

**Self-Cognitions and Emotional and Behavioural
Difficulties in Primary School Aged Children with
Special Educational Needs**

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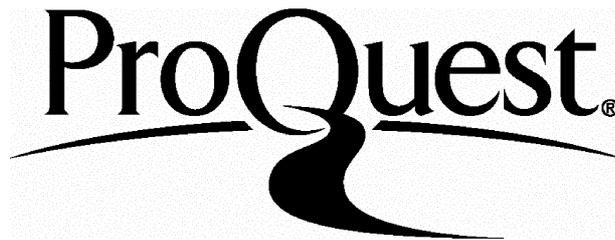
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ABSTRACT

It is estimated that nationally, some twenty percent of the school population will have Special Educational Needs (SENs) at some point in their school career, where they will have a learning difficulty requiring special educational provision. Recently, researchers have begun to consider the emotional and behavioural functioning of children who fall within the category of SENs and a range of studies have clearly shown that these children have an increased risk of developing emotional and behavioural difficulties.

This thesis investigates the self-cognitions of children with SENs, who due to their academic difficulties are proposed to be particularly prone to developing 'schemas' - or generalized core beliefs - of incompetence and low self worth. It examines whether these children, when compared to a control group of children not on the SEN register, show evidence of schemas about themselves that are specific to failure and incompetence, and whether they exhibit lower self-perceptions of their competence.

In addition, the mechanisms involved in making children with SENs more susceptible to developing emotional and behavioural difficulties are examined. It is proposed that a particular aspect of their vulnerability is linked to their self-cognitions, and it is predicted that self-cognitions will mediate the relationship between SENs and emotional and behavioural difficulties.

Different methodologies have been proposed for measuring schemas. This study utilises an incidental memory task previously used by Hammen & Zupan (1984), based on the hypothesis that a schema about the self stored in memory guides the selection, encoding and retrieval of information about the self, so that self-descriptive adjectives consistent with the schema are recalled better than schema-irrelevant adjectives.

One hundred children aged between 8 and 11 years old were tested in their primary schools. Children were divided into four groups, defined by two variables: Whether the child had SENs and whether the child was presented with a schema activation task. In the schema activation condition before the incidental memory task, children were required to complete a challenging educational task which was intended to activate schemas of incompetence. In the non-activation condition, children were not given the educational task. In addition, children were administered the Self-Perception Profile for Learning Disabled Students and two subtests from the WISC-III-UK, Vocabulary and Block Design. Teachers of participating children completed a brief behavioural screening questionnaire, the Strengths and Difficulties Questionnaire and children's results on the School Attainment Test (SATs) were obtained from the school.

Results indicated that children with SENs evidenced more emotional and behavioural problems, lower scores on Vocabulary and Block Design subtests of the WISC-III-UK, lower scores on academic attainment tests and lower self-perceptions of their Reading competence and Spelling competence than children without SENs. No differences, however, were found between the valence of words recalled by children with and without SENs on an incidental recall task, suggesting that children with SENs did not

show evidence of schemas more specific to failure and incompetence than children without SENs. Children's scores on the Vocabulary subtest of the WISC-III-UK acted as a mediator, explaining some of the relationship between SENs and emotional and behavioural difficulties.

The results were discussed in relation to the schema and self-concept literature.

Methodological limitations of the research were considered, as well as theoretical and clinical implications.

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CHAPTER 1

INTRODUCTION

Children with Special Educational Needs (SENs) have an increased risk of developing emotional and behavioural difficulties, in comparison to their normally achieving peers. There is a particularly high prevalence of emotional and behavioural problems in children with reading difficulties. Likewise, a considerable proportion of children with emotional and behavioural difficulties fall behind in the basic subjects (Chazan et al., 1991). In fact, Special Needs in learning and Special Needs in behaviour are inextricably linked (Gross, 1993), and it is very difficult sometimes to separate the two. Croll & Moses (1985, cited in Chazan et al., 1991) found that in a sample of 12,310 children in English Primary Schools, 18.8% of pupils were identified by their teachers as having SENs. In addition, 28.1% of those children nominated as having SENs, demonstrated both learning and behavioural difficulties. Moreover, teachers' judgements of whether particular children have learning difficulties can be heavily influenced by whether or not they display a particular behaviour pattern, such as fidgeting, distraction, or an inability to work in a group (Moses, 1982).

Studies have shown that learning disabled (LD) students are at an increased risk of developing depressive symptoms, when compared to their normally achieving peers (see Huntington & Bender, 1993). High rates of reading difficulties and learning disability have also been noted in samples of clinically depressed children and adolescents (Kennard, Emslie & Weinberg, 1992).

Although results of studies into general self-concept in LD samples have been mixed (see Renick & Harter, 1989), LD students are considered by many to be particularly prone to lowered self-esteem. This is due to the fact that they have typically had repeated experiences of failure and negative feedback within the academic setting (Meyer, 1983), and also as a result of their perceptions of themselves as different from their peers (Stanley, Dai & Nolan, 1997).

The causal relationship between emotional and behaviour problems and learning difficulties has yet to be resolved. It is not clear whether having a difficulty with learning predisposes a child to disruptive behaviour and emotional problems, or whether disruptive behaviour and emotional problems can themselves actually contribute to learning difficulties. It is also possible that there are other background variables at work, such as socio-economic status, family adversity and IQ, that could be critical in explaining both learning difficulties and behavioural problems.

This research was designed to investigate the self-cognitions of children with SENs, who due to their academic difficulties are proposed to be particularly susceptible to developing generalised core beliefs, or schemas, of incompetence and low self-worth. It will investigate whether these children, when compared to non-SEN children, evidence a more negative self-schema specific to failure and competence, and whether they also evidence lower self-perceptions about their competence.

In addition, this thesis will investigate the mechanisms involved in making children with SENs more susceptible to developing emotional and behavioural difficulties than their

non-SEN peers. It is proposed that a particular aspect of their vulnerability is linked to their self-schemas, particularly those related to failure and competence. This study will therefore investigate whether self-schemas have a relation to adjustment difficulties in children with SENs. In addition, the relation between self- concept and emotional and behavioural difficulties will also be investigated.

This chapter starts by discussing the literature on cognitive models of schemas and schematic processing. Following this, the role of the self system in competence will be discussed. Methods for measuring schemas will be considered, and a critique of the schema measure undertaken. Current perspectives on self-concept will be examined, and a comparison of self-concept and self-schema undertaken. Finally, current research on children with SENs will be reviewed, with particular attention paid to self-concept and adjustment.

Schemas

Cognitive theory suggests that schemas are stable and enduring themes regarding the self and one's relationships with others, which are developed in the first few years of life and elaborated throughout childhood and adulthood. They are believed to operate at a level beyond our awareness, guiding future thoughts, feelings, behaviours and interpersonal relationships, resulting in a repetition of earlier themes.

There is substantial historical precedent for the schema term and for schematic concepts, and it would entail a very lengthy discussion to trace the history of the term (Markus, 1977). This study will focus primarily on cognitive models of schemas.

Cognitive Models

In recent years, cognitive therapists have increasingly devoted their attentions to schemas - core beliefs that are hypothesised to play an active role in the maintenance of long-term psychopathology. The work of three major contributors to the study of schemas, Beck (1967,1976,1996), Young (1990, 1994) and Teasdale & Barnard (1993) will be reviewed.

Beck's Cognitive Theory

Aaron Beck introduced the concept of schemas to cognitive therapy. Drawing on the works of Bartlett (1932), Piaget (1947/50) and Kelly (1955), he defined the term schema as 'a structure for screening, coding, and evaluating the stimuli that impinge on the organism... It is the mode by which the environment is broken down and organised into its many psychologically relevant facets. On the basis of schemas, the individual is able to orient himself in relation to time and space and to categorize and interpret experiences in a meaningful way' (Beck, 1967 p.283). Schemas operate as rules beyond awareness, which govern information processing and behaviour (Beck et al., 1990).

Cognitive theory is based on an information processing theory which states that schemas develop as part of normal cognitive development. Children develop schemas, or cognitive structures, to organise the considerable amount of data they are constantly receiving. According to this theory, individuals group experiences into categories in order to help them understand and organise their world. A child groups cats, dogs and giraffes as 'animals' and may have a more specific schema of 'pet' that includes the first two animals but not the third (Padesky, 1994). The content of the schema may deal with

personal relationships (e.g., attitudes towards the self or others) or impersonal categories (e.g., inanimate objects). These objects may be concrete (e.g., a chair) or abstract (e.g., my country) (Beck et al., 1990). Schemas have additional structural qualities, such as breadth (whether they are narrow, discrete or broad), flexibility or rigidity (their capacity for modification), and density (their relative prominence in the cognitive organisation).

At any given time, a schema might be highly activated or completely dormant, or somewhere in between. When highly activated, a schema influences how the individual is processing information. Schemas, according to Clark et al. (1989), provide an economical system for processing information, as information consistent with existing schemas is encoded, while inconsistent information is disregarded (Greenberg, Vazquez & Alloy, 1988).

Significant early life experiences make lasting impressions on individuals and result in the development of schemas. Negative life experiences contribute to the development of maladaptive, or dysfunctional, schemas which may underlie psychopathology. They incorporate both core beliefs, such as 'I'm no good', and conditional beliefs, such as 'If I make a mistake my teacher will get cross and will shout at me' (Beck, 1967, 1976).

When activated, schemas give rise to negative automatic thoughts, which, in turn, lead to painful emotions, such as depression and anxiety.

Core beliefs, such as 'I am inadequate', are quite painful for individuals and they develop strategies to help them cope with, or prevent the activation of these distressing ideas. These strategies are often expressed as rules (e.g., 'I must not let others see that I

am stupid), attitudes (e.g., 'It would be terrible if others saw me as stupid') and conditional assumptions (e.g., 'If others see that I have failed the exam, they will think I am stupid') (J.S. Beck, 1995, p.169). As schemas are unconscious, people may not be aware of core beliefs like this until therapy.

