self-concept that comprise a sum total of domain-specific areas. It may therefore be more pertinent to focus on specific domains of self-concept to distinguish LD and NA groups rather than through general self-concept measures.

In concurrence with Chapman's findings, Zeleke's review revealed that a large body of research performed in the field of special education has indicated that children with LD have more negative ASCs than children without LD (Bear & Minke, 1996; Chapman & Boersma, 1979; Clever, Bear, & Juvonen, 1992; Cooley & Ayers, 1988; Hagborg, 1996; Kistner, Haskett, White, & Robbins, 1987; Kistner & Osborne, 1987; Renick & Harter, 1989). A limited number of studies did not find differences between the ASCs of LD and NA children (Crabtree & Rutland, 2001; Vaughn, Haager, Hogan, & Kouzekanani, 1992). It is important to note that some of the above studies focused on general ASC which is not consistent with the current most widely accepted theoretical stance that ASC is a multi-dimensional construct with components across different academic subjects (Harter, 1985; Marsh, 1990).

Stone and May (2002) also found that children with LD have significantly less positive ASCs than their NA peers, but in this case the mean self-rating score for the LD group was not unduly negative. The authors suggest that these children had overestimated their

academic abilities. This pattern of over estimation has been found in six earlier studies, but evidence is inconclusive that children with LD are demonstrating greater over-estimation than their NA peers (see Stone & May, 2002, for a review).

Much of the research concerned with the academic self-perceptions of children with LD has selected their children with LD in inconsistent ways, making the results difficult to interpret (Humphrey & Mullins, 2002b). The most widely used criteria were either discrepancy between the child's achievement and their ability or low achievement for their age group. In some studies a formal screening process was not conducted, instead teachers would highlight children they felt fell into this LD group or school-based assessments available at the time were inspected in order to select participants. This heterogeneity of the LD population makes it very difficult to make direct comparisons across studies (Durrant, Cunningham & Voelker, 1990). Not only are the LD groups studied heterogeneous, but there have also been inconsistencies regarding the validity of the NA peer groups that have been used as comparisons. Results from these studies should therefore be interpreted with caution. Despite these methodological limitations it is now widely assumed among researchers working in the field of special educational needs that children with learning difficulties refer to themselves in a negative way (Humphrey, 2002) which results in negative self-concepts and low self-esteem among these children (Gurney, 1988; Humphrey 2002).

3.4.3 Self-perceptions of children with specific language impairment.

Whereas the aforementioned studies have focused on children with specific literacy difficulties or general undefined LD, some studies have targeted children defined as having SLI. These are children who experience language difficulties in the absence of an organic cause, limited early language experiences, LD or reduced cognitive capacity (see Bishop, 1997, for review). Some studies indicate that children with SLI are more likely to have lower self-esteem and more negative academic self-perceptions than their NA peers (e.g., Cohen , et al., 1998; Jerome et al., 2002), but other studies indicate that they have lower social, rather than academic self-esteem (Marton, Abramoff & Rosenzweig, 2005). They also perceive themselves to be at more risk for bullying (Knox & Conti-Ramsden, 2003).

3.4.5 Conclusion.

The above research indicates that children with LD, whether they are specific LD such as dyslexia or SLI or more general, appear to be more at risk of negative self-perceptions, in relation to their typically developing counterparts. Given the inherent deficiencies in the skills associated with text comprehension experienced by PCs we cannot assume that this group is unique and therefore may also be at risk of negative academic self-perceptions.

3.5 Reading Self-Concept

It is widely accepted that self-concept is multi-dimensional in nature and as previously mentioned research has indicated that ASC can be broken down into different domains. Reading self-concept is particularly pertinent to study in PCs since it is within reading that they are characterised as having a significant difficulty, specifically text comprehension.

Despite a wealth of literature on associations between children's reading and affective factors such as motivation (Baker & Wigfield, 1999; Logan & Medford, 2011; Wigfield & Gutherie, 1997) and attributions (Butowsky & Willows, 1980) there have been relatively few studies concerned with the investigation of children's reading self-concepts. One explanation for this gap in the literature could be the limited instruments available to measure reading self-concept.

3.5.1 Measures of reading self-concept.

Some instruments have subscales that measure reading self-concept as part of ASC (e.g., PASS: Boersma & Chapman, 1992; Burnett Self Scale, Burnett, 1994; ASDQ: Marsh, 1990), but comprise only a limited number of items specifically related to reading. There are only a couple of measures available that focus solely on reading self-concept, namely, the Reader Self Perception Scale (RSPS: Henk & Melnick, 1995) and the Reading Self-Concept Scale (RSCS: Chapman & Tunmer, 1995).

Most measures that include reading self-concept items, fail to make a distinction between evaluative judgements e.g., 'I'm good at reading', from self-related affects e.g., 'I'm satisfied with my reading'. The RSCS addresses this issue. Chapman and Tunmer (1997)

describe self-concept as 'three interrelated components: (1) perceptions of competence in performing reading tasks; (2) perceptions that reading activities are generally easy or difficult, and (3) attitudes felt towards reading' (p.280). The RSCS comprises 30 questions split into three subscales; competence, attitude and difficulty. Chapman and Tunmer (1997) assert that the RSCS is superior to other scales since it has three subscales that measure separate aspects of reading self-concept but are each developmentally related. The scale is based upon the multidimensional and hierarchal view of self-concept whereas, the RSPS is based upon Bandura's self-efficacy model, which centres on a person's beliefs in their ability to complete a task, such as reading for example (Bandura, 1986).

3.5.2 Empirical studies.

Ladd and Price (1986) studied 114 children between the ages of 8 and 11. They found a significant positive correlation (0.43) between the children's perceived competence in reading and their actual achievement in reading. Similarly, Lynch (2002) also found that children's perceptions of reading performance were related to their reading achievement. Considerable research has been conducted by Chapman and his colleagues in this field and they have consistently found positive correlations between reading self-concept and reading performance (Chapman & Tunmer, 1995, 1997; Chapman, Tunmer & Prochnow, 2000). They suggested that children with more positive reading self-concepts make higher achievements in reading in comparison with those who have more negative self-concepts. Consistent with this research, Medford and McGeown (2012) found a close association between reading self-concept and reading skill. Furthermore, the children with positive reading self-concepts were more likely to hold beliefs that they would succeed when reading challenging materials than those with negative reading self-concepts.

Very few studies have made comparisons of the reading self-concepts of children with LD, with their NA peers. However some research has indicated that poor readers have more negative reading self-concepts than good readers (van Kraayenoord & Schneider, 1999; Roeschl-Heils, Schneider & Kraayenoord, 2003). Other research has asserted that when compared with good and average/low ability readers, children with LD (dyslexia) had more negative attitudes towards reading. They gave reading less value than their peers did, in

terms of enjoyment, usefulness for future success and personal development (Polychroni, Koukoura & Anagnostou, 2006). The comparative peer group can be an important influence on reading self-perceptions, as children with dyslexia have reading attitudes that equal or exceed those of their NA peers if educated in special education resource rooms (Lazarus & Callahan, 2000).

Given that PCs have a deficit in one of the key elements required for proficient reading, namely reading comprehension, it is important to explore reading self-concepts in relation to those of their peers.

Chapter 4: Attributions for Academic Performance

Although quantitative studies are often used to measure differences between groups such as LD and non-LD populations, they can only provide us with limited information as to why participants feel the way they do. Unsurprisingly, researchers are beginning to use more theory-based approaches to investigate self-concept such as attribution theory and locus of control. This allows for the examination of the reasons that pupils give themselves for their successes and failures. This section of the literature review outlines the general attribution styles of children with LD and then specifically focuses on reading attributions.

4.1 Weiner's Attribution Theory

Attribution theory suggests that when a person fails or succeeds in a piece of work, an individual will try to determine the perceived reasons for the failure or success (Weiner, 1986). These factors could be external, such as the teacher's instruction or the environment, or they could be internal, such as effort and ability. According to the theory, psychological factors such as self-efficacy, affect and future expectancies can be determined by a person's perceived causes of success and failure (Weiner, 1986). For a comprehensive review of attribution theory in academic contexts see Graham (1991).

4.2 Attribution Styles of Children with LD

A large part of the research on the attribution styles of children with LD suggests that many of these children attribute their successes to external factors such as other people, luck and

environmental factors; and their failures to internal factors such as lack of ability (see Nunez, et al., 2005; Pearl, Bryan & Donahue, 1980). These factors then generate negative feelings towards academic work which can lead to a sense of 'learned helplessness' (Chapman, 1988), where they might feel that no matter how much effort they put in, they are destined to fail (Smiley & Dweck, 1994). Jacobsen, Lowery and DuCette (1986) assert that children with LD were more likely than NA children, to attribute both successes and failures to factors outside of their control. NA children attributed successes to internal factors and failures to external factors as well as internal factors. This indicates that children with LD feel less in control of their academic fate. In concurrence with these findings an earlier longitudinal study indicated that children with LD who had an internal locus of control made more academic progress than those with an external locus of control (Kistner, Osbourne & Le Verrier, 1988). Similarly, Biggs (1987) asserted that pupils who had an internal locus of control, participated more in lessons, were more reflective, used information in problem-solving and showed greater achievement than those with an external locus of control.

In contrast, to the studies explored above, other studies have indicated that not all children or adolescents with LD present with maladaptive attribution styles (e.g., Durrant, 1993; Gonzalez-Pienda et al., 2000; Nunez et al., 2005). In Nunez et al.'s (2005) study, 45 % of children with LD attributed their successes to internal factors such as effort and ability, and their failures to external causes outside of their control. The authors term this as an *adaptive profile*. The other 55% of students with LD were considered to have a *helpless profile*. Interestingly teachers rated the achievement of these 'helpless' children lower than those with adaptive profiles. This is important since teachers' reactions to children's successes or failures can play an important part in the kinds of attributions that pupils make (Graham, 1984). More recent research by Nunez et al. (2011) has indicated that children with LD present with four types of motivational profiles based upon goal orientation. They assert that the most adaptive type is the *multiple goals* profile where the child is oriented towards learning and performance goals. Children with this profile tended to attribute their successes significantly more towards internal factors and their failures to a lesser extent towards these. These children showed healthy general self-concepts and higher ASCs than

children with other profiles (i.e. predominantly learning goals group, predominantly performance goals group and a low motivational group who were low in performance, learning and social reinforcement goals). This indicates that some children with LD have attribution styles that may not impact upon them negatively in the learning environment.