As children begin to develop a negative core belief based on their experiences, they begin to process information in a distorted way. They interpret negative events as broad, global confirmation of their negative core beliefs. Positive events either go unnoticed, and therefore unprocessed, or are distorted so that the core belief is not undermined (J.S. Beck, 1995). For example, a child who believes that he is incompetent may not recognise his increasing mastery of skills or challenges, or may discount them (e.g., 'Anyone can do this' or 'This task might not be difficult for me, but most other things are'). The process of readily incorporating negatively perceived data and omitting or discounting positive data strengthens dysfunctional schemas in the individual's formative years. The specific beliefs and strategies that the child develops are idiosyncratic to the individual. Schemas are difficult to alter and are held in place by behavioural, cognitive and affective elements. Moreover, the hyper-valence of a particular schema may inhibit the activation of contrary schemas, which may be more adaptive to the specific situation (Beck, 1967).

Beck (1996) criticised this linear model of schemas for not fully explaining many clinical phenomena, including the fact that cognitive, physiological and affective systems act in synchrony and in ways specific to each emotional disorder and personality. In a revised theory, Beck (1996) suggested that schemas do not operate in a

linear fashion from stimulus, to cognitive schema, to motivation, affect and behaviour. Instead he proposed that they involve parallel, global processing of information. Beck (1996) therefore extended his theory of simple schematic processing. He introduced the notion of 'modes', which are conceived of as 'structural and operational units of personality' designed to deal with specific demands or problems.

Modes consist of a composite of cognitive, affective, motivational, and behavioural systems, each of which is composed of structures labelled 'schemas'. Therefore, the cognitive system consists of cognitive schemas, the affect system of affective schemas, etc. Each of the systems participating in a mode has a specific individual function, but they operate in synchrony with one another to implement a goal-directed strategy. Beck also introduced the concept of the 'orienting schema', which consists of a kind of algorithm that sets the conditions or circumstances for activating the mode.

Beck (1996) therefore uses the term schema to incorporate affect, cognition and motivation. Although he may have produced a useful clinical tool, it is arguable that the term schema has become too generalised and over-inclusive. In addition, this model has been criticised for not making it clear whether schemas are traits – constantly influencing information processing, or whether they remain latent until activated - at which point they bias processing (Segal, 1988). Furthermore, this model does not provide an explanation as to the development of particular schemas.

Young's Schema Focused Therapy

Jeff Young (1990, 1994) extended Beck's original model of cognitive therapy,

proposing an integrative model called 'Schema Focused Therapy'. He defined schemas as 'extremely stable and enduring themes that develop during childhood and are elaborated upon throughout an individual's lifetime... (which are) templates for the processing of later experience' (p.9).

According to Young, schemas are, by definition, significantly dysfunctional. They develop during childhood as the result of ongoing dysfunctional experiences, as children attempt to make sense of their experiences and avoid further pain. They eventually become elaborated over time, resulting in deeply entrenched patterns of distorted thinking and dysfunctional behaviours. According to McGinn & Young (1996), they interfere with one's ability to satisfy basic needs for stability and connection, autonomy, desirability and self-expression, as well as one's ability to accept reasonable limits and boundaries in relationships with others.

Young has identified a sub-set of 18 dysfunctional schemas which he calls 'Early Maladaptive Schema'. These are self-defeating, core themes or patterns that individuals repeat throughout their lives. He outlined specific cognitive, behavioural, experiential and interpersonal strategies for each one (Young, 1994). An example of a maladaptive schema is the 'Incompetence/Failure Schema' where the individual may believe that they have failed, will inevitably fail or is fundamentally inadequate (relative to their peers) in areas of achievement such as school, sport and work. They will often believe that they are stupid, inept, untalented, ignorant, lower in status and less successful than others (McGinn & Young, 1996). People with this schema often do not try to achieve because they

believe they will fail. This schema is likely to have developed as a result of negative experiences with parents, siblings and peers during the first few years of life. For example, a child who is repeatedly criticised when performance does not meet parental standards is prone to develop a failure schema. Each of the schemas is grouped within five domains or broad categories, and each of the domains is believed to interfere with a core need in childhood. The subset of 18 dysfunctional schemas is speculative and constantly open to modification.

A schema may remain dormant until they are activated by situations relevant to that particular schema (Young, 1994). Once activated, they can lead to high levels of affective arousal. A person with an 'Incompetence/Failure Schema' may function at a high level until they are in a situation that activates this schema. This could occur in a situation such as an exam which the person finds difficult. The individual may start to have negative thoughts, such as 'I can't handle this. I'll fail'. These thoughts are usually accompanied by a high level of affective arousal - in this case anxiety. Depending on the situation and the particular schema activated, other emotions may be experienced such as sadness, shame, guilt or anger (Young, 1994).

Although several schemas may underlie an individual's behaviours, thoughts, feelings and relationships with others, not all schemas will necessarily be active at the same time. A schema mode represents a group of schemas that are currently active for a particular individual. As an individual shifts into another schema mode, a different group of

schemas, previously dormant, now become active. In each mode, individuals may display different cognitions, behaviours and emotions.

Schemas become self-perpetuating and are therefore extremely resistant to change.

Since schemas develop early in life, they become comfortable and familiar and are often central to a person's self-concept and belief system. Even when presented with evidence that contradicts the schema, individuals persistently distort information to maintain the validity of the schema. For example, a person with a 'Failure Schema' might continue to feel stupid and inept despite doing well in a difficult exam. They may accredit their success to the fact that it was 'an easy exam'. The threat of schematic change may be too disruptive to the core cognitive organisation, and therefore a variety of cognitive and behavioural manoeuvres (schema processes) reinforce the schema. Young proposed that there are three schema processes that are initially adaptive in childhood, but these gradually become maladaptive styles of coping and, when activated, reinforce themselves. The three processes are:

- **Schema maintenance:** This refers to cognitive distortions and maladaptive behaviour patterns that directly reinforce or perpetuate a schema (e.g., exaggerating information that confirms the schema, engaging in behaviours that are consistent with the schema).
- **Schema compensation:** The individual consistently acts in a way opposite to what might be expected from their schemas. However, schema compensations often become too extreme, overshooting the mark and actually serving to maintain the schemas. This ultimately makes them feel even more inept.

- Schema avoidance: The individual avoids thinking about situations that might trigger a schema, avoids negative feelings associated with a schema, or behaviourally avoids situations that might trigger a schema. By doing so, he makes it likely that he will do badly, reinforcing the schema (self-fulfilling prophecy).

Table 1.1 gives examples of each of these three major types of schema processes, as well as an example of adaptive behaviour that is not schema-driven and is therefore typical of individuals who do not have the ‘Incompetence/Failure’ schema.

Table 1.1: Schema-Driven Behavioural Processes

Early Schema	Schema Maintenance Behaviour	Schema Compensation Behaviour	Schema Avoidance Behaviour	Adaptive Behaviour
Incompetence/ Failure	Fools around in class and under-performs	Spends excessive time on projects and must rush to meet deadlines	Avoids revising for exam and therefore fails	Does project well and accepts valid advice

Table adapted from J. E Young (1994). Cognitive Therapy for Personality Disorders: A Schema Focussed Approach. (Rev. ed.) Sarasota, FL: Professional Resource Press. p.19

Teasdale & Barnard (1993)

Teasdale and Barnard proposed a conceptual framework of Interacting Cognitive Subsystems (ICS) which presents a more detailed description of the various cognitive units, codes and patterns presented by Beck. Their formulations are complementary to those of Beck’s and provide testable hypotheses derived from cognitive science (Beck et al., 1996). Further, by drawing on the language, as well as the concepts of cognitive

psychology, they help to bridge the gap between clinically derived formulations and those of experimental disciplines (Beck et al., 1996).

According to the ICS theory, there are qualitatively different kinds of information, or mental codes. Information processing consists of the storage of patterns of information and the transformation of one kind of information (e.g., patterns of light, shade and colour) into other forms of information (e.g., an object). Cognitive processing occurs within and between subsystems, each of which is specialised in processing and transforming one form of information (e.g., sensory codes, meaning codes, etc.). All patterns of information codes created are stored in memory, with separate memory systems for each of the different mental codes.

ICS distinguishes two kinds of meaning sub-systems – a relatively specific ('propositional') and a more generic ('implicational') sub-system. Patterns of propositional code represent specific meanings in terms of discrete concepts - for example, 'the apple is red'. Meaning is grasped relatively easily at this level as there is a relatively direct relationship between language and concepts (Teasdale, 1996).

Patterns of implicational code are particularly important to this discussion. They 'represent a more generic, holistic level of meaning' (Teasdale, 1996, p.29). At this level, meaning is more difficult to convey as it does not map directly on to language. This generic level of representation encodes high-order regularities across all other information codes, which are known as 'schematic models of experience'. ICS proposes that only this generic level of meaning is directly related to emotion and that,

subjectively, production of general meanings is marked by experience of particular holistic 'senses' or 'feelings' with implicit meaning content. For example, 'something wrong', 'confidence' or 'on the right track' (Teasdale, 1996).

Emotion-related schematic models encode features extracted as prototypical of previous situations deriving a given emotion. Subsequently, during the course of information processing, when patterns of implicational code corresponding to such models are produced, the corresponding emotion is produced. So, for example, synthesis of schematic models encoding themes typical of previous depressing situations (such as a globally negative view of the self), will lead to the production of a current depressed emotional state.

Implicational code patterns integrate elements from all low-level sensory codes (acoustic, visual, body state, object and speech codes), together with semantic relationships (e.g., birds have wings), to produce holistic meanings. As patterns of implicational code represent recurring patterns across all other codes, sensory features (such as tone of voice, or facial expression) make a direct contribution to implicational meanings, together with specific meanings. The following is an example of schematic implicational meaning: A teacher says to a student, 'Try again'. In one instance, the teacher smiles, uses a gentle tone of voice and the student hears this while feeling relaxed after a break. In another instance, the teacher says, 'Try again' in a tense, strained voice and the student hears this at a time when he is already feeling tired. By combining sensory information with the utterance, two different holistic meanings are encoded. In the first instance, 'What a patient teacher, she really helps me to

understand things' and in the second 'I'm never going to understand how to do this. I must be really stupid'.