Researchers who have investigated the attributions of children vulnerable to academic underachievement or those with LD have found similar patterns of adaptive and maladaptive attributions to NA children (Linnenbrink & Pintrich, 2002).

Carr, Borkowski and Maxwell (1991) assert that children with uncontrollable attributions do not feel that they can be helped in order for them to achieve and so it raises the possibility that these maladaptive attributions might be a barrier to them acquiring strategic and metacognitive knowledge. The authors suggest that if children are attributing successes to external factors then they are unlikely to see the benefit in using strategies to help improve attainment. Therefore the acquisition of strategies could be hindered by external attributions. This has implications for education professionals since pupils' strategy use is often a focus of intervention to support and enhance the learning of pupils with LD (see Swanson,1999). Meltzer et al. (2004) found that for students with LD, their perceptions of themselves as good learners were associated with perceptions of working hard and implementing strategies in their academic work. A methodological flaw to this study was that the interpretation of 'strategy' was subjective to the individuals completing the questionnaire and so it is unclear whether or not students were interpreting the strategies as specific learning strategies or general strategies such as ignoring distractions, for example.

Although there has been little research investigating the relationship between controllability attributions and academic self-perceptions, the findings indicate that many children (but not all) with LD attribute their successes and failures to factors outside of their control. Some evidence suggests that those who have an internal locus of control make better academic progress.

4.3 Reading Attribution Beliefs

Since all PCs have significant difficulties in mastering one of the key elements of reading, this area will be explored in greater detail.

4.3.1 Reading attributions of good and poor readers.

There have been a number of studies investigating the critical role of pupils' attribution beliefs in reading achievement. O'Sullivan and Howe, (1996) suggested that children who were high achievers in school were more likely to attribute their success to their ability in reading whereas low achievers believe their underachievement can be attributed to their lack of ability in reading. A study investigating the attributions of beginner readers revealed that good beginner readers tended to emphasise the contributions that their efforts made upon the proficient ability to read and to acquire good reading skills (Wagner, Spratt, Gal & Paris, 1989).

These studies concur with earlier work by Butkowsky and Willows (1980) which investigated how good and poor readers attributed their successes and failures. Poor readers were less likely to attribute successes to internal factors and so took less personal responsibility for them, in comparison with good or average readers. On the few occasions where the poor readers attributed success internally, they were more likely to attribute success to effort in contrast with good and average readers, who made ability attributions. In terms of failure attributions, the poor readers blamed ability as the cause of their lack of competence. This is consistent with the idea that poor readers have low self-concept of ability and are less likely to attribute their successes to internal (personal) factors than good or average readers are. Pascarella & Pflaum (1981) found that poor readers (not identified as learning disabled) and poor readers who were identified as having LD in reading, both had low levels of internal locus of attribution. Therefore they felt they had little control over the outcomes of their learning. Furthermore, the identified LD group exhibited significantly lower internal locus of attribution scores than the normal poor readers despite similar achievement scores. Caution should be taken when interpreting the findings since comparisons with average readers were not made.

Few studies have investigated attributions using specifically dyslexic samples. However, one such study by Frederickson & Jacobs (2001) found that children with dyslexia, who had an internal locus of control (i.e., those who believed their successes and failures were within their personal control) had higher ASCs than children with dyslexia who had an external locus of control.

4.3.2 Effect of teacher feedback.

Other research has shown that teachers' feedback can influence pupils' causal attributions. In a study by Schunk & Rice (1986) children with reading difficulties took part in a reading comprehension training programme whereby, teachers gave them ability feedback, effort feedback, or a sequence of both (e.g., effort feedback in the first half of the programme and ability in the second half and vice versa). This was dependent on the feedback group to which they were assigned. The findings revealed that the sequence in which attributional feedback was given had an effect on the participants' self-efficacy. When teachers gave feedback that highlighted the impact of a child's ability on their reading comprehension proficiency during the second half of the training, they developed a higher self-efficacy for success in the future than those who received effort feedback over the same period. There were no differences in performance between any of the groups. This indicates that the type of feedback given and the sequence of feedback given from teachers could influence how children perceive themselves as learners.

4.3.3 Controllability attributions and reading comprehension.

A study by Law (2009) investigated the role of attribution beliefs in Chinese children's reading comprehension. The author found that children who viewed their intelligence and ability as being within their control were more likely to be intrinsically motivated to read and were more likely to use metacognitive reading strategies, than children who viewed their intelligence as uncontrollable (external locus of control). Interestingly, correlations indicated that those with internal locus of control appeared to have better comprehension of text. This correlation was quite modest ($r = 0.2$) and the sample was from one primary school only, so it is not possible to assume that the results can be generalised to a wider population.

The research investigating reading attributions indicates an association between perceived control (interval versus external) and ASC whereby those who feel their successes and failures are within their control are more likely to have a positive ASC in reading than those who perceive control to be external. The research suggests that poor readers are at more risk of maladaptive attribution styles in reading than are good readers.

Chapter 5: Other Factors That Can Affect Self-Concept

This section will focus on the impact that awareness (or knowledge) of a LD can have on children's self-perceptions, along with the influence of teacher perceptions on pupils' views of themselves as learners. Protective factors which can lead to the resiliency of some pupils with LD who do not experience negative self-concepts despite their vulnerability, will also be explored.

5.1 Knowledge and Awareness of LD

Being unable to decode text is often overtly recognisable for both pupils and teachers, but being unable to comprehend text may not be so obvious. This is evidenced by the finding that PCs often go unnoticed in the classroom (Nation et al., 2004). On one hand, PCs appear very competent at reading due to their good decoding skills, which could be a protective factor in developing a positive ASC. Conversely, not understanding what they have read (or heard), could lead to many difficulties across the curriculum, from simply not being clear about the tasks they have been asked to perform, to not understanding topics and scientific or mathematical concepts for example. This could potentially negatively affect their ASC.

Whether or not a child recognises that he or she has difficulties in learning can be evidenced in a number of ways such as being given a formal diagnosis, attending a special school, comparison of academic performance with the performance of peers, or self-perception of ability. The following research shows how recognition can have an impact upon children's self-perceptions.

5.1.1 Effect of labels and diagnoses.

The effect of the label of dyslexia can affect children in different ways. Studies reveal an even split between pupils who feel relieved and those who feel devastated (Ingesson, 2007; Zetterquist-Nelson, 2003). Glazzard (2010) goes as far as saying "…that for learners with dyslexia, the official diagnosis is critical in order to develop self-concept and self-esteem" (p.68). In his study, through interviews with 14-15 years olds, he concluded that the most significant factor contributing to students' self-esteem was a positive diagnosis and also ownership of the label "dyslexia". This study should perhaps be considered more of an exploratory study since the sample was very small (only nine participants).

Throughout their early and middle school years, children who were later diagnosed with dyslexia, have a high likelihood of questioning their intellectual capabilities and of experiencing a decrease in their motivation for learning as a result of their unexplained difficulties (McNulty, 2003; Polombo, 2001).

Burden & Burdett (2005) interviewed children with diagnoses of dyslexia and found that they felt a high sense of control over their academic futures and held positive attitudes towards learning. They had not internalised feelings of learned helplessness. It is important to note that all participants were educated in a specialist school and it cannot be assumed that the results can be generalised to children in mainstream settings. Although this has not been fully investigated, the literature to-date suggests it is likely that the acceptance of the diagnosis could affect the self-concept of these children in different ways.

5.1.2 Positive effects.

There is some evidence to suggest that children's knowledge about their LDs can strengthen compensatory and achievement skills (Cosden, Brown & Elliot, 2002). Children who view their difficulties in positive terms have higher self-esteem than those who take more negative views of their difficulties (Heyman, 1990). A recent study by Shany, Weiner and Feingold (2011) investigated children's knowledge about reading difficulties and how this along with preoccupation with their own reading disability and anxiety, affected reading comprehension. Results indicated a positive association with knowledge of reading

disorders and level of reading comprehension and preoccupation with reading disorder negatively predicted reading comprehension. A limitation of this study was that the reading comprehension test was not standardised for this Israeli sample, although the authors suggest this assessment had reliability and good content validity.

Children's knowledge of their difficulties could be useful for professionals who work with children with LD, giving assessments and interventions. Studies on adults with LD have indicated that participants' who were more aware of their LD had better coping strategies that helped them compensate for their LD (Fink, 1995).

Since own knowledge and significant others' knowledge of a LD can have a significant impact upon a child's self-perceptions, this is a line of enquiry worthy of exploration in the PC population.

5.2 Teacher Perceptions

The role of significant others has also been emphasised by other researchers. For example, Bear and Minke (1996) described the role of *positive bias*, where some children use a strategy of selectively focusing on positive indicators of academic performance such as achievement scores and teacher feedback. In their study, children with LD recognised they had some weak learning skills but had positive views of their performances in the classroom. When asked how they felt they were doing in school, many of the children said they knew from positive feedback rather than social comparisons. In a later study Bear, Minke, Griffin and Deemer (1998) also, found that teacher feedback was the most common criterion that children with LD used to rate their academic performance. Whereas teacher feedback can have positive effects on children's self-perceptions of themselves as learners, research has indicated that the reverse is also true. Burnett (1999) asserted that teachers' negative comments predicted negative mathematics self-concepts in girls and also boys' negative self-talk. This emphasises the important role that teachers may have on the ASCs of their pupils.

A small body of research has investigated the relationship between teacher perceptions of students with LD and the perceptions of the students themselves (Stone, 1997, and see Stone & May, 2002). Pupils with LD who put in lots of effort are judged positively and are thought to be academically able and highly motivated by their teachers (Meltzer, Katzir-Cohen, Miller & Roditi, 2001; Miller, Meltzer, Katzir-Cohen & Houser, 2001). In a study by Meltzer et al. (2004), the academic self-perceptions of children with and without LD were investigated in relationship between teachers' and students' perceptions of effort, strategy use and academic performance. The findings indicated that children with LD who had positive ASCs were more likely to use strategies in their school work and work hard, than were those with LD who had negative ASCs. Furthermore, teachers viewed these children with LD who had positive ASCs as working hard, performing at the same level as the children without LD. In contrast the children with LD who had negative ASCs were judged by the teachers as applying less effort and achieving below their NA peers. This study could indicate that positive feedback from teachers may boost the ASCs of children with LD, making them more likely to work hard and achieve better in school. It is important to note that there were no differences between any of the groups for non-academic activities. Some level of caution should be taken with interpretation of the findings from this study since academic self-perceptions were determined by the answer to one question only.