Teasdale & Barnard demonstrate how the implicational schematic model can influence future information processing, behaviour and emotion. Elements that do not fit with a largely supported schematic model will often not be processed further. For example, if most elements fit a model of self as worthless and incompetent, other contradictory evidence of a recent success will be disregarded. Schematic models contain implicit knowledge of the likely consequences, related actions and emotions within a situation. For example, a glass falling off a shelf could then generate semantic codes ('a glass falling off a shelf may shatter'), emotions (annoyance) and action codes ('fetch a broom to sweep up the glass'), stored in memory and used for future situations.

The ICS theory could be criticised for explaining so many things, that it is difficult to test or make predictions from it. However, Teasdale & Barnard (1993) argue that this complexity is understandable, given the intricate nature of information processing.

The Role of the Self-System in Competence

Perceptions of one's own competence are critical to individual functioning throughout life (Bandura, 1986). Competence is not an objective phenomenon (Sternberg, 1990), and depends to some extent on cultural factors.

Markus, Cross & Wurf (1990) examined the structures and processes of the self-system that are essential for creating and maintaining competence over the life span. Their

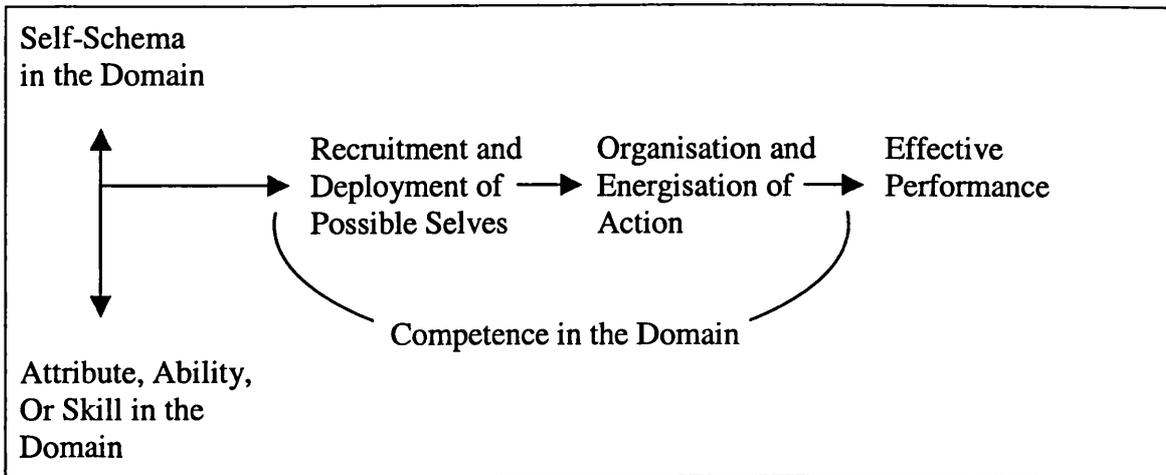
central idea is that 'competence is mutually and reciprocally related to the self-system. It is rooted in one's attributes or abilities and also in the structures of the self system that *represent* these attributes or abilities' (p.206). The structure of self-knowledge that represents one's important attributes or abilities ('me' as 'intelligent', or 'good in school') are core self structures or self-schemas (e.g., Markus, 1977).

Competence in a domain requires both ability in a domain, and a self-schema for this ability (Markus et al., 1990). A self-schema involves the recognition that one has the ability and the belief that it is important. Sometimes, the abilities are present first and self-schemas develop from the knowledge that one possesses them. At other times, the self-schemas are present before the abilities develop – i.e., the self-structure that is initially present is typically a desire or an intention to possess the relevant skills. It is possible to possess abilities without being actively aware of them. However, Markus et al (1990) believe the instrumental exercise of competence in a given domain usually requires the understanding that one possesses the required abilities. This is typically described as 'felt' or 'perceived competence', which Markus et al (1990) argue is an essential part of actual competence. Making this distinction between actual competence and perceived competence is important, as low perceived competence may or may not constitute an accurate perception of incompetence. Incompetence can also be the result of undeveloped or negative self-structures. For example, children who are never praised for their mathematical skills are unlikely to develop schemas in that domain, resulting in a sense of incompetence and less effective performance.

Self-schemas simultaneously summarise a particular competence or set of abilities and confer an aspect on identity. Schemas are created selectively on the basis of one's experience in a given domain. They integrate representations of the self (past, present and future) and function to organise the processing of self-relevant information in a given domain (Markus, 1983). The individual who knows that she is 'clever' will be particularly sensitive to issues relevant to intelligence, both in her own behaviour, and in that of others. It is the self-schema that allows an individual to use his or her abilities instrumentally and to have a sense of control over them. Individuals with a self-schema in a particular domain (schematics) consider the domain to be of critical personal importance.

In this framework, structures of the self guide present and future actions in a given domain. Therefore, a significant component of any self-schema is one's beliefs about what is possible in a domain in the future. Markus et al (1990) introduced the idea of possible selves: 'The future oriented components of self-schemas... [which] are essential for putting the self in to action' (p.207). They are the selves we could become, would like to become, or are afraid of becoming (Markus & Nurius, 1986). Possible selves are specific representations (imaginal, semantic, enactive) of one's self in the future, that organise and drive one's actions (Markus et al., 1990).

Figure 1.1: The hypothetical relationship between abilities, self-schemas, and possible selves in producing effective performance



In Markus, H., Cross, S. & Wurf, E. (1990). The role of the self-system in competence. In R.J. Sternberg & J.Kolligan (Eds). *Competence Considered*. New Haven: Yale University Press. p.208.

All individual actions are driven by the accessible possible selves (Markus et al., 1990). Experiencing a desired possible self creates a positive emotional state, and the desire to maintain this state is arousing or energising. Secondly, information processing becomes biased in favour of stimuli that are consistent with the desired possible self. By envisioning or partially enacting anticipated possible selves, individuals may also be able to construct some representation of the self in the future (Markus, 1990). In fact, the belief that one is competent can actually create competence by selectively directing attention, efforts and energies toward the desired action, and away from inconsistent or contradictory thoughts, feelings and actions. Therefore, most of the time when one has a sense of competence, one will be competent, at least relative to one's self without this feeling. Phillips & Zimmerman (1990) believe that children's perceptions of their abilities may be more important than their actual abilities in determining their motivation and achievement at school.

Markus et al., (1990) believe that the role of the social environment is crucial to the development of competence. In order to develop a self-schema of competence, the individual must attend to and notice an ability. This could be as a result of others labelling it for them (e.g., teachers and parents) or because they contrast their performance with that of others. Distinctive (or relatively unusual) characteristics are the most likely to be noticed, and it is around these that self-schemas are likely to develop.

Furthermore, in order to develop a self-schema of competence, the individual must make internal and stable attributions for his distinctive performances. Self-schemas entail a belief that the person is responsible for his or her own behaviour (Markus, 1983), and if external attributions are made for distinctive performance, the person may fail to develop a self-structure around this ability. For example, if a child's peer suggests that her high mark in a maths exercise was only due to parental help, she will have difficulty believing in her own mathematical ability, even if she received minimal help. Similarly, although the belief that effort can make a difference in performance is highly adaptive, particularly after failure (Bandura, 1986), the belief that one's successful performance is due only to effort can be very detrimental to the development of self-conceptions of ability (Nicholls, 1984).

Harter (1985b) reports that low self-worth children are those who are distinctive in important domains – they do poorly at their schoolwork or are not socially accepted. In addition, these children make non-self serving attributions - taking as much responsibility for their failures as their successes, and attributing their successes to

external circumstances. Such patterns of noticing and attributing one's abilities mediate self-schema development. Once formed, these positive or negative self-schemas for ability work in conjunction with the ability itself to create actual or perceived competence.

Other people in one's environment also influence the development of one's self-structures. These people determine what attributes are valued – e.g., musical ability, athletic ability, etc. Through direct and indirect feedback, the individual may be encouraged to develop and validate particular possible selves that reflect these values. For example, if a teacher tells a child she is good at reading, she may develop an idea of herself as being a good reader, even if she is only average in ability. This belief however can lead the child to engage in behaviours (reading books at home, etc.) that will, in effect, make her a better reader. Research on the self-fulfilling prophecy (Miller & Turnbull, 1986) suggests that people frequently perceive themselves as others perceive them.

Self-schemas may be challenged by failure and disappointment. When a self-schema is threatened, the individual may attempt to make a self-serving attribution for the failure, explaining it as due to external, unstable, and/or uncontrollable factors (Snyder, 1979). Another technique is to make a downward social comparison, looking for others who have done less well (Markus, et al., 1990). Finally, individuals may attempt to affirm themselves in other important domains (Steele, 1988).

Measuring Schemas

Beck proposed that schemas can be inferred from behaviour or assessed through interview and history taking (Beck et al., 1990). Different methodologies have been proposed for measuring schemas. These include self report measures and memory tasks.

Self Report

Self report measures have been frequently utilised for this purpose. For example, the Young Schema Questionnaire (2nd edition), a self-report questionnaire designed to assess the early maladaptive schemas is frequently used with adults. Recent studies generally confirm the factor structure of this questionnaire (Schmidt, 1994; Young & Brown, 1994). Padesky (1994) suggested that maladaptive schemas can be identified by asking clients to do a simple series of sentence completions, 'I am_____', 'People are_____' and 'The world is_____'. Since sentences are usually stated as absolutes, these sentences can usually be completed with a single word to identify a schema.

A wide variety of studies have investigated the relation between child depression and cognitive variables such as attributional style (e.g. Hammen, Adrian & Hiroto, 1988), learned helplessness (e.g., Reynolds & Miller, 1985), self-perceived competence (e.g., Harter 1985a), automatic thoughts (Kazdin, 1990) and negative cognitive errors (e.g., Hayley, Fine, Marriage, Moretti & Freeman, 1985). However, in almost all of these studies, cognitive factors were assessed by children's self-report. Segal (1988) noted that paper and pencil measures of schematic processes provide only descriptive information about schemas, and cannot provide evidence of the functional characteristics

implicit in self-schema models of depression. Also, although the endorsement of a trait adjective as self-descriptive, may reflect an underlying, well articulated schema, it is equally possible, that the mark on the self-rating scale is not the product of a well articulated schema. Instead, it is the result of the desirability of the trait term, the context of the situation, the necessity for a response, or other experimental demands.

Furthermore, if schemas operate at an unconscious level as the theory suggests, they will not be readily accessed using self report measures.

Information Processing Tasks

Research in information processing has yielded consistent evidence supporting the self-as-schema model with adults. It is proposed that the self is a unique cognitive structure, and Markus (1977), Rogers et al. (1977), and Derry and Kuiper (1981) developed general self-as-schema theories that have relatively strong grounding in information processing concepts.

According to the self-as-schema model, information is better remembered when it is processed in relation to the self, than when it is processed from another standpoint (e.g., its semantic characteristics). This effect was explained with reference to Craik and Lockhart's (1972) notion of levels of processing, suggesting that superior memory derives from deeper processing of self-related input, because this type of input is elaborated within an interconnected cognitive structure of self-related concepts (Segal, 1988). This self-schema model systematises Beck's view of depressive self-schemas (Zupan et al., 1987).

Hammen & Zupan (1984) adapted a self-schema incidental memory task for children from procedures employed with adults (e.g., Derry & Kuiper, 1981) and based on the theory that a schema about the self stored in memory guides the selection encoding and retrieval of information about the self, so that self descriptive adjectives that are consistent with the schema are recalled better than schema irrelevant words. Children between the ages of 8 and 12 years were administered a depth of processing task. A list of 44 words was selected, 22 of which were positive in content (e.g., helpful, smart) and 22 negative (e.g., lonely, ugly). In the depth of processing task each word was presented under one of two encoding tasks: structural ('Is this a long word?') or self-referent ('Is this word like you?'), and the child was required to make a 'yes'/'no' decision for each word. Children were then unexpectedly asked to recall as many of the adjectives as possible, in any order. Children were also administered the Children's Depression Inventory (Kovacs, 1980) and the Piers-Harris Self-Concept scale (Piers & Harris, 1969).

Results supported the self-as-schema model as applied to children, (even the youngest children), by indicating superior recall for words encoded under self-reference instructions, compared to structural or semantic instructions. The content-specificity hypotheses were tested with relatively depressed and non-depressed children, and were supported only for the non-depressed children, who recalled mostly positive content words. The relatively depressed group did not demonstrate content-specificity in their recall. Although they tended to recall more negative content words rated 'yes' in the self-referent than structural condition, the effect was non-significant.

The study was replicated by Zupan, Hammen & Jaenicke (1987), this time using a sample of children with current or past histories of diagnosable depression. In this instance, clinically depressed children showed even stronger recall of negative self-descriptive adjectives than in previous research. This study also set out to investigate the contribution of prior history of depressive experiences to the display of negative self-schemas. It was found that the extent of previous experience with depression did not predict degree of negativity of current self-schema beyond that predicted by current mood. These results are consistent with a growing body of data that show current mood to be the strongest predictor of negative self-schema in adults. In contrast to a view of self-schemas that considers them to be stable and continuously active, data clearly indicates that they are not detectable until the person is depressed (e.g., Hammen et al., 1985). Such findings suggest that schemas may be 'latent' until activated by depressed mood; therefore, while they may not cause depression onset, they may intensify or maintain depressed mood once activated in vulnerable persons.

These studies demonstrated that there is evidence for a sense of self that facilitates memory in children, and that a negative self-image is more accessible to relatively depressed children, compared to non-depressed children. Schema-based processing is well in place in children, and may play a role in future vulnerability to depression.

Although incidental recall is the method most frequently utilised for measuring self-schemas, Prieto et al. (1992) propose that recognition measures may also be employed. It has been argued that incidental recall provides evidence that schemas influence the encoding and/or retrieval of pertinent information. However, Prieto et al. (1992) argue

that failure to recall certain information does not necessarily imply that the material was aschematic, especially if the schema facilitated storage but not retrieval. Prieto et al. (1992) propose that recognition measures are sensitive to stored, but previously inaccessible information (Alba, Alexander, Hasher, & Coniglia, 1981), and that recognition can serve as a useful complement to recall, in that incidental recall reflects availability (McDaniel & Kerwin, 1987). Consequently, Prieto et al. (1992) believe that comparing outcomes on recall and recognition tasks may help determine whether the negative cognitive bias in depression is the result of selective encoding or selective retrieval.

A further assessment strategy to incidental recall, according to Prieto et al. (1992) involves a reaction time paradigm. This procedure focuses on the time interval between the question 'Is this word like you?' and the subject's response. The amount of time that elapses may provide a measure of processing efficiency and schema consolidation. Prieto et al. (1992) suggests that this strategy may avoid problems such as cueing and priming that may affect memorial measures of schematic processing (c.f. Segal., 1988).

Prieto et al. (1992) compared depressed clinic referred children (ages 8-12) to non-depressed clinic referred children and to non-depressed non-clinic children. An incidental recall task was employed, as well as a recognition task and a reaction time measure. The results of this study support the notion that problematic cognitive self-schemas are related to depression in children, and suggest that such schemas affect both storage and accessibility of new information. On word recognition and incidental recall measures, depressed subjects exhibited a less positive self-schema compared to the two

non-depressed groups; however all groups recognised significantly more positive than negative self-referential words. Furthermore, only the non-depressed groups recalled significantly more positive than negative words. On reaction time measures, no differences were found between the three groups.

Using a different methodology, Whitman and Leitenberg (1990) provided further evidence that depressed children lack positive self-schemas. School children who were high or low on self-reported depressive symptoms were given positive or negative feedback on a word association task. Later they were (incidentally) presented the original word list and asked to recognise which words they had got right, which they had got wrong, and what the correct responses were. Depressed children correctly identified fewer of the words that they had previously got right than did non-depressed children. Depressed children however did not differ from non-depressed children regarding the words they had previously got wrong. When asked to recall the right answers to the task, depressed children did more poorly than non-depressed children. The authors concluded that problematic processing of positive but not negative information appears to distinguish depressed from non-depressed children. Learning from feedback about one's failures and accurate recall of one's successes are impaired in depressed children.

Hammen & Goodman Brown (1990) utilised a different procedure to test the hypothesis that depression results from the match between an area of particular meaning to the self and the occurrence of negative life events in that domain. This procedure was modelled after an experimental method previously used by Hammen, Marks, Mayol & deMayo (1985) with college students. It is a memory task based on the assumption that

information retrieved from memory may be used to infer the presence of an organising schema that facilitates retrieval of memory of events. Children (aged 8-16) of depressed, medically ill and normal mothers were asked to recall specific instances of four kinds of recent events: times when they felt good about themselves; times when they felt bad about themselves; times when they felt they didn't do as well as expected or criticised themselves for something they did; and times when they felt alone or uncared for. The procedure was administered in interview format, with examples provided so that children understood the task. Judges rated the content of each recalled example according to whether its content and intention were primarily interpersonal (involving behaviours or feelings about other people or social situations) or achievement (involving behaviours or feelings about performance or level of skills).

They found that most children could be classified according to the prominence of interpersonal and achievement themes in their recollections of recent personal experiences. These themes may be viewed as 'self-schemas that help to organise and interpret incoming information and facilitate the recall of events from memory' (p.223). They demonstrated that there was a significant association between the onset or exacerbation of depression and the experience of stressors relevant to the child's self-schema classification – i.e., the extent of 'matching' between negative events and pre-existing self-schemas was significantly related to depression outcome. The effect was clear for interpersonal schemas, but since very few children who became depressed had achievement schemas, it is unclear as to whether the predicted effects holds for that group as well. According to the authors, this study provides preliminary confirmation that the self-schema event matching hypothesis is valid for children and adolescents, a

result consistent with those obtained for college students (Hammen et al., 1985).

Children not only display cognitions about self-evaluation and appear to use organised self-evaluative frameworks to retrieve information from memory, but also tend to attach particular personal meaning to different content domains.

Hammen et al. (1990) suggest that although this method was helpful in classifying college students' schemas, some problems were evident when it was employed with younger children, as they were less able to retrieve memories. Therefore, other approaches for measuring schemas that do not depend on memory may be more effective. It is also not clear whether the categories for eliciting children's memories – achievement and interpersonal themes - are the best ones for characterising meaningful experiences for children.

Activation of Schemas

Taylor & Ingram (1999) suggest that triggering or activating variables be incorporated into studies which set out to measure schemas, as it is likely that schemas may not become active until they are accessed by a triggering event. Priming represents one laboratory procedure that has been used to trigger the activation of cognitive structures that are hypothesised to be both negative and reactive (Persons & Miranda, 1992).

Studies have typically used negative mood as a way to prime reactive schemas, and have shown that such priming methods are effective in facilitating the detection of otherwise inactive negative cognitive features in adults who are vulnerable to depression (Segal & Ingram, 1994).

Taylor and Ingram (1999) utilised a priming procedure. Although research suggests that children with depressed mothers are at increased risk for developing psychological disorders, the mechanisms of this risk are not well understood. Taylor & Ingram (1999) assessed potentially reactive and depressotypic cognitions in children with unipolar depressed mothers. Children from ages 8-12 years, with depressed mothers (high risk for depression) and without depressed mothers (low risk for depression), were randomly assigned to either a neutral or induced sad-mood condition. In the sad-mood condition, children were asked to think of something that had happened to them and made them feel bad. They were asked to dwell on these thoughts for around 30 seconds and to describe what they had been thinking about. In the neutral condition, children were asked a series of non-affective questions (e.g., how they travel to school). Following either the sad-mood or neutral induction, children were given a depth of processing incidental recall task (Hammen & Zupan, 1984).