Most PCs are considered by their teachers to have very good reading skills (Nation et al., 2002; Yuill & Oakhill, 1991) and are not identified as having a reading or language impairment (Nation et al, 2004). In Nation et al's (2002) study, the teachers did not recognise the low-ability PCs as having weak cognitive abilities. They suggest that PCs' strength in word reading could be masking their comprehension difficulties, thus giving the appearance of being more intelligent than perhaps they are. The authors go on to suggest that these children might be given reading materials that are too hard and that their educational needs are not therefore being met. This highlights the importance of teacher perceptions of these children and the need for further exploration in this area due to the limited evidence available.

5.3 Resilience

Resilience can be defined as a dynamic process whereby both internal and external risk and protective factors interact, leading to the modification of adverse life events (Rutter, 2002). Research suggests that not all children with LD will have negative perceptions of themselves. For example, a study by Miller (2002) found that some students with LD were resilient because their grades were high given their LD. This group of children acknowledged their LD and could identify successful experiences and recognise their particular areas of strength. This then enabled them to succeed further. This section investigates protective factors which can influence the self-perceptions of children with LD.

Singer (2008) asserts that all students adopt particular strategies enabling them to cope with their motivation for academic tasks, with the goal of protecting feelings of self-efficacy. Pintrich (2003) suggests there are many motivational pathways taken by students when faced with academic failure, including support from significant others (e.g., teachers and parents), belief in one's own self-efficacy, and hiding one's difficulties and giving up. This is closely linked to Cooley's (1902) 'looking glass' perspective which highlights the importance of the role of significant others in preserving the self-worth of children who face difficulties. From this perspective Singer (2008) proposed that children with dyslexia might try to hide their incompetencies in order to prevent negative evaluations from significant others and they might also seek out positive conformations from these same people with regard to their self-worth in other areas. In her empirical study Singer (2008) described how dyslexic children used self-talk to motivate themselves not to give up and tried to normalise dyslexia by talking about family members who also had dyslexia. Two profiles emerged from the participants; some children worked hard to meet the standards expected whilst also trying to hide poor performances and others sought support from significant others in order to feel good about 'the Self'. According to James (2001), if a person does not meet his or her own standards and expectations then he or she will experience low self-esteem. From this perspective a student might try to raise his or her level of competence to meet the standards or lower the academic standards commensurate with his or her perceived competence. Harter (1999) notes that there are limitations to these strategies. She suggests that there are natural limits to which a person can raise his or her

levels of competence to meet the standards and also stated that it is difficult for students to discount the importance of particular academic domains that are highly valued by significant others such as parents and teachers. However, she is in agreement that children protect their self-worth by downplaying the level of importance of specific domains that they under-perform in. There are some studies that have indicated that children with LD do not discount the significance of academic competence (e.g., Clever et al., 1992; Kloomok & Cosden, 1994; Smith & Nagle, 1995) and so the hypothesis that discounting is a protective factor is not clearly supported.

Chapter 6: Summary and Critical Analysis

The ability to read is a vital skill in Western society. According to the simple view of reading, text comprehension and the decoding of text are essential skills. If a child can decode text competently but has difficulty comprehending what he or she has read, as in the case of PCs, then he or she has not mastered the skill of reading. There has been a wealth of research investigating children with decoding difficulties including their strengths, weaknesses and achievements in school. More recently some research has investigated aspects of their social and emotional wellbeing including self-perceptions as learners. It is only in recent years that PCs have been investigated. This area is perhaps under researched because these children are not as easily identifiable in the classroom compared with their poor decoding peers. The PC literature informs us of comprehension difficulties experienced across the school population and the associated difficulties many of these children can face. However, typically the sample sizes in the studies of PCs are quite small (less than 30) possibly due to the screening process of individuals necessary to identify children as PCs. Another methodological limitation of many of these studies is the cut-off points used to select PCs. Typically standardised literacy assessments are used to determine pupils' decoding and comprehension abilities. Sometimes differences in age-equivalents are used to discriminate decoding and comprehension ability and sometimes standard deviations from mean scores are used. Inevitably this means there is slight variability in homogeneity of PC groups across studies. However, many of the findings have been replicated by different researchers which offer a degree of reliability. A notable absence from the PC literature is studies that seek to investigate children's own perceptions

regarding their skills and abilities and the impact that their difficulties might have on their school experience.

There is limited research looking at how these children perform in the curriculum. It is reasonable to infer that a child who is performing well in the curriculum may have more of a positive ASC than a child who is not. The research to date does suggest that PCs do perform below their NA peers in the curriculum (Cain & Oakhill, 2006), however, further research and investigation is necessary in this area. Since research has shown links between academic achievement and ASC, this is an important aspect to explore among PCs.

Comprehensive meta-analytic reviews have highlighted evidence that children with LD have more negative ASCs than their TD peers. However, this research cannot be considered entirely conclusive for the following reasons. The interchangeable terminology used across studies has made findings confusing and difficult to interpret. Another issue is the heterogenous nature of the LD population. The selection criteria to identify these participants have varied widely across studies. Different achievement groups (i.e., LD and non-LD) have been distinguished by using the 25th percentile point as cut-off scores, or by using teacher ratings (Zeleke, 2004). Similarly, some of the later studies on dyslexic populations have varied in the criteria for inclusion in studies. Some are based on teacher perceptions, some on cognitive tests and others on whether a child has a Statement of Special Educational Needs. Another confounding factor is the type of school these children attended; mainstream or specialist. We cannot directly compare results from studies where children are educated in predominantly different settings. This highlights the need for being clear about the particular group of individuals being studied, so that they can be reliably compared with the same population studied in the literature. Despite these methodological flaws, there is a large body of evidence which highlights that children with LD are at risk of negative ASC. This is particularly evident in children who have reading difficulties (which is sometimes referred to as dyslexia in the literature). Further research has shown links between self-concept and academic achievement. Since there is evidence to suggest that PCs could be at risk of underachievement and that they are by nature poorly skilled in a major aspect of reading, according to the Simple View of Reading (i.e., reading

comprehension) it could suggest a vulnerability to underperformance in the curriculum and negative ASC.

Research suggests an association between perceived control (interval versus external) and ASC whereby pupils who feel their successes and failures are within their control are more likely to have a positive ASC in reading than those who perceive control to be external. Empirical research also indicates that poor readers are more likely to have low self-concepts of ability and are less likely to attribute their successes to internal (personal) factors than good or average readers. Since poor readers (decoders) are at more risk of maladaptive attribution styles in reading than good readers, it is interesting to investigate if this is the case for PCs as they too have a significant difficulty in a key element of reading.

Research has also indicated other factors that can influence children's self-perceptions as learners, including teacher perceptions and awareness and recognition of pupils' LD. Recognition of difficulties and being labelled as having a LD can have both positive and negative effects on pupils' self-perceptions as learners and this can be dependent on the educational context. Since there is no medically recognised label for PCs and they are not easily identified, it is interesting to investigate whether or not PCs recognise their own difficulties as this could influence their self-perceptions as learners and their ASC.

The research reviewed indicates that teacher perceptions and feedback can have positive and negative effects on children's ASC. Although only a small body of evidence has explored teacher perceptions of PCs, the research available suggests that these children's difficulties are not always identified by teachers. These issues will be explored to help explain any group differences.

It is important to note that not all children with LD are reported to have low self-perceptions or ASCs. Children might compensate because they have strengths in a particular area, they may be performing well in the curriculum or they may be adopting coping strategies to motivate themselves. These factors need to be taken into consideration when drawing conclusions from the current study.

There is a clear need for further research into the link between developmental difficulties associated with poor reading comprehension as experienced by PCs and the effects these have on their social and emotional wellbeing in school. The majority of the research evidence in the literature indicates a link between LD (both general and specific) and negative ASC. For educational professionals such as EPs it is particularly important to investigate the effects on the academic self-perceptions of these children since they, like dyslexic children may be particularly vulnerable to academic under-performance and negative self-perceptions as learners and therefore may require additional support in school.

6.1. Research Questions.

1. Do PCs obtain lower curriculum level scores than their peers?

2. Do PCs perceive themselves differently as learners from their peers?

3. Do PCs differ in their academic and reading self-concept from their peers?

4. How do PCs attribute their successes and failures in terms of controllability (internal locus of control or external locus of control) in relation to their peers? Do they differ in the type of strategies they would use (e.g., effort-based (internal locus of control), or effort-avoidance (external locus of control)) to improve in an academic subject that they currently find difficult?

5. Are PCs good at recognising their difficulties?

6. Are teachers' perceptions of their pupil's attitudes to learning similar to those of the pupils themselves?

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Academic Self-Concept and Self-Perceptions as Learners: Do Poor Comprehenders Differ from Their Peers?

Stephanie Homewood

DEdPsy 2013

Part B: Research Paper

Abstract

Previous research has indicated that children with learning difficulties often hold negative academic self-perceptions. This research explored poor comprehenders' vulnerability to negative self-perceptions as learners in comparison with their peers. Additionally their attribution styles were investigated. The sample comprised 114 children (aged 9-11) from a mainstream primary school. They were divided into groups of poor readers, good readers, poor comprehenders and low-average readers, using scores obtained using the Neale Analysis of Reading Ability (NARA-II). A structured interview was conducted to obtain information about each child's controllability attributions (i.e. how much perceived control he/she had over successes and failures). Each child then completed three self-report questionnaires measuring academic self-concept, reading self-concept, and self-perceptions as learners. Teachers' perceptions of their pupils as learners were sought through administration of a questionnaire. Results indicated that poor comprehenders were not differentiated from their peers in terms of attribution style, nor were they differentiated from good and low-average readers in their academic self-concept, reading self-concept or self-perceptions as learners. This is in contrast with poor readers, who held more negative self-perceptions than the other groups on all of these measures. Furthermore, only a small percentage of poor comprehenders recognised their reading comprehension difficulties. Class teachers' perceptions of their pupils as learners were similar to those of the pupils with reading and comprehension difficulties (poor readers and poor comprehenders). Teachers' perceptions of good and low-average readers were predominantly different from those of the pupils themselves. In addition, children's national curriculum levels indicated that the majority of poor comprehenders were performing in the average range. The implications of these findings for educational professionals are discussed.

1. Introduction

1.1 Importance of Literacy Skills

In Western societies literacy is a valued skill and perceptions of incompetence in acquiring the necessary skills for reading could have significant adverse effects on children's self-concepts. As a child develops he or she will compare his or her own abilities with those of others, which will then shape his or her feelings of wellbeing (Burden, 2008). In recent years the gradual realisation of the need to consider children's social and emotional wellbeing in school has been reflected in educational mandates such as Every Child Matters (Department for Education and Skills, 2003) and Rights to Action, (Welsh Assembly Government, 2006). This has led to increased research in investigating the effects of learning difficulties (LD)[3] on the social and emotional development of children. This is often done through the assessment of self-concept.

Children's academic success is often founded on their ability to read. The simple view of reading (Gough & Tunmer, 1986) is a widely recognised and validated model of the process of learning to read. It highlights the importance of two main components of reading; decoding and comprehending the text, in order to master the skill of reading. Considerable research attention has been given to investigations of children with specific deficits in word reading (Catts & Kamhi, 2005; Vellutino, Fletcher, Snowling & Scanlon, 2004) but it is only recently that researchers have investigated children with specific deficits in reading comprehension (e.g., Cain, Oakhill & Lemmon, 2004; Cain & Oakhill, 2007; Pimperton & Nation, 2010). Previous studies have indicated that the problems children with reading (decoding) difficulties face, have demonstrable negative effects on their self-concept (e.g., Humphrey & Mullins, 2002a; 2002b). However, this remains unexplored for children with comprehension difficulties, and is thus the focus of the current investigation.

For educational professionals such as educational psychologists (EPs), self-concept is a key area of interest to research. In order to explore children's self-perceptions as learners it is

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[3] In the literature, the most commonly used criteria to define learning difficulties are ability-achievement discrepancy and low achievement for age/grade (Zeleke, 2004).

important to investigate their self-concept in different academic domains to target necessary support.

1.2 Self –Concept

Self-concept can be defined as a person's self-perceptions, formed from experiences with and interpretations of the person's environment (Shavelson, Hubner & Stanton, 1976). Self-concept research has been typically guided by two different perspectives; unidimensional and multidimensional. The unidimensional perspective describes self-concept as a general factor that is consistent across different circumstances thus unaffected by the environment.

Recently the multidimensional perspective of self-concept has become more widely accepted (Harter, 1996; Marsh, 1990). This allows self-concept to be measured across different domains such as academic, social and physical and accepts that variations across these domains may occur. Academic self-concept (ASC) refers to self-concept in relation to academic subjects such as reading, writing and mathematics (Chapman, 1988). In a review, Marsh and Craven (2006) found a relationship between academic outcomes and ASC, but no relationship between academic outcomes and global self-concept and non-academic components, thus strongly supporting the multidimensional perspective.

1.3 Poor Comprehenders

There are some children who have age-appropriate reading skills but have significant reading and listening comprehension difficulties. These children are often referred to as p*oor comprehenders* (PCs). Research has indicated that as many as 10% of children present with this specific comprehension difficulty (Nation & Snowling, 1997; Oakhill, 1994). Much of the previous PC research literature has focused on the profiles of this group, investigating their cognitive strengths and difficulties. Studies have indicated that PCs have poor listening skills (Nation & Snowling, 1997; Stothard & Hulme, 1992), deficits in receptive vocabulary and semantic processing (Nation, Clarke, Marshall & Durrand, 2004; Nation & Snowling, 1998) and weak oral language skills (Nation et. al 2004), but are competent in word reading due to "spared" phonological skills (Catts, Adolf & Weismer, 2006). Studies suggest they have difficulties making inferences from text (Cain et al., 2004;

Catts, et al., 2006; Oakhill, Cain & Bryant, 2003) and have poor working memory (DeBeni & Palladino, 2000; Nation, Adams, Bowyer-Crane & Snowling, 1999). The evidence indicates that PCs could be vulnerable to academic underachievement due to these many cognitive difficulties they often experience.

1.4 Academic Self-Concept and Achievement
The relationship between ASC and academic achievement has been well established in the literature through correlational studies that show positive correlations between the two factors (e.g., Marsh & Martin, 2011; Muijs, 1997; Seaton, Marsh & Craven, 2010). ASC is seen as a collection of relatively stable feelings around one's ability to perform academic tasks (Boersma & Chapman, 1992). Given that children with LD generally perform poorly on academic tasks, either globally or specific tasks, it could be expected that they might also experience negative ASC in these domains if making comparisons with normally achieving (NA) peers (Gans, Kenny & Ghany, 2003).

A small body of evidence suggests that reading comprehension could have an impact on attainment in school. In the national curriculum, Cain and Oakhill (2006) found PCs to obtain significantly lower Standard Assessment Test scores in English, Mathematics and Science than good comprehenders, when assessed in Key Stage 2. Despite this discrepancy between the two groups, the PCs obtained levels that are considered to be in the average range for this age group. With only one study investigating this, further research is required before conclusions can be drawn. Given the aforementioned relationship between ASC and academic achievement, if PCs on the whole, are performing statistically significantly lower than their NA peers in the curriculum, this could leave them vulnerable to negative self-perceptions as learners.

1.5 Self-Concept and Children with LD
Current researchers feel that many children (around 80%) considered to have LD include children who would generally be classified as being dyslexic (e.g., Burden, 2008). Since dyslexic children (often characterised as having specific decoding difficulties) are

considered to have LD, it may seem logical to suggest that PCs, who are characterised as having specific comprehension difficulties, might be a comparable group to the LD group.

Early research indicated that the general self-concept of children with LD is more negative than NA children (see Chapman's, 1988, meta-analytic review). Unlike Chapman, the majority (68%) of studies reviewed by Zeleke (2004) in a later meta-analytic review, did not find any difference between each group for general self-concept. This could be due to advancements in methodological measures and instruments (Zeleke, 2004). Zeleke confirmed Chapman's findings that the ASC of NA children exceeded that of children with LD. In 89% of the 41 studies reviewed by Zeleke, the children with LD had more negative ASCs than their NA peers. Zeleke argued that in light of more recent models of self-concept, this subject must be investigated by analysing different domains of ASC, rather than taking a global perspective. Other research indicated that poor readers have more negative reading self-concepts than good readers (van Kraayenoord & Schneider, 1999; Roeschl-Heils, Schneider & van Kraayenoord, 2003).

Limitations to this research include the interchangeable terminology used to describe self-concept across studies making findings difficult to interpret, along with a variation in selection criteria to identify the participants with LD. This makes direct comparisons across studies difficult, however, the general implication of the studies is that children with LD are vulnerable to negative academic self-perceptions.

Not all children with LD hold negative self-perceptions, for example, Miller (2002) asserted that some students with LD were resilient because their grades were high despite their LD. These children acknowledged their LD and could identify successful experiences and recognise their particular areas of strength, enabling them to succeed further. Singer (2008) asserts that students adopt particular strategies enabling them to cope with their motivation for academic tasks, with the goal of protecting feelings of self- efficacy. She proposed that children with dyslexia may try to hide their difficulties in order to prevent negative evaluations from significant others and might also seek out positive conformations from these same people with regard to their self-concept in other areas.

When investigating pupils' ASC it is important to explore other factors that could influence self-perceptions, such as teachers.

1.6 Teacher Perceptions

Research suggest that the perceptions of 'significant others' can greatly influence self-concept and in a school setting, teacher perceptions can influence pupils' ASCs (e.g., Bear & Minke, 1996). A small body of research has investigated the relationship between teacher perceptions of students with LD and the perceptions of the students themselves (Stone, 1997; Stone & May, 2002). Pupils with LD who work hard are judged positively and are thought to be academically able and highly motivated by their teachers (Meltzer, Katzir-Cohen, Miller & Roditi, 2001; Miller, Meltzer, Katzir-Cohen & Houser, 2001). Meltzer et al. (2004) explored the academic self-perceptions of children with and without LD by investigating teachers' and students' perceptions of effort, strategy use and academic performance. Children with LD who had positive ASCs were more likely to work harder and use strategies in their school work (thus minimising the impact of their LD). Furthermore, teachers viewed these children with LD who had positive ASCs as working hard, and to be performing at the same level as the children without LD. In contrast the children with LD who had negative ASCs were judged by the teachers as applying less effort and achieving below their NA peers.

Bear and Minke (1996) described the role of *positive bias*, where some children with LD use a strategy of selectively focusing on positive indicators of academic performance such as achievement scores and teacher feedback. Bear, Minke, Griffin and Deemer (1998) found that teacher feedback was the most common criterion that children with LD used to rate their academic performance. An early study showed that teachers' feedback highlighting the impact of a child's ability on their reading proficiency led to a higher self-efficacy for future success (Schunk & Rice, 1986). Whereas teacher feedback can have positive effects, research has indicated that the reverse is also true. Burnett (1999) asserted that teachers' negative comments predicted negative mathematics self-concepts in girls and also boys' negative self-talk. This emphasises the important role that teachers may have on pupils' ASCs.

Overall, the literature indicates that many children with LD, including those with reading difficulties, are vulnerable to negative self-perceptions as learners, but some protective factors appear to lessen the impact that some children's LD have on their ASC, thus preserving positive self-perceptions in a minority of cases.

1.7 Attributions

Also critical to developing a complete understanding of this area of study, is the way in which children perceive their successes and failures. Insight in this regard comes from attribution theory. Attribution theory suggests that upon failure or success in a piece of work, an individual will try to determine the perceived reasons for the failure or success (Weiner, 1986). These could be external factors such as the teacher's instruction or the environment, or internal factors such as effort and ability. According to the theory, psychological factors like self-efficacy, affect and future expectancies can be determined by a person's perceived causes of success and failure (Weiner, 1986).

A large part of the relevant research suggests that many children with LD attribute their successes to external factors and their failures to internal factors (see Nunez, et al., 2005; Pearl, Bryan & Donahue, 1980). These factors then generate negative feelings towards academic work which can lead to a sense of 'learned helplessness' in these children (Chapman, 1988), whereby they might feel that no matter how much effort they put in, they are destined to fail. In Nunez et al.'s (2005) study, 45 % of children with LD attributed their successes to internal factors and their failures to external causes outside of their control. The authors term this as an *adaptive profile*. The other 55% were considered to have a *helpless profile*. Teachers rated the achievement of these 'helpless' children lower than those with adaptive profiles. Jacobsen, Lowery and DuCette (1986) assert that children with LD were more likely than typically developing children, to attribute both successes and failures to factors outside of their control (i.e., make external controllability attributions). In contrast, some researchers have asserted that children with LD have similar patterns of adaptive and maladaptive attributions to typically developing children (Linnenbrink & Pintrich, 2002).