Results demonstrated few differences between high- and low-risk children under ordinary mood conditions. However, in a negative-mood state, high risk children, showed characteristics indicative of cognitive vulnerability. For example, although high risk children were able to maintain adequate levels of positive-self referent information processing, they displayed an enhanced processing of negative self-referent information when in a negative mood. These results suggest the presence of dysfunctional cognitive self-structures in high risk children, that are dormant until activated by sadness producing events. From a methodological perspective, these results suggest that it may be important to incorporate activating stimuli in the assessment of self-schemas.

Segal, Hood, Shaw & Higgins (1988) investigated cognitive orientation in depression, using a modified version of the Stroop Colour-Naming task, which attempted to prime or activate subjects' self-schemas prior to testing. Unipolar depressed patients, anxiety disorder patients and normal controls were asked to colour name personal adjectives that had been previously rated as either extremely self-descriptive or neutral. Each experimental trial consisted of the presentation of a prime word followed by a target word printed in colour, and the subject's task was to name the colour of the target and then recall the prime. The results indicated a significant effect of prime-target relatedness, in that longer colour-naming latencies were obtained when the prime and the target were both self-descriptive adjectives than when only the target was self-descriptive and the prime was not. The mechanism thought to underlie this effect is one of 'spreading activation' (Anderson & Bower, 1973), in which the activation of one element in a structure results in sub-threshold activation of neighbouring elements. This suggests that information about the self is represented with a higher degree of interconnection than information that is not self-descriptive, and in this sense supports the notion of a cognitive schema of the self. For self-descriptive adjectives alone, this effect was significant for the depressed group. Depressed individuals were more likely to endorse negative adjectives as self-referent than were non-depressed subjects, suggesting that the content of a depressive's self-schemas may be relatively more negative.

Summary and Critique of Schema Research

As discussed above, there are a range of schema definitions leading to some confusion as to exactly how schemas operate within psychological problems and in normal

development. This confusion makes the term schema conceptually ambiguous (Taylor, 2000). The concept seems so diffuse that it can explain all processes, (developmental, cognitive, affective and physiological), involved in psychological problems. In the same way, this diffuseness hinders research which requires conceptual specificity to generate falsifiable predictions and ensure construct validity (Taylor, 2000). In addition, reliable measurement of schematic processing in depression remains elusive (Segal et al., 1988). This is partly due to the lack of consensus within the field regarding what an acceptable self-schema measure is, and is well illustrated by the current proliferation of such tasks.

Although self-report measures have been used in an attempt to assess schemas, this is problematic. For example, Segal (1988) believes that paper and pencil inventories of schematic processes are not capable of providing the type of evidence necessary for demonstrating cognitive structures. This method measures schemas only indirectly, reflecting the relative fluctuation of negative verbalisations associated with the depressed episode (Coyne & Gotlib, 1986). In addition, the strategy of relying on negative self-reports to validate a construct whose operation is intended to explain these self-reports becomes increasingly circular unless additional external referents can be provided to demonstrate schematic processing (Segal & Shaw, 1986).

As discussed above, information processing tasks have also been used to measure schemas. These, however, are often criticised for not incorporating any activation or priming of the construct to be tested (Segal, 1988). In the absence of priming, it is difficult to know whether or not the results from such studies reflect schematic

processing, since we have no way of knowing if the structure was activated during testing. This study aims to rectify this by incorporating a schema activation condition.

Method artefact and poor construct validity are major problems with this research, in that results may reflect the methodology used, rather than the presence or impact of schemas. It is unclear as to whether the differences between depressed and non-depressed subjects on incidental recall tasks are due to structural effects or merely to mood congruency between the subject's affective state and the material that he or she is asked to rate or recall (Segal, 1988).

Segal (1988) argues that to demonstrate negative self-schema, one must go beyond looking at the content of information stored, such as beliefs, to determine whether there are functional inter-relationships between individual stored elements. Only by doing so, will research eliminate a purely mood congruency effect. Yet research in this area has largely failed to do this, often only examining the impact of beliefs on mood in a cross-sectional manner.

Schemas have been used extensively in the theoretical literature to explain a host of psychological difficulties. However, much debate remains over the exact definition of the concept. In addition, there is a clear need for more conclusive research into the reliable measurement and assessment of schemas.

Self-Concept

The terms 'self-concept', 'self-esteem' and 'self-worth' have been used rather

interchangeably within the literature. This study will focus on the works of Susan Harter, a major contributor to the study of self-concept in children. Harter uses the term 'global self-worth' to refer to 'the overall value that one places on the self as a person, in contrast to domain-specific evaluations of one's competence or adequacy' (Harter, 1990, p.67).

Harter (1998) highlights the distinction within the literature on the self, where there has been a contrast between the spontaneous self (measured by relatively open-ended self descriptions) and the more reactive, evaluative self - in which individuals are asked to make judgements about their competency or adequacy across a variety of domains. This evaluative self, measured by self-report, is a conscious process, presumably different to schemas which are thought to reflect unconscious processes.

Some theorists (e.g., Coopersmith, 1967) have proposed that self-concept is a unidimensional construct, best assessed by combining an individual's self-evaluations across items tapping a range of content. Items are given equal weight, and it is assumed that the total score adequately reflects an individual's sense of self across the various areas of his or her life.

An alternate model is that proposed by Rosenberg (1979) who emphasised global self-esteem – the general regard that one holds for the self as a person. Rosenberg proposed that this global judgement is the product of a complex combination of discrete judgement about the self. However, the individual is probably unaware of the process through which these elements of self-esteem are weighted and combined, and therefore,

rather than examining these underlying judgements, a global self-evaluation of one's esteem is a logical reality for adults and can be assessed directly.

Harter's model of self-concept is an amalgamation of the two approaches. The need to consider the multidimensional nature of the self-evaluative judgements is considered, as well as the individual's overall sense of self-worth. In this model, global self-worth is a construct in its own right – an overall judgement about one's self-worth as a person (consistent with Rosenberg's conceptualisation). It is assessed, not by combining domain specific judgements, but by asking an independent set of questions that tap the construct of self-worth directly.

Harter argues that unidimensional single-score instruments of self-esteem (e.g., Coopersmith, 1967) mask important evaluative distinctions that individuals, beginning in middle childhood, make with regard to their adequacy across various domains of life experiences (Harter et al., 1998). Newer instruments tend to be multi-dimensional and provide separate scores for each of the domains included - for example, academic ability and physical appearance, as well as retaining the concept of global self-esteem or self-concept. One advantage of these newer, multi-dimensional instruments is that they provide a profile of scores across the particular domains identified, allowing for an examination of a pattern of perceived strengths and weaknesses. Also, they permit one to examine the relationship between domain specific evaluations and judgements of global self-esteem to determine whether some domains are more predictive.

Harter and colleagues have investigated the proliferation of domains across the lifespan. Theory and research have indicated that with development, an increasing number of self-concept domains can be articulated and differentiated. For example, Harter & Pike (1984) showed that 4-7 year old children can make reliable judgements about the following four domains: cognitive competence; physical competence; social acceptance; and behaviour concept - provided that pictorial stimuli describing concrete manifestations of relevant behaviours are presented. However, although children in this age range are able to articulate their judgements about the self, judgements across the domains are not clearly differentiated (Harter & Pike, 1984). Children in this age range are also not able to make judgements about their self-worth and it is not actually until middle childhood that children have a verbalised concept of their global construct, as tapped by self-report measures (Harter, 1990).

As the child grows older, the structure of the self-concept changes and more domains are differentiated. Harter and colleagues have produced self-report instruments intended to be employed with different age groups, reflecting these changes (e.g., Self-Perception Profile for Children (Harter, 1985a); Self-Perception Profile for Adolescents (Harter, 1988) and the Self-Perception Profile for College Students (Neeman & Harter, 1986). In constructing these instruments, it was necessary to consider both the role of cognitive-developmental advances as well as environmental influences in producing differentiation within the self-system. While the cognitive apparatus becomes increasingly capable of discriminations, changing environmental circumstances may also support such distinctions (Harter, 1990).

Harter drew on the works of James (1892) and Cooley (1964) in her work on self-worth. According to James, one's overall sense of esteem does not involve the mere averaging of one's competencies. Instead, one places a different *value* on success within the various domains of one's life. James proposed that individuals compare their level of competence to the importance of success across numerous domains, and the degree of congruency or discrepancy that results will determine their level of self-esteem.

Cooley proposed that the origins of the self were primarily social in nature and that they exist in the attitudes of significant others. One is motivated to appraise others' attitudes toward the self - opinions that one then imitates or incorporates and that affect one's own sense of self. Cooley termed these appraisals the 'looking-glass self' since significant others are 'the social mirror into which one gazes for information that defines the self' (Harter, 1990).

Both James' and Cooley's formulations were intended to provide an explanation for the level of adult self-esteem. However, Harter (reported in Harter, 1990) found clear support for both these formulations, in school children in grades 3 to 6. In fact, Harter found that the impact of James' competence/importance construct is quite similar to the influence of Cooley's positive-regard construct in magnitudes, and that the contributions of the two constructs appear to be relatively independent. Thus, Harter proposed both constructs are critical in determining self-worth and that an additive model seems best to capture the effects, in that these two constructs combine to produce one's level of self-worth.

Harter also found that certain domains systematically contributed to self-worth more than others. For example, physical appearance was the most important contributor for both elementary and middle school students, followed by social acceptance. With regards to the effect of support, it was found that parental and peer support were the biggest contributors to self-worth. Interestingly, peers seemed to have more of an influence on self-worth than do close friends.

Young children tend to inflate their sense of adequacy and tend to produce unrealistically high judgements of their self-worth. Children's perceptions of their abilities grow more modest and more accurate from early to late childhood (Frey & Ruble, 1987) and there is over-optimism in young children's expectancies. Harter (1990) reported that this tendency reflects age appropriate distortion in that young children naturally confuse the wish to be competent with reality. Higgins & Parsons (1983) have argued that the ways in which children interpret information are affected not only by their maturing cognitive abilities, but also by parallel changes in socialisation agents, social comparison opportunities, and social roles. The child is also unable to accurately use social comparison information for the purpose of self-evaluation (Ruble, 1983). Moreover, benevolent socialising agents typically provide extremely positive feedback concerning the young child's displays of competence, often making favourable comparisons with the child's past level of accomplishment. Such praise tends to reinforce the young child's egocentric perceptions of competence (Harter, 1990). Bierer (1982, reported in Harter, 1983) found that capable children who underestimated their abilities sought less challenging tasks than did children with accurate ability appraisals. Bierer concluded that these children's beliefs about their abilities rather than

their actual abilities mediated their behavioural choices. In contrast, children who overrated their abilities selected easy tasks that were in line with their actual (low) abilities. Overraters therefore appear to be aware of their lesser abilities, despite the fact that they claim to have high abilities. In a replication of these results, Harter (1985b) suggests that underraters believe their self-perceptions, whereas overraters are engaging in a protective self-presentation strategy.

Harter has also examined the hypothesis that self-worth serves as a mediator of one's general affective and motivational states. This line of inquiry is consistent with sequential models, demonstrating that a self-judgement can elicit an emotional reaction that, in turn, mediates one's motivation or behaviour (Bandura, 1978). Harter & Nowakowski (1987, cited in Harter, 1990) found that self-worth has a major impact on one's mood or affective state, which in turn has a critical impact on children's energy levels. Thus, the chain of effects reveals that self-worth does have a functional role, given its impact on affect and subsequent motivation.

Given the extremely strong relationship between self-worth and affect obtained in studies (Harter & Nowakowski, 1987), it seems that the majority of children in normative samples who have low self-esteem also reported depressive affect. However, Harter (1990) notes that since the concept of global self-worth as a self-reported cognitive evaluation of the self does not emerge until the age of 8, the link between low self-worth and depressed affect may not emerge until middle childhood. Harter found that children with depressed affect and low self-worth reported other indications of self-deprecatory ideation, consistent with Harter's model. They have a large discrepancy

between their perceived competence and the importance of success, and they report dissatisfaction with their physical appearance. In addition, their social support scales are low.

The issue of stability in children's self-conceptions has received extensive empirical attention (Harter, 1983; Rosenberg, 1979). Indeed, self-perception research generally assumes some reasonable degree of consistency over time in how individuals view themselves. However, Phillips & Zimmerman (1990) found the opposite – that the illusion of incompetence, or more generally the accuracy with which children perceive their abilities is not necessarily an enduring characteristic or cognitive style.

Similarities and Differences between Self-Concept and Self-Schema

There are some similarities between the concepts of self-esteem and self-schema.

According to the literature, both concepts are said to develop in childhood as a result of significant early life experiences. Cognitive theory is unclear as to when exactly schemas develop. However, Harter & Pike (1984) showed that although 4-7 year old children can make reliable judgements about their competence in several domains, it is not actually until middle childhood that children have a verbalised concept about their global construct, as measured by self-report measures. Both schema theory and self-concept theory propose that schemas or self-perceptions can exist in many domains. For example, Young (1994) identified 18 maladaptive schemas affecting different areas of an individual's life and much of the work on self-concept looks at individuals self-perception in various domains of their lives.

This is where the similarities between the two concepts end, and several important distinctions exist. Self-esteem is an evaluative self, which is typically measured by self-report. It is a conscious process, presumably different to schemas - which are thought to reflect unconscious processes. Although some researchers have attempted to measure schemas using questionnaire formats, as already argued, this is not a reliable method of measuring an unconscious process.

Hammen (1988) compared a widely used trait measure of self-concept (Piers-Harris Self-Concept test, 1969) and an incidental recall task. She found that children's negative self-concept score contributed significantly to the prediction of depressive diagnoses over a 6 month follow up period. Diminished self-concept appears to serve as a vulnerability factor for increased depression even beyond the level of initial depression, and after controlling for the overlap between self-concept and mood symptoms. On the other hand, positivity of self-schemas did not add meaningfully to the prediction of severity of depression. It seems that the two self-perception instruments measure different constructs relevant to depression. Hammen (1988) states that low self-concept may represent the kind of deficiency in self-regard that is part of the syndrome of depression. However, despite its overlap with depression, self-concept is a separate and relatively stable trait which is a significant predictor of subsequent depression. On the other hand, the self-descriptive adjectives recalled in an incidental task are broader in content than personal deficiency or competence, that may be uniquely related to depression.

This research is looking at the self-schemas and self-concept of children with Special Educational Needs who, due to their academic difficulties, are proposed to be particularly vulnerable to developing schemas of incompetence and low self-concept.

Children with Special Educational Needs

The Code of Practice of the Identification and Assessment of Special Educational Needs (1994) was issued under the 1993 Education Act, giving practical guidance to local education authorities (LEAs), schools, the health service and social services on their responsibilities towards all children with SENs.

According to the Code, a child has special educational needs 'if he or she has a learning difficulty which calls for special educational provision to be made for him/her'. A child has a learning difficulty if he or she has significantly greater difficulty in learning than the majority of children of the same age. Or if the child has a disability which either prevents or hinders them from making use of educational facilities of a kind provided for children of the same age in schools within the area of the LEA.

The term SENs covers a broad range of difficulties faced by students, broken down into categories such as learning disabilities, emotional and behavioural difficulties, sensory or physical impairments and medical conditions. It is typical that a child is put on the code of practice under one of these categories. However, there is significant overlap between the difficulties faced by children. For example, many children who have been categorised as having emotional and behavioural difficulties, will also be underachieving in the classroom due to their behaviour – not listening to teachers' instructions,

disruptiveness in the classroom, and so on. Also, a child must not be regarded as having a learning difficulty solely because the language spoken at home is different from the language in which he or she is taught.

The Code estimates that nationally, some twenty percent of the school population will have SENs at some point in their school career. For most children, such needs will be met by mainstream schools – with outside help where necessary – and school governing bodies have statutory responsibilities to ensure that those needs are met. Only in a small minority of cases – nationally, around 2% of children – will have SENs of a severity or complexity which requires the LEA to determine and arrange the special educational provision for the child by means of a statutory assessment or ‘Statement of Special Educational Needs’. These figures are broad national estimates and significant regional variations are reported.

As SENs exist on a continuum, the Code recommends that a staged model of SENs is adopted. The first three stages are based in the school, which will, as necessary, call upon the help of external specialists. At stages 4 and 5, the LEA shares responsibility with schools. The stages are as follows:

- Stage 1: Teachers identify or register a child’s SENs and, in consultation with the school’s SEN coordinator (SENCO), take initial action.
- Stage 2: The school’s SENCO takes lead responsibility for gathering information and for coordinating the child’s special educational provision, working with the child’s teachers.

- Stage 3: Teachers and the SENCO are supported by specialists from outside the school.
- Stage 4: The LEA considers the need for a statutory assessment and, if appropriate, makes a multi-disciplinary assessment.
- Stage 5: The LEA considers the need for a statement of SENs and, if appropriate, makes a statement and arranges, monitors and reviews provision.

There is scope for differences of definition of stages in such a model and for variation in the number of stages adopted by schools and LEAs. The Code does not stipulate that there must be five stages. As part of their statutory duties, governing bodies of all maintained schools must publish information about, and report on, the school's policy on SENs. In all maintained schools, a designated teacher (the SENCO) is responsible for the day to day operation of the school's SEN policy.

Self-Concept of Children with Special Educational Needs

Over the past three decades, researchers have considered the emotional and behavioural functioning of children who fall within the category of SENs. Due to the fact that, by definition, children with SENs experience academic difficulties, practitioners and researchers have become interested in the extent to which these difficulties affect children's self-concept.

Some studies have revealed differences between the self-esteem of learning disabled (LD) students and their normally achieving peers. For example, Bear, Clever & Proctor

(1991) found that self-perceptions of scholastic competence, behavioural conduct and global self-worth were lower among children with LDs in integrated classes than among their normally achieving peers.

Cadieux (1996) found that LD pupils have a more negative self-concept than their peers with regards general intellectual ability, reading competence, writing competence, spelling competence and mathematical competence. Stanley, Dai & Nolan (1997) found that LD children reported significantly lower self-esteem (measured using the Coopersmith Self-Esteem Inventory; Coopersmith, 1990) when compared to regular education students. Other studies have shown that the cognitive limitations in LD students result in lower academic achievement, which lead to relatively unfavourable evaluations of their intellectual ability (e.g., Rogers & Saklofske, 1985, Zieman, 1982). This lower self-concept may be due to the fact that these children typically have had repeated experiences of failure within the academic setting (Meyer, 1983).

Harter, Whitesell & Junkin (1998) examined similarities and differences in the domain specific and global self-evaluations of normally achieving, LD and behaviourally disordered adolescents. The authors state that caution is needed in assuming that the learning difficulties and related academic failure of children with SENs will negatively affect their sense of personal worth, as it is possible that academic success is not particularly valued by these children. According to W. James (1982), competence or success in domains of importance is a primary predictor of the overall evaluation of self-worth, and if there is a high discrepancy between an individual's perceived success and his or her aspirations to succeed, then self-esteem is going to suffer. Harter et al (1998)

found that the importance of success in each of the domains of the Self-Perception Profile for Learning Disabled Students was similar for each group, as were processes predicting level of self-worth. Consistent with James' proposal, students with high self-worth evaluated themselves positively in domains of importance, whereas student with low self-worth reported much less favourable self-evaluations. Moreover, those with high self-worth were more able to disregard areas of weakness than were those with low self-worth. As expected, LD and behaviourally disordered adolescents reported lower cognitive competence than did their normally achieving peers. Both special educational groups evidenced more negative self-worth with greater discrepancies between importance and negative self-evaluations, particularly in domains salient to the difficulties related to their educational status.