Research indicates that poor readers are less likely to attribute reading successes to internal factors than their peers and often blame ability for their lack of competence (Butkowsky & Willows, 1980). Pascarella and Pflaum (1981) found that poor readers who were identified as having LD exhibited significantly lower internal locus of attribution scores than the other poor readers despite similar achievement scores, thus indicating that children with LD are more vulnerable to maladaptive attribution styles.

1.8 Summary and Research Questions

The current study aims to investigate PCs' self-perceptions as learners by comparing them with their peers. It also aims to investigate controllability attributions to examine how PCs attribute their academic successes and failures. Other factors likely to influence pupils' self-concepts are also explored, including participants' knowledge of their difficulties, their performance in the curriculum and teachers' perceptions of them as learners. Overall, the following specific questions will be addressed:

1. Do PCs differ in their academic and reading self-concept from their peers?
2. Do PCs perceive themselves differently as learners from their peers?
3. How do PCs attribute their successes and failures in terms of controllability in relation to their peers? Do they differ in the strategies they would use to improve in an academic subject that they currently find difficult?
4. Are PCs good at recognising their difficulties?
5. Are teachers' perceptions of their pupil's attitudes to learning similar to those of the pupils themselves?
6. Do PCs obtain lower curriculum level scores than their peers?

2. Method

2.1 Epistemology

An interpretivist paradigm uses data to develop a theory. The implication is that there is not just one reality, but reality depends upon individual's perceptions and experiences (Robson, 2002). This method is useful in determining why groups or individuals behave in particular

ways, thus seeking out a more in-depth picture. However, a predominantly positivist research paradigm was used in this study, based upon the beliefs that the world is external and objective, the observer is independent and science is value free (Easterby-Smith, Thorpe & Lowe, 1991). A central tenet of positivist research is that a scientific perspective is taken in observing social behaviour which can then be objectively analysed (Travers, 2001). This is a useful paradigm to take when comparing large groups of individuals. Before one can research why a particular group is different from others it is important to first establish if there are any differences. The aim of the current study is to investigate if PCs differed from their peers. Easterby-Smith et al. (1991) discussed the "traditional assumption that in science the researcher must maintain complete independence if there is to be any validity in the results produced" (p.33). This was the case for the self-concept data which are to be collected through self-report. This objective approach, minimises experimenter bias, which could affect the findings.

2.2 Participants

The sample comprised 114 children from Years 5 and 6 (aged 9-11 years) who attended a mainstream junior school in the South West of England. Participants varied in socio-economic status, ethnicity and gender. Data gathered from children for whom English was their second language were excluded from analyses[4]. Informed consent was obtained from the participants and parents/guardians (see appendices 2-4)[5]. Demographics of the final sample are presented in appendix 1. Three Year 5 class teachers consented to take part in the study.

2.2.1 Selection criteria.

Each child participant's reading accuracy and text comprehension were assessed using the Neale Analysis of Reading Ability (NARA-II, Neale; 1997). In this standardised test the child reads aloud a series of passages of text (accuracy) and is asked questions after each one to assess his or her literal and inferential understanding (comprehension). The

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[4] This could have been a confounding factor in explaining differences in academic self-concept, as their vocabulary could be weaker than other pupils.
[5] Two parents did not consent for their children to take part in the study and one child did not give consent to participate.

participants were divided into four groups based upon the test scores (see Table 1). Children were classified as 'PCs' if they obtained NARA standard scores of at least 95 for reading accuracy and 85 (1 SD) or below for reading comprehension. Children were classified as 'poor readers' if they obtained accuracy scores of 85 or less. Children obtaining standard scores of at least 95 for accuracy and for comprehension were classified as 'good readers'. Children who did not fall into any of the above categories (i.e., obtained accuracy and/or comprehension scores between 85 and 95) were classified as 'low-average (LA) readers'. These children's reading skills could be considered slightly below average. In this particular group comprehension scores appeared to be lower than accuracy scores[6].

Table 1

Mean and Standard Deviation Performance of Participants on NARA Screening Tasks

Variable	Poor Comprehenders (*n*=18)		Poor Readers (*n*=13)		Good Readers (*n*=33)		LA Readers (*n*=50)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Age (months)	130	7.54	126	5.94	125	6.88	125	6.74
Reading Comprehension	80.11	4.66	79.08	5.02	103.15	6.12	87.84	5.73
Reading Accuracy	108.78	7.39	81.62	4.96	110.85	6.66	100.28	10.78

Note. For NARA standard scores *M*=100, *SD*=15.

2.3 Ethical Considerations

Participation in the study was voluntary. Letters of consent were sent to parents of all Year 5 and Year 6 children in the school. This contained information about the specific nature of the study and what would be required of the participants who took part. Each child participant, for whom parental consent was given, received an explanation of the study including ethical considerations (see appendix 2) and was given a consent form to sign. The categories assigned to each participant were not revealed to pupils, teachers or parents. Participants were assigned an identification number to provide anonymity and all data were

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[6] These children were included in the study as the main aim was to compare poor comprehenders with their peers, and this group formed the largest part of the peer group.

held anonymously. All participants were given a debrief form at the end of the study. The study was approved by the university ethics committee.

2.4 Materials and Procedure

Participants completed all measures across three separate sessions. Firstly, they were individually screened using the NARA-II and interviewed to obtain attribution beliefs and perceived strategies they would use to improve performance. All further measures were administered in groups using self-report questionnaires. During the second session participants completed the Myself as A Learner Scale (MALS: Burden, 2009) and Reading Self-Concept Scale (RSCS: Chapman & Tunmer 1995) and in the third session they completed the Perception of Ability Scale for Students (PASS: Boersma & Chapman, 1992). Each session lasted between 20-40 minutes. The children were encouraged to be honest when giving their responses on all self-report measures. All tests administered were scored using standardised procedures given in the corresponding test manuals.

2.4.1 Piloting details.

Since the attribution style measures were not standardised, the questions were piloted on the first 10 participants. These pupils were able to understand the questions and give relevant answers and so no modifications were required. Therefore it was decided to include these data in the study.

2.4.2 Attribution style.

Each participant took part in a structured interview with the experimenter to elicit information regarding how the children attributed their academic successes and failures, along with the perceived strategies he or she would use to improve his or her performance (see appendix 5 for questions given). Attributions to successes and failures were categorised as either internal (within child's control) or external (outside of child's control). Strategies were classified as effort-avoidant (e.g., "the teachers would provide more help") or effort-based (e.g., "I would work harder in this subject"). The experimenter made judgements about categorisation for each answer given. The questions and response

categories were based upon measures developed and used by Blackwell, Trzesniewski and Dweck (2007). A sample of the data (20%) was categorised by a second experimenter to determine reliability and no differences were found between the judgements of the two experimenters.

2.4.3 Reading self-concept.

The RSCS (Chapman & Tunmer, 1995) is a 30-item self-report questionnaire designed to measure reading self-concept on three separate but related dimensions; Competence (in performing reading tasks), Difficulty (perceptions that activities are generally easy or difficult) and Attitudes (felt towards reading). Full scale scores can be derived by summing these scores. All questions are worded in a question-like format (e.g., "Do you like doing reading in class?"). Each question was read aloud to the children and they gave responses using a 5-point Likert scale ranging from "No, never" to "Yes, always". Ten practice items were administered prior to the test items to familiarise the participants with the scale. Participants were told that there were no right or wrong answers. The competence scale was modified in order to make the questions more comprehension-specific (see appendix 6 for details). This was done to elicit specific perceptions of PCs in relation to their main difficulty in reading, namely comprehension, (Cronbach's alpha = 0.92). To address validity, the competence scores were correlated with those of the NARA Comprehension scores. A positive correlation was found (0.65).

2.4.4 Academic self-concept (ASC).

ASC was measured using the PASS (Boersma & Chapman, 1992), which comprises 70 statements relating to people's feelings about themselves in school. In addition to full scale scores, five subscales allow for ASC to be investigated across different domains: general ability, maths, reading/spelling, penmanship/neatness, school satisfaction and confidence in academic ability. Each question was read aloud to the students and participants gave forced choice yes/no answers. The words 'printing' and 'smart' were changed to 'writing' and 'clever' as these are more familiar words to a British sample in the prescribed context. (Cronbach's alpha = 0.94).

2.4.5 Perceptions as learners.

2.4.5.1 Children.

The MALS (Burden, 2009) was used to measure participants' perceptions of themselves as learners and academic problem-solvers across a variety of different learning contexts. The experimenter read aloud 20 statements about learning and participants recorded their answers using a 5-point Likert scale ranging from 'a' (yes, definitely) to 'e' (definitely not). (Cronbach's alpha = 0.91)

2.4.5.2 Teachers.

Teachers completed questionnaires for each child comprising 10 of the questions taken from the MALS[7] (see appendix 7). The teachers answered the questions on a 3-point Likert scale: "yes", "sometimes true, sometimes not" and "no". The children's scores were recoded to match the scale used in the teacher questionnaire (i.e., "yes always" and "yes, usually" were recoded as "yes" and "no, never" and "no, not usually" were recoded as "no"). (Cronbach's alpha = 0.93)

2.4.6 Curriculum Scores.

Participants' most recent reading, writing and maths curriculum level scores were obtained from the class teachers.

3. Results

For all the following analyses the distributions were within normal parameters as determined by Shapiro-Wilk test of normality except where indicated; in these instances the data underwent transformations in order to enable parametrically-based statistical analyses. Levene's tests of homogeneity of variance were conducted and showed that homogeneity of variance could be assumed in each case. For full descriptions of these and the other statistical tests carried out see Field (2005).

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[7] Due to the nature of the MALS questions, two of the questions (1 and 3) given to teachers relate to teacher views of pupils' perceptions.

3.1 Attributions and Strategies

Analyses were performed to explore how PCs and their peers attribute their academic

successes and failures. Chi-square analyses revealed no significant association between any

of the groups and a preference for making controllable (internal) or uncontrollable

(external) attributions for success scenarios $\chi^2 = 1.38$, $p = .71$ or failure scenarios $\chi^2 = 1.93$,

$p = .59$. Furthermore there was no significant association between any of the groups and the

use of particular strategies (either effort-based or effort-avoidant) $\chi^2 = 3.95$, $p = .27$ (see

Table 2), in order for them to improve in a school subject they found most difficult.

Table 2

Success and Failure Attributions and Perceived Strategies for Each Group

Variable	Poor Readers		Poor Comprehenders		Good Readers		LA Readers		
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	χ^2
Success Attribution									
Internal	6	50.0	12	70.6	16	61.5	25	58.1	1.38
External	6	50.0	5	29.4	10	38.5	18	41.9	
Failure Attribution									
Internal	3	23.1	7	43.7	13	39.4	21	43.8	1.93
External	10	76.9	9	56.3	20	60.6	27	56.2	
Strategy									
Effort-Based	4	30.8	9	56.3	13	39.4	27	55.1	3.95
Avoidance-Based	9	69.2	7	43.7	20	60.6	22	44.9	

Note. Valid percentages were used. Numbers of participants in each group vary across variables since some answers given by participants were ambiguous and therefore could not be categorised into either external/internal categories or effort-/avoidant-based strategies, or no response was given. See discussion section for further information.

3.2 Myself As a Learner Scale (MALS)

Analyses were performed to determine any differences between PCs' perceptions of

themselves as learners across a variety of different learning contexts, and the perceptions of

their peers. With alpha set at .05 a one-way between subjects ANOVA revealed significant effect of Group $F(3,111)= 6.65$, $p< .001$. Bonferroni post hoc tests indicated that poor readers perceive themselves more negatively as learners and problem solvers, in comparison with good readers, PCs and LA readers (see Table 3). There were no other statistically significant comparisons, therefore, unlike for poor readers, no significant differences were detected between the PCs' perceptions of themselves as learners and their peers. The poor readers were the only group who had a mean score below the average range (60-82) given in the standardisation sample for the MALS (Burden, 1998).

Table 3

Mean MALS Scores and Standard Deviations for Each Group[8]

Group	n	M	SD
Poor Comprehenders	18	68.44	12.02
Poor Readers	13	58.62	10.78
Good Readers	33	75.81	11.80
LA Readers	48	71.88	13.68

3.3 Teacher Perceptions

Paired Sample *t*-tests were conducted to make direct comparisons of Year 5 pupils' perceptions of themselves as learners with teachers' perceptions of their pupils' as learners[9] (see Table 4).

Table 4 indicates that teachers perceived poor readers and poor comprehenders as learners, in similar ways that these children perceived themselves. They perceived good readers and LA readers differently from how these children perceived themselves. The teachers had similar perceptions as poor readers and PCs for 90% and 70% of the questions respectively. Teachers had different perceptions from good readers and LA readers for 100% and 80% of questions respectively. Eta-squared (η^2) statistics indicate large effect sizes.

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[8] Two children declined to complete the MALS.
[9] The Year 6 teachers did not complete the questionnaire due to their personal time constraints.

Table 4

Pairwise Comparisons of Pupils' and Teachers' Mean MALS Scores

	Poor Readers n=10			Poor Comprehenders n=7			Good Readers n=25			LA Readers n=36		
Question Pairings	t	sig	η^2	t	sig	η^2	t	sig	η^2	t	sig	η^2
1	.29	.78		-1.55	.17		-5.48	.00***	.56	-4.06	.00***	.32
2	-.25	.81		-1.12	.28		-8.39	.00***	.75	-3.33	.00***	.24
3	.48	.64		-.28	.79		-4.27	.00***	.43	-2.59	.01*	.16
4	-1.18	.27		-6.97	.00***	.89	-7.86	.00***	.72	-4.74	.00***	.39
5	1.00	.34		-.28	.79		-2.88	.01**	.26	-1.21	.23	
6	.26	.80		-1.92	.10		-3.92	.00***	.39	-2.03	.05*	.11
7	.61	.56		-3.29	.02*	.64	-5.40	.00***	.55	-3.25	.00**	.23
8	1.17	.27		-.35	.74		-5.53	.00***	.56	-3.87	.00***	.30
9	1.08	.31		-2.12	.08		-6.57	.00***	.64	-4.39	.00***	.36
10	-2.33	.04*	.38	-4.5	.00**	.77	-16.00	.00***	.91	-7.17	.00***	.59

*p<.05. **p<.01. ***p<.001.

Table 5

Means and Standard Deviations for Teacher MALS Scores for Each Group

Group	*n*	*M*	*SD*
Poor Comprehenders	7	1.64	.49
Poor Readers	10	2.25	.43
Good Readers	25	1.43	.48
LA Readers	38	1.83	.51

Note. Scores >2 indicate a negative perception. Scores < 2 indicate a positive perception.

Table 5 indicates that poor readers were the only group of children who were viewed negatively as learners by their teachers. A one-way between subjects ANOVA revealed a difference in teachers' perceptions across the four groups of children $F(3,79)= 7.40$, $p<$ .001. Bonferroni post hoc tests indicated that teachers viewed the poor readers significantly more negatively as learners than good readers. LA readers were also perceived more negatively as learners than good readers, although both of these groups were perceived positively as learners by teachers as indicated by the group mean scores. These were the only statistically significant differences across the groups. This data therefore suggests the teachers perceived PCs positively as learners.

It can be concluded that teachers' perceptions of their pupils as learners were much more similar to the perceptions of the children in their class who were identified has having reading difficulties (poor readers and PCs) than they were to children without identified difficulties. However, despite the good and LA readers' and teachers' perceptions being incongruous for individual items, both parties held positive perceptions of these pupils as learners. This suggests that perhaps teachers are more attuned to the particular needs and perceptions of their pupils with reading difficulties.

3.4 Recognition of Reading Difficulties

3.4.1 Comprehension.

Children who recognised his or her difficulties in comprehension[10] were identified from a calculation of the mean score for questions 7, 12 and 26 on the reading self-concept scale

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[10] As identified by NARA comprehension scores

which relate to comprehension perceptions (see appendix 8 for full questions). Mean scores which were below 3 were considered to indicate a negative perception of comprehension ability (i.e., recognition of comprehension difficulties). Three (17%) PCs appeared to recognise their comprehension difficulties. Four (31%) poor readers and eight (16%) LA readers also indicated recognition of comprehension difficulties. No indications of comprehension difficulties were found for the good reader group. This suggests that in general, many PCs in this sample, did not recognise their reading comprehension difficulties.

3.4.2 Reading.

Children who recognised his or her difficulties in reading ability[11] were identified from their answers to the question 'Do you think you read well?'[12] Results showed that nine (69%) poor readers and three (6%) LA readers recognised that they had a difficulty in reading. As expected, none of the PCs or good readers indicated that they felt they had a difficulty in reading.

In summary these results indicate that only a small proportion (17%) of PCs recognise that they have reading comprehension difficulties. This is in contrast with a much larger proportion (69%) of poor readers who recognise that they have difficulties in reading.

3.5 Reading Self-Concept

Due to existence of a negative skew in the distribution of scores, data were normalised using an inverse square-root transformation. For clarity of interpretation the raw scores are included along with the transformed scores (see Table 6). Following the transformation, a one-way between subjects ANOVA revealed significant effect of Group for RSC attitude $F(3,112), = 5.91, p=.001$; RSC difficulty $F(3,112), = 17.73, p< .001$; RSC competence $F(3,112), = 16.29, p< .001$; and RSC full scale $F(3,112), = 19.36, p< .001$. Bonferroni post

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[11] As identified by NARA accuracy scores

[12] This question was chosen because a study by Shany,Weiner and Feingold (2011), examining what children understood by reading difficulty suggested that valid definitions given by participants related to the phonological deficit theory; (Shankweiler & Fowler, 2004). This links to the criterion set for categorisation of children in the poor reader group in the current study. Also, Gutherie et al., (2007) found that children usually referred to the statement 'I am a good reader' as being competent in recognising words in particular books rather than comprehending texts.

hoc tests indicated that poor readers scored significantly more negatively than all three other groups for reading attitude, difficulty, competence and RSC full scale. There was also a significant difference between the good readers and LA readers for the RSC full scale, with the good readers showing more positive perceptions than the LA readers. Once again, this indicates that, unlike poor readers whose reading self-concept was much more negative then their peers, the PCs' reading self-concept did not significantly differ from good readers or LA readers.

Table 6

Means and Standard Deviations of Reading Self-Concept Scores for Each Group[13]

Reading Self-Concept Scale	Poor Readers		Poor Comprehenders		Good Readers		LA Readers		F
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	
Competence									
Raw	2.53	0.77	3.77	0.63	4.05	0.49	3.69	0.09	
Transformed	1.83	0.23	1.44	0.17	1.35	0.18	1.47	0.22	16.29***
Difficulty									
Raw	2.45	0.48	3.62	0.51	3.88	0.51	3.57	0.09	
Transformed	1.83	0.13	1.47	0.17	1.37	0.19	1.48	0.21	17.73***
Attitude									
Raw	2.72	1.12	3.68	0.94	4.00	0.68	3.58	0.97	
Transformed	1.78	0.33	1.50	0.29	1.40	0.21	1.53	0.30	5.91**
Full Scale									
Raw	2.56	0.62	3.69	0.50	3.98	0.42	3.61	0.59	
Transformed	1.79	0.18	1.44	0.18	1.34	0.16	1.47	0.20	19.36***

Note. The analyses were carried out after inverse square root transformations of the data, so *F* values relate to transformed scores only.
*$p<.05$. **$p<.01$. ***$p<.001$.

Interestingly the three PCs who recognised their comprehension difficulties had the most negative reading self-concepts (out of the PC group) as indicated by the RSC full scale scores. Although the sample size is very small this gives a tentative indication that PCs who recognise their difficulties have a negative reading self-concept in comparison to other PCs.

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[13] One child refused to complete the questionnaire.

3.6 Academic Self-Concept

The participants' ASC was measured using the PASS [14]. Due to a slight negative skew, the data were normalised using an inverted square-root transformation. For clarity of interpretation the raw scores are included along with the transformed scores (see Table 7).

With alpha set at .05 a one-way between subjects ANOVA revealed significant effect of Group for General Ability $F(3,110)= 4.07$, $p= .009$.; Maths $F(3,110)= 3.46$, $p=0.19$; Reading/Spelling $F(3,110)= 11.43$, $p< .001$; Penmanship/Neatness $F(3,110)= 2.91$, $p=.038$ and Confidence in Academic Ability $F(3,110)= 5.36$, $p=.002$. All groups of children had similar perceptions regarding School Satisfaction $F(3,110)$, $p= .133$.

Bonferroni post hoc tests indicated that unlike poor readers, PCs do not appear to have lower ASCs than their peers. In terms of ASC, the poor readers reported more negative self-perceptions than children in all other groups in General Ability, Maths and Reading/Spelling. They were only significantly different from PCs for Penmanship/Neatness (with PCs indicating more positive perceptions about their penmanship/neatness than poor readers). Poor readers were less confident in their academic ability than good readers and LA readers. They did not however, differ from the PC group on this measure.