Other studies, however, have found no differences in the self-esteem of LD and normally achieving children. Kistner et al (1987) compared elementary and middle school LD and normally achieving students on the Perceived Competence Scale for Children. They found that although LD subjects held lower opinions of their cognitive and physical abilities than did normally achieving peers, the two groups did not differ in terms of their general self-esteem, nor did they vary in perception of social competence. These results suggest that LD children maintain generally positive self-evaluations, despite their recognition of limitations in some areas.

Bear et al. (1996) administered the Self-Perception Profile for Children to LD and normally achieving children. Again, these results support the argument that children

with LDs recognise their specific skills deficits, but do not perceive themselves as being less intelligent than their normally achieving peers. Meyer (1983) argued that if special educational students can discount certain weaknesses, they should be able to maintain a relatively high sense of their overall worth as a person.

This lack of consensus between studies may be explained by conceptual and measurement problems that have plagued this literature. Silverman & Zigmond (1983) believe that the contradictory findings can be explained partly by the inconsistency of the definitions of both the LD population and the construct of self-concept among studies. Furthermore, methodological weakness in research designs, and the lack of data on the equivalence of the various self-concept inventories used preclude any conclusions based on the results (p.478). Harter et al. (1998) suggest that part of the difficulty arises in that some studies have employed single-score measures of self-esteem or general self-worth (e.g., instruments used by Coopermith, 1967, and Piers & Harris, 1969). As Cooley & Ayres (1988) argue, the use of such instruments confounds judgments of domain-specific inadequacies with more overall evaluations of esteem. To the extent that LD students report limitations in specific domains, their self-esteem score will be lowered, leading to differences with normally achieving peers (Harter, 1998).

Another factor that may contribute to the seemingly contradictory results of studies on self-concept with LD is the student's differential use of social comparison information as a method for evaluating the self (Renick & Harter, 1989). Although the significance of social comparison process in determining LD students' perceptions about themselves has been recognised, direct assessment of the specific reference group employed is

typically not conducted in research studies. This is an oversight, as Renick & Harter (1989) found that LD children perceived themselves to be much more scholastically competent when comparing themselves with their LD peers than when comparing their performance with that of their normally achieving peers. Furthermore, the discrepancy between these students' perceptions of competence in the LD classroom and in the regular classroom was shown to widen with development. Renick & Harter (1989) state that although researchers often assume that LD students compare themselves to other children with LDs, this study revealed that 84% of the LD students spontaneously compared their performance to that of their normally achieving peers.

The need for a separate measure to tap the self-perceptions of LD children was recognised as a result of Harter and colleagues' studies designed to investigate the dimensions of self-concept with children in special populations. Renick & Harter (1988) revealed that LD children in grades 3-8 may differentiate their perceptions of adequacy or competence in the domains represented on The Perceived Competence Scale for Children in a manner different from that obtained with normally-achieving children. While normally achieving children tend to differentiate between each of the sub-scales, children with LDs distinguish between sub-sets of items from the scholastic competence subscale to form two new clusters not found with normally achieving children. The first subscale identified by the LD children reflects their perceptions of their general intellectual ability, while the second subscale reveals their performance at specific academic tasks. In contrast, the items corresponding to the social acceptance and athletic competence subscales formed discrete factors, as they do with normally achieving children. The Self-Perception Profile for Learning Disabled Students (Renick

& Harter, 1988) was created to access this greater diversity in LD students' self-perceptions.

Results have also been contradictory with regards to symptoms of depression in children with Special Education Needs (Stanley, Dai & Nolan, 1997). It is thought children with SENs could have higher levels of depression than normally achieving peers because of the negative feedback they receive as a result of their handicaps, or to their perception of themselves as different from their non-handicapped peers.

Special Educational Needs and Behaviour Problems

In recent years, a considerable debate has emerged on the relationship between behaviour problems and academic learning difficulties. In a review, Hinshaw (1992) reports a comorbidity level for the two disorders that was well above chance, ranging from 10% to around 50%. While some evidence suggests that antisocial behaviour predisposes the child to underachievement (e.g., DeBaryshe, Patterson & Capaldi, 1993), other studies suggest that learning difficulties (in this case reading difficulties) can increase the occurrence of disruptive behaviours (e.g., Williams & McGee, 1994). Thus the causal relationship between learning difficulties and behaviour problems has yet to be resolved.

Adams et al. (1999) examined the relationship between behaviour problems and academic attainment in a large UK primary school. Children between the ages of 8 and 11 years were assessed on a range of cognitive ability tasks, and teachers completed the

Strengths and Difficulties Questionnaire. Results indicated a significant relationship between behaviour and academic attainment. Prosocial behaviour was positively correlated with ability in reading and arithmetic, while hyperactivity and conduct problems were negatively correlated. This association was especially strong in the children rated by teachers as hyperactive, where around 20% had a specific reading deficit. The incidence of underachievement was highest in the group of children who scored highly on both the hyperactivity and conduct subscales.

Cadieux (1996) conducted a study to investigate the association between scores on self-concept and rated classroom behaviour among LD and non-LD pupils. The analysis showed that there was hardly any relationship between classroom behaviour and self-concept (measured using both the Pictorial Scale for Perceived Competence and Social Acceptance for Young Children and the Self-Perception Profile for Learning Disabled Students).

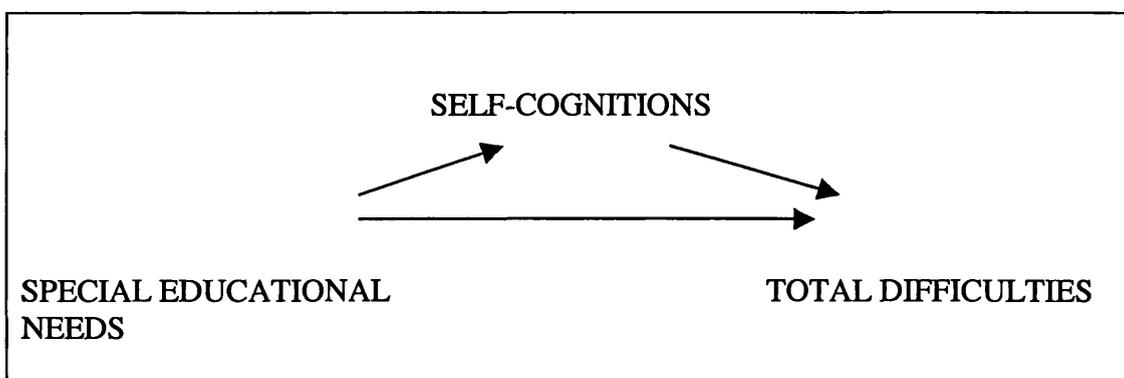
With regards the association between self-esteem and learning ability in LD children, Kershner (1990) found that self-concept (measured using the Coopersmith Self-Esteem Inventory) predicted patterns of successful achievement in spelling, arithmetic and written language, while IQ did not predict achievement. These results suggest that self-concept may be a primary cause of academic underachievement. Children with low self-concept achieve lower results, thus serving a self-fulfilling prophecy.

Aims of the Present Study

The present study was designed to investigate the self-cognitions of children with SENs who, due to their academic difficulties, are proposed to be particularly susceptible to developing schemas of incompetence and low self-worth. It examined whether these children, when compared to children not on the SEN register, showed evidence of a more negative self-schema specific to failure and competence, and also whether they evidenced lower self-perceptions about their competence.

In addition, this study investigated the mechanisms involved in making children with SENs more susceptible to developing emotional and behavioural difficulties than non-SEN children. It was proposed that a particular aspect of their vulnerability is linked to their self-cognitions, and that self-cognitions would mediate the relationship between SENs and emotional and behavioural difficulties, as shown in Figure 1.2.

Figure 1.2: Self-cognitions as a mediator of Special Educational Needs and emotional and behavioural difficulties.



Finally, research in the field of schemas is scarce and controversy exists as to how one best measures them. Therefore, this study was also concerned with examining the methodology of the schema measure. Schemas were assessed using an incidental recall task similar to those used in previous studies (e.g., Hammen & Zupan, 1984). However, according to schema theory, schemas need to be activated before they can be measured. Consequently, children in this study were given an educational task to complete which was thought would activate schemas. To verify that the educational task was having the desired effect of activating schemas, children were given the incidental recall task under one of two conditions: a schema activation condition where the child was given the educational task before the incidental recall task and a non activation condition where the child was given only the incidental recall task.

Hypotheses

The following hypotheses will be investigated:

1. Children with SENs will exhibit more emotional and behavioural difficulties than children without SENs.
2. Children with SENs will have a less positive self-concept in areas of scholastic competence, behavioural conduct and global self-worth than children without SENs.
3. Children with SENs will show evidence of a negative self-schema specific to failure and competence - i.e., they will recall more negative and fewer positive words than non-SEN children.
4. Self-cognitions (Self-Schemas and Self-Concept) will be mediating variables in the relationship between SENs and emotional and behavioural difficulties.

CHAPTER 2

METHOD

Overview

One hundred children, 50 with SENs and 50 without, were given a self-schema incidental recall task under one of two conditions: In the schema activation condition, before the incidental recall task, children were asked to perform an educational task intended to activate schemas. In the non activation condition, children were not given the educational task.

There were therefore four groups of children, defined by two variables: whether the child had Special Educational Needs and whether the child was presented with a schema activation task. The groups were:

- SEN and schema activation condition
- Non-SEN and schema activation condition
- SEN and non-activation condition
- Non-SEN and non-activation condition

In addition, all children were administered the Self-Perception Profile for Learning Disabled Students and two subtests from the WISC-III-UK, Vocabulary and Block Design. Demographic information was also obtained for all children.

Design

The study had a 2 x 2 between subjects design which enabled the separate effects of SEN and activation to be examined.

Sample

One hundred children (32 boys and 68 girls) participated in the study. The mean age of the children was 9 years 11 months (range 8 years 0 months to 11 years 5 months). All children attended primary schools in an inner city education authority. The population of children attending schools in the area is diverse, there is a high incidence of refugee families and asylum seekers and a large proportion of children attending these schools speak English as an additional language. Forty five percent of the children were white, 29% black (African or Caribbean), 14% were Asian and 12% described themselves as being of an other ethnic group. English was the first language of 82 % of the children and the second language of 16% of the children. Information on the child's first language was missing for 2% of the subjects.

Nineteen percent of the children had parents where the main wage-earner had a professional occupation, 49% of children came from families where the main wage-earner did not have a professional occupation, 27% of children had parents who were unemployed, 3% of children came from families where the main wage-earner was a student, and information was not available for 2% of parents' occupations. With regards the structure of the children's families, 57% of children lived with both their parents, 31% of children came from single parent families, 8% of children lived with step-families and 4% of children had other living arrangements.

Children in Years 4-6 were tested. This age group was chosen because it was felt that children of this age would be more able to articulate their judgements about the self than younger children and it is not actually until middle childhood that children have a verbalised concept about their global self construct, as tapped by self-report measures (Harter & Pike, 1984). Also by this age it is more likely that educational difficulties will have been picked up by the school. Half of the children tested had SENs (due to problems with learning); the other 50 did not have SENs.

Children who were on the SEN Register for predominantly emotional and behavioural reasons were excluded from the study. This is because we were primarily interested in children who are on the SEN Register due to problems with learning. Also, children with insufficient spoken English and children with severe sensory impairments were excluded.

Recruitment Procedure

Ethical approval for the study was obtained from the local NHS Trust (see Appendix 1). A Local Education Authority (LEA) was contacted and confirmed its support for the study. Head teachers of schools in this LEA were approached by way of letter (see Appendix 2), with a view to recruiting children to the study. The head teachers of four primary schools agreed that their respective schools would participate in the study. Staff meetings were attended at these schools, where the study was explained to teachers and information sheets distributed (see Appendix 3).

In order to recruit participants for the study, children were given a brief outline of the study by the researcher, who attended school assemblies. For children to participate in the study, it was necessary to obtain parental consent. Children were therefore given an information sheet about the study and a consent form to give to their parents to sign (see Appendix 4). As insufficient numbers of children with SENs returned their parental consent forms, these children were given the information about the study and consent forms a second time and were asked to return them.

If parents agreed for their child to participate in the study and gave written consent, children were then asked whether they would like to participate in the study. Children were again told what participating in the study would entail (the Child Information Sheet was shown and explained to them) and they were given the Child Consent Form to sign (see Appendix 5).

Assessment Procedure

The assessment took place in the child's school. Children were given the self-schema incidental memory task under one of two conditions: schema activation and non-activation.

In order to activate schemas of incompetence, children were given an educational task, which they would experience as being quite difficult, so that they had to utilise as much of their current skill as possible. It was thought that the educational task, consisting of standardised spelling and mathematic tests, would not distress children but would challenge their sense of competence. In the non-activation condition, children were not

given the educational task, but instead the researcher chatted to the child for a few minutes and played several games of noughts and crosses. Table 2.1 shows the differing procedures for the schema activation and non-activation conditions.

Table 2.1: The procedures used for the schema activation and non-activation conditions

Schema Activation Condition	Non-Activation Condition
1. Spelling - WORD	1. Conversation with active researcher
2. Numerical Operations – WOND	2. Games of noughts and crosses
3. Self-Schema Incidental Memory Task	3. Self-Schema Incidental Memory Task
4. Self-Perception Profile for Learning Disabled Children	4. Self-Perception Profile for Learning Disabled Children
5. Vocabulary – WISC-III-UK	5. Vocabulary – WISC-III-UK
6. Block Design – WISC-III-UK	6. Block Design – WISC-III-UK

Children were also administered the Self-Perception Profile for Learning Disabled Students and two subtests from the WISC-III-UK, Vocabulary and Block Design. In order to obtain demographic information, children were asked the following three questions: ‘Who lives in your house?’; ‘Where does your family come from?’; and ‘What does your mum/dad do for a job?’.

The duration of the assessment was approximately 50 minutes for the schema activation condition and 40 minutes for the non-activation condition. Children were debriefed at the end of the assessment, and it was explained to them that some of the tasks that they had been asked to do were intended for children older than their age. They were given a certificate (see Appendix 6) and a small gift of chocolate to thank them for participating in the study.

Teachers were asked to complete a brief behavioural screening questionnaire, the Strengths and Difficulties Questionnaire, for each child participating in the study. Teachers also gave out standardised academic results in mathematics and English obtained at the end of year 3 (Key Stage 1 Standard Attainment Tests SATS).

Measures

Self-Schema Incidental Memory Task

This task is based on the hypothesis that a schema about the self, stored in memory, guides the selection, encoding and retrieval of information about the self, so that self descriptive adjectives that are consistent with the schema are recalled better than schema irrelevant words (Hammen & Zupan, 1984).

Children were presented with 32 self descriptive adjectives, half of which were positive, and half of which were negative in content. The self descriptive adjectives utilised by Hammen & Zupan (1984) were modified in order to include more words relating to school performance and personal qualities (see Appendix 7 for word list). The modified list of adjectives used were chosen by asking children in Year 7 to think of as many words as they could related to the words 'stupid' and 'clever'. Additional words were selected from the Collins Shortened Thesaurus.

The adjectives were displayed one at a time on index cards contained in a booklet. The experimenter read each word aloud and asked children, 'Is this word like you'? Children were provided with an answer sheet and were required to circle 'yes' or 'no' on this sheet after each question accordingly (see Appendix 7). At the end of the

presentation of words, children were unexpectedly asked to remember as many words as possible. The experimenter recorded each of the recalled words. Children were given a maximum of 5 minutes for this.

As a check to learn whether the children actively perceived the adjectives as negative or positive as intended, children were presented with the list of words again. This time, however, following the presentation of each word, they were asked 'Is this something good to be?'

Most previous studies have calculated incidental recall ratios by dividing the number of positive yes-rated words recalled by the number of positive yes-rated words (likewise for negative words) (Prieto et al., 1992). However this procedure can be problematic (Prieto et al., 1992) as depressed people do not endorse many positive words and similarly non-depressed people do not endorse many negative words (Segal, 1988). Such circumstances diminish the denominator of the recall ratios, seriously affecting the reliability of the estimates. For this reason, it was decided that the above method of basing the self-schema score on adjectives that the children endorsed as being self-descriptive, was not an accurate reflection of self-schemas. In addition, as schematic processing is thought to be beyond conscious awareness, and the above method of computing incidental recall ratios is too reliant on the child consciously endorsing adjectives as self-descriptive, the above method was not used. Instead, it was decided that the task of asking children whether adjectives were self-descriptive should be treated simply as an encoding task. Furthermore, rather than allowing the adjective which was endorsed as being self-descriptive to influence the analysis, the number of

positive and negative words that the child recalled (regardless of whether they were endorsed as being self-descriptive) was recorded and used in the analysis.

The Self-Perception Profile for Learning Disabled Students (Renick & Harter, 1988)

This is a self-report measure for assessing both learning disabled and normally achieving children's domain specific judgements of their competency or adequacy and their perceived worth or esteem as a person (see Appendix 8). The measure contains a Global Self-Worth scale indicating the child's overall evaluation of the self as a person and taps nine specific domains: Intellectual Ability, Reading, Writing, Spelling, Maths, Social Acceptance, Athletic Competence, Physical Appearance and Behavioural Conduct. Research on the use of this measure has shown that independently measuring a child's self-perceptions across a variety of domains provides a richer and more differentiated view of the self-system than measures employing a single-score approach (Harter, 1983, 1985).

The format of the scales was designed in order to reduce the incidence of socially desirable responses as the authors believe that the question format implies that half the children in the world view themselves in one way, whereas the other half view themselves in the opposite manner. That is, they believe that this type of question legitimises either choice. Each item is written in the following manner:

Really true for me	Sort of true for me			Sort of true for me	Really true for me	
<input type="checkbox"/>	<input type="checkbox"/>	Some kids feel that they are very good at their school work	BUT	Other kids worry about whether they can do the schoolwork assigned to them.	<input type="checkbox"/>	<input type="checkbox"/>

For each item, children are given two statements: First they are asked to decide if they are more like the children described on the left side of the statement or more like those on the right side. After the child decides this, they are asked whether the statement is 'really true' or just 'sort of true' for them. Their responses are then scored on a four point scale from 1= least competent to 4= most competent. In order to obtain a child's score for a particular subscale, the mean score is calculated for all the items that make up that particular subscale. Scoring will result in a total of ten subscale means which will define a given child's profile. Subscales scores less than or equal to 2.0 can be considered to reflect relatively low self-perceptions and subscale scores greater than or equal to 3.75 can be considered to reflect relatively high self-perceptions.

Renick and Harter (1988) standardised the study on 201 children between the ages of 9 and 16 with LDs. According to their criteria for identifying a learning disability, a child needed to have a WISC-R IQ of at least 80, at least a 40% discrepancy between academic and performance levels as measured by the Woodcock-Johnson Psychoeducational Battery and a significant impairment in one or more areas of information processing. Renick & Harter (1988) reported good internal consistency reliabilities, based on Cronbach's alpha for samples of learning disabled children ranging from 0.78 for Writing Competence to 0.89 for spelling competence. Also, each of the nine subscales revealed distinct factors (Renick & Harter, 1988). In addition, dimensions of self-concept measured by both this scale and The Self-Perception Profile for Children were moderately correlated with one another.

For this study, internal consistency reliabilities, based on Cronbach's alpha, were computed for each of the ten subscales. They ranged from 0.65 for Social Acceptance to 0.91 for Maths Competence.

Strength and Difficulties Questionnaire (SDQ: Goodman ,1997).

This is a brief behavioural screening questionnaire that can be completed by teachers or parents of children aged 4-16, or by children aged 11-16 years. The teacher rated version was employed