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[14] In total, data from three participants were excluded from the analysis. Validity and reliability checks revealed that one participant showed a potential acquiescent response bias and this same participant along with another participant showed signs of inconsistency (e.g., four or more inconsistent response bias). A further piece of data was excluded as it presented as an outlier.

Table 7

Means and Standard Deviations of PASS Scores for Each Group

PASS subscale	Poor Readers		Poor Comprehenders		Good Readers		LA Readers		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*
General Ability									
Raw	6.00	3.27	9.17	2.60	9.21	2.76	8.51	2.93	
Transformed	2.57	0.65	1.84	0.67	1.83	0.68	1.95	0.69	4.07**
Maths									
Raw	7.31	3.01	9.50	2.96	10.06	1.92	9.63	3.11	
Transformed	2.30	0.66	1.72	0.76	1.63	0.53	1.64	0.11	3.46*
Reading/ Spelling									
Raw	4.69	3.17	9.50	2.41	10.30	2.05	8.27	3.28	
Transformed	2.82	0.63	1.78	0.60	1.56	0.56	2.00	0.78	11.43***
Penmanship/Neatness									
Raw	6.46	3.45	9.56	3.18	8.42	2.85	7.98	3.44	
Transformed	2.49	0.62	1.72	0.73	2.04	0.66	2.07	0.78	2.91*
School Satisfaction									
Raw	5.38	4.11	6.33	3.05	7.64	2.68	7.63	3.34	
Transformed	2.63	0.86	2.51	0.61	2.24	0.61	2.21	0.73	1.90
Confidence in Academic Ability									
Raw	2.31	1.65	3.67	1.94	4.91	2.32	4.78	2.20	
Transformed	2.94	0.29	2.67	0.36	2.41	0.53	2.45	0.46	5.36**

Note. The analyses were carried out after inverse square root transformations of the data, so *F* values relate to transformed scores only.
*$p<.05$ **$p<.01$ ***$p<.001$

3.7 National Curriculum Levels

Table 8

Percentage of Children Performing Below Expected Curriculum Levels for His/Her Year Group

Subject	Poor Readers (%)	Poor Comprehenders (%)	Good Readers (%)	LA readers (%)
Reading	69	11	3	16
Writing	69	17	9	26
Maths	77	28	6	16

Note. Year 5 children were counted if their curriculum level was below 3a. Year 6 children were counted if their curriculum level was below 4b. Curriculum levels were teacher-assessed.

Table 8 indicates that a higher proportion of PCs performed below average in the national curriculum for reading, writing and maths in comparison with good readers. Only in maths

did a higher proportion of PCs perform below average in the curriculum in comparison with LA readers. A substantially higher percentage of poor readers obtained below-average curriculum levels in all areas assessed compared with children in all other groups. The largest percentage of under-performing PCs was in the subject of mathematics.

3.8 Summary of the Findings

- A higher proportion of PCs performed below average in the national curriculum in comparison with good readers, however, similar proportions of PCs and LA readers performed below average in the curriculum in literacy subjects. More PCs performed below average in maths. A substantially higher percentage of poor readers obtained below-average curriculum levels in all areas assessed compared with all other groups.
- PCs' perceptions of themselves as learners are not differentiated from those of their peers with good or LA reading ability. Poor readers had more negative perceptions of themselves as learners than PCs and other peers.
- Unlike poor readers whose academic and reading self-concepts were much more negative than their peers, the PCs' mean scores were similar to those of their peers.
- There was no association between being a PC and having either internal or external controllability attributions, nor was there an association between being a PC and the perception of using a particular type of strategy to improve in an academic subject that they find difficult. The same was true for the other groups of pupils.
- PCs were not good at recognising (or reporting) that they had reading comprehension difficulties. Only a small proportion of PCs recognised they had reading comprehension difficulties in contrast with a larger proportion of poor readers who recognised they had reading difficulties.
- Teachers' perceptions of their pupils as learners were similar to those of the pupils who had reading difficulties (poor readers and PCs). Their perceptions of the other pupils (good and LA readers) as learners were quite different from the children themselves. PCs were perceived positively by their teachers but poor readers were perceived negatively.

It is indicative of the results that the PCs in this study were not as vulnerable as poor readers, to negative self-concepts across different academic domains.

4. Discussion

The PCs were generally accurate in their perceptions of themselves as learners since the majority were performing in the average or above-average range in the core skills assessed in school (reading, writing and maths). This supports research evidence that ASCs are associated with academic achievements (Hansford & Hattie, 1982). Although they appeared to be more at risk of under-performance than the good readers, many of the PCs performed better in the curriculum than the poor readers and at a similar level to the LA readers. It is unsurprising that PCs were performing well in the curriculum for reading, as decoding is a strength of PCs due to their good phonological skills. Pimperton & Nation (2010) asserted that PCs have weak mathematical reasoning ability relating to poor oral language capabilities, which could offer an explanation as to why more than a quarter of the PCs were performing below-average in the mathematics curriculum. This highlights that reading and the associated literacy skills are critical skills across the curriculum, not just in the subject of 'English', as is often regarded.

With many of the PCs' peers in the poor reader and LA reader groups performing lower than them in the curriculum, the PCs could be viewing themselves positively in comparison with their peers, thus maintaining positive ASCs. It also cannot be ruled out that some of the PCs might be adopting coping strategies to protect their self-concept and minimise the impact that their comprehension difficulties have on their academic performances.

In contrast to the PCs, whose academic and reading self-concepts did not differ significantly from those of the good and LA readers, the poor readers held more negative self-perceptions of themselves as learners. This is consistent with the findings of the majority of meta-analytic and empirical studies (e.g., Chapman, 1988; Zeleke, 2004), which indicate that poor readers perceive themselves as less academically competent than their

peers, and have more negative reading self-concepts (Van Kraayenoord & Schneider, 1999; Roeschl-Heils et al., 2003).

As in Miller's (2002) study of children with LD, it could be that some of the PCs were resilient to negative self-perceptions because they were performing relatively well in the curriculum despite their comprehension difficulties. Meltzer et al. (2004) asserted that children with LD who had positive ASCs were more likely to put in lots of effort and use strategies in their school work than those with negative ASCs. Since the PCs in the current study held positive ASCs then perhaps they worked hard to achieve in school. Given that their teachers viewed them positively (as learners) then they are likely to be gaining positive feedback, which could be influencing their positive self-perceptions (Bear & Minke 1996). This and the evidence that they are performing well in the curriculum could be indicative of a *positive bias* leading to resilience (Bear et al., 1998). Since the poor readers were often viewed negatively (as learners) by the teachers, then this could offer an explanation for their more negative ASCs in comparison with their peers. This is consistent with Burnett's (1999) findings that negative feedback from teachers predicted negative self-concepts. Further research would need to be carried out to investigate the kinds of feedback the students were receiving to confirm this hypothesis.

Additionally, teachers' perceptions of their pupils as learners were similar to those of the pupils who had reading difficulties (poor readers and PCs), but their specific perceptions of the other pupils as learners were quite different from the children themselves. It can therefore be suggested that teachers are perhaps more attuned to the emotional wellbeing of the poor readers and PCs in their classes. It is possible that these children stand out to the teachers as being more vulnerable than the other students and so more attention is given to them. This is perhaps another protective factor against negative self-perceptions for the PCs. This teacher empathy on its own may not be enough to elicit resilience in the poor readers since they also have to contend with more negative teacher perceptions and academic underachievement in comparison with the PCs.

Surprisingly, it would seem that PCs in this study, are quite confident in their reading comprehension abilities. They are poorer at recognising their reading difficulties compared with the poor readers. In simplistic terms it could be argued that if a person does not recognise their difficulties in a particular domain then she will not hold negative self-perceptions in that domain. However, it is possible that some of the PCs were not admitting to their difficulties. During screening some appeared to make up elaborate incorrect answers to the comprehension questions, maybe to hide the fact that they did not know the correct answers. Like the dyslexic participants in Singer's (2008) study, some of the PCs could use strategies to try and hide their difficulties to prevent negative evaluations from others. Interestingly the three PCs that did report an awareness of having comprehension difficulties gave a higher number of 'don't know' responses, indicating that they could not answer the screening questions. However, with such a small sample size, this warrants further investigations before any firm conclusions can be made.

Consistent with previous research (see Linnenbrink & Pintrich, 2002), the findings of the present study indicate PCs' (and poor readers') attribution patterns are similar to those of their good and LA reading peers, in that there was no significant association between being in a particular reading group and having a particular attribution style. Nor was there an association between perceived strategies used by participants to improve in academic subjects they find difficult. This is not consistent with other research (e.g., Butkowsky & Willows, 1980; Jacobsen et al., 1986; Nunez et al., 2005; Pearl et al., 1980) which have asserted that children with LD are less likely than their NA peers, to attribute their successes and failures to internal factors. It is important to note that in these studies not all children with LD have presented with maladaptive attribution styles, for example, in Nunez et al.'s study around 45% of students with LD had adaptive attributional profiles. There were no significant differences between these children and children without LD in ASC. This and the findings of the current study indicate that children with LD (whether specific or more general) are not homogenous groups in terms of the attributions they make for academic successes and failures. Future research is necessary to find out which factors lead students to adopt maladaptive or adaptive attribution styles.

4.1 Conclusion and Implications for Practice

In conclusion, in this investigative study, PCs do not appear to be as vulnerable to negative academic self-perceptions as their poor reader counterparts. Differences between the groups included poor readers being perceived more negatively by teachers, performing worse in the curriculum and having more overt and recognisable difficulties than PCs. This could indicate that educators need not be too concerned about PC's self-concepts at this age. However, some PCs are underachieving in maths and all have significant reading comprehension difficulties which undoubtedly makes accessing the curriculum more difficult for these children than NA children. What can be concluded is that the PCs in this study showed some resilience to negative ASCs and so educational professionals could help promote these protective factors in order to ensure all PCs maintain healthy self-concepts.

The findings regarding the poor readers highlight the need for the EP to be a positive advocate for the child and to challenge negative perceptions, for example, helping teachers to focus on pupils' strengths rather than weaknesses. Also promoting an ethos extending throughout the whole school which focuses on successes and effort, rather than explicitly comparing individuals through academic test scores could help promote positive self-concept in vulnerable pupils. EPs could also work with teachers to help identify children who may be vulnerable to having significant literacy difficulties and help them to provide the necessary support to meet their academic and emotional needs

For EPs this study highlights the need to work with poor readers and their educators in promoting positive ASCs, specifically through classrooms which encompass positive feedback from teachers and focus on positive academic achievements.

The PCs are perceived positively by themselves and by their teachers as learners despite their underlying comprehension difficulties. Therefore, a further role of the EP could be to raise teachers' awareness of the difficulties that PCs might face, so that their schoolwork can be differentiated accordingly and the children do not fall behind their NA peers in the curriculum.

4.2 Limitations and Future Study

A limitation of the current study was that the strategies explored were only perceptions of what the pupils would do, not what they actually do in practice. Some of the answers given by a minority of participants were ambiguous as to whether they were internal or external attributions, and so could not be coded. To attempt to eliminate this in future research, more in-depth questioning could be carried out to elicit clearer responses.

It should be noted that the conclusions about teacher perceptions were based on the responses of three people and therefore should only be viewed as tentative conclusions. Also, two of the questions given to teachers related to their views of the children's perceptions as learners, rather than their own perceptions of the pupils. This could have compromised the validity of the findings. However, eliminating these questions would not change the overall findings from this measure.

The pupils were screened using only one reading assessment (NARA-II) in a test environment at one time point. As with many static assessments, participants' performances can be affected by external factors such as wellness, concentration and mood on the particular day of testing. In future it may be preferable to have multiple indicators of reading ability such as in-class marks and teacher ratings to provide further support for the assignment of participants to each group in the study.

The findings from the current study have suggested that PCs are not at risk of lower ASCs than their NA peers, however further research is required to confirm this since the participants were selected from one school only. It would be useful to look at ASC over-time, in longitudinal studies to see if it varies and to carry out similar investigations in other schools, and with other teachers and peer groups to see if the same conclusions can be made. It could be that PCs' ASCs change when they attend secondary school as texts become wider and potentially more challenging, and comprehension demands are greater.

Furthermore it would be interesting to take a more in-depth approach to investigating PCs' individual self-perceptions as learners to find out why many appear to be more resilient to

negative self-perceptions than their poor reader counterparts. This information could be useful to inform teaching practices and help promote positive self-perceptions in children with specific or more general learning difficulties. It would also help us to understand further, how positive and negative self-perceptions manifest.

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6. **Appendices**

Appendix 1

Table A1

Participants' Mean Ages, Range and Standard Deviations for Each Year Group

School Year	Number of Participants	Gender (Male: Female)	Mean Age (Months)	Standard Deviation	Range
Year 5	80	39 : 41	122	3.73	115-127
Year 6	41	16 : 18	135	3.76	129-141
Total	114	55 : 59	126	6.97	115-141

The final sample comprised 81% of the total number of pupils in Years 5 and 6 at the school, and therefore can be considered to form a good representation of the parent population.

Appendix 2

Child consent form.

<u>Consent Form</u>

I understand that my taking part in this project will involve doing a reading activity and answering a few short questions about my favourite and least favourite subjects taking around 20-30 minutes. I will also complete some questionnaires along with my classmates about reading and learning. This will be over two sessions, each lasting less than an hour.

I understand that taking part in this study is entirely voluntary and that I can withdraw from the study at any point, without giving a reason.

I understand that I am free to ask any questions at any time.

I understand that the information I give will not be shared with anyone else and when it is collected and stored, it will not have my name on it so nobody can work out that the information was from me.

I also understand that I will be given more information about the purpose of the study at the end.

I, _____(PLEASE PRINT NAME) consent to take part in the study conducted by Stephanie Homewood, School of Psychology, Cardiff University with the supervision of Dr Simon Claridge.

Signed:……………………………………………………

Date: ……………………

In case of complaint, please contact:
Dr Simon Griffey
Research Director, DEdPsy School of Psychology
Cardiff University
Tower Building
Cardiff
CF10 3AT
Tel: 02920 870366
Email: GriffeySJ@cardiff.ac.uk

Appendix 3

Teacher consent form.

Consent Form

I understand that my participation in this project will involve answering 10 yes/no questions relating to each participating child's approach to learning, taking around one minute per child

I understand that participation in this study is entirely voluntary and that I can withdraw from the study at any point, without giving a reason.

I understand that I am free to ask any questions at any time. I am free to discuss my concerns with Dr Simon Claridge (project supervisor).

I understand that the information I provide will be collected confidentially and will be subsequently anonymised; so that it is impossible to trace this information back to me or the children individually. I understand that this information may be retained indefinitely.

I also understand that I will be provided with additional information and feedback about the purpose of the study.

I, _____(PLEASE PRINT NAME) consent to participate in the study conducted by Stephanie Homewood, School of Psychology, Cardiff University with the supervision of Dr Simon Claridge.

Signed:……………………………………………………

Date: …………………

In case of complaint, please contact:
Dr Simon Griffey
Research Director, DEdPsy School of Psychology
Cardiff University
Tower Building
Cardiff
CF10 3AT
Tel: 02920 870366
Email: GriffeySJ@cardiff.ac.uk

Appendix 4

   Letter to parents/guardians.
Address 1
Address 2
Address 3
Post Code

Date

Dear Parent/guardian

I am a trainee educational psychologist in the School of Psychology, Cardiff University and for my doctoral thesis I am carrying out some research investigating how children with reading comprehension difficulties perceive their academic abilities and themselves as learners. I am writing to request permission for your child to participate in my study.

The school has very kindly allowed me to work with some of their pupils, but I would like to emphasise that this project is separate from the school and your child's responses will not be used by us to judge your child in any way. I am interested in the average group performances on each task and will not be looking at any individual cases.

Individual assessments
Each child will be given a reading assessment, followed by a few short questions about their favourite and least favourite subjects and to assess their response patterns to academic difficulty. I anticipate this to take around 20-30 minutes.

Group/class assessments
Each child will complete the following assessments split over 2 sessions (each lasting less than 1 hour), or whatever is appropriate to fit in with the school timetable.
Reading Self-Concept Scale which looks at children's feelings about reading *(approx 15-20 mins).*

Perception of Ability Scale for Students (PASS) relating to people's feelings about themselves in school. Participants are to give yes/no answers *(approx 35-40 mins).*

The Theory of Intelligence Scale which is used to measure participants' views of intelligence *(approx 7 mins).*

The 'Myself as a Learner Scale' (MALS) (approx 20-30 mins)
This assessment will be used to measure participants' perceptions of themselves as learners and academic problem-solvers.

Additionally, the class teacher will answer a few yes/no questions relating to each child's approach to learning.

All participants will be asked to sign a consent form, which informs them of their rights to withdraw from the study at any stage and gives them contact details of my supervisor, Dr Simon Claridge, if they have any additional questions. All the data will be collected and stored anonymously and so it will not be able to be traced back to any individuals and it will therefore not be possible to give information to parents about their individual child's scores on tests. Please inform the school using the tear-off slip below, by DAY MONTH 2012 if you *do not* wish for your child to take part in the study. Children who do not take part in the study will undertake a school-based activity during the 2 research sessions.

Please let me know if you require further or more detailed information.

Yours sincerely,

Stephanie Homewood,

S. Homewood,   Dr. Simon Claridge
Trainee Educational Psychologist   Professional Tutor, DEdPsy
School of Psychology   School of Psychology
Cardiff University   Cardiff University
Tower Building   Tower Building
Cardiff. CF10 3AT   Cardiff. CF10 3AT
Email: Tel: 02920 876497
HomewoodSH@cardiff.ac.uk   Email: ClaridgeS@cardiff.ac.uk

In case of complaint, please contact:
Dr Simon Griffey
Research Director, DEdPsy School of Psychology
Cardiff University
Tower Building
Cardiff
CF10 3AT
Tel: 02920 870366
Email: GriffeySJ@cardiff.ac.uk

I **do not** wish for my child _____(PLEASE PRINT CHILD'S NAME) to take part in the study conducted by Stephanie Homewood, School of Psychology, Cardiff University with the supervision of Dr Simon Claridge.

Signed:……………………………………………………

Date: …………………

Appendix 5

Structured interview questions.

1. Which lesson do you think you are best at in school?
(Prompt for an answer if child does not know/respond e.g., Pick a lesson that you find quite easy).

2. Why do you think you are good at it?
(Prompt for an answer if child does not know/respond e.g., 'Are all children good at it?' Why is that?).

3. Which subject do you find most difficult at school?
(Prompt for an answer if child does not know/respond e.g., Pick a lesson that you find quite hard).

4. Why do you think you find it difficult?
(Prompt for an answer if child does not know/respond e.g., Do all people find it difficult? Why is that?).

5. What would need to change for you to be better at this subject?
(Prompt for an answer if child does not know/respond e.g., Would you or someone/thing else have to change? What would be changed?).

The answers to questions 2 and 4 were categorised into either internal or external attributions. The answer to question 5 was categorised into either effort-based strategies or negative effort-avoidant strategies.

Appendix 6

Table A6

Adaptations of the Reading Self-concept Scale Questions Relating to Perceptions of Competence in Reading

Original questions in the competence subscale	Adaptation of question (if at all)
1. Can you work out what a story means?	Can you work out what a story means?
4. Can you work out hard words by yourself when you read?	Can you work out what is going on in a story when you read by yourself?
7. Is work in reading easy for you?	Is the understanding of stories easy for you?
9. Are you good at remembering words?	Are you good at remembering stories?
12. Is it easy for you to read new words?	Is it easy for you to understand new stories when you read them?
15. Are you good at correcting mistakes in reading?	Are you good at correcting mistakes in reading?
21. Can you work out sounds in words?	Are you good at working out what will happen next in stories?
24. Do you learn things quickly in reading?	Do you learn things quickly in reading?
27. Do you think you read well?	Do you think you read well?
29. Can you work out hard words in a story even if there are no pictures?	Can you work out what is happening in a story even if there are no pictures?

Appendix 7

Teacher questionnaire.

Please answer the following questions about the child in your class, by ticking the most appropriate box.

Question	Yes	Sometimes true, sometimes not	No
1. Does he/she like having problems to solve?			
2. Does he/she need lots of help with his/her work?			
3. Does he/she like having difficult work to do?			
4. Does he/she think carefully about his/her work?			
5. Does he/she get anxious when he/she has new work to do?			
6. When he/she gets stuck can he/she usually work out what to do next on his/her own?			
7. Is he/she confident when given new work?			
8. Is he/she good at solving problems?			
9. Is he/she good at discussing things?			
10. Does he/she know how to be a good learner?			

Appendix 8

Questions from the RSCS used to determine recognition of comprehension difficulties.

07.   Is the understanding of stories easy for you?
12.   Is it easy for you to understand new stories when you read them?
26.   Is it hard for you to understand the stories you have read in class?

Appendix 9: Raw Data available in a separate file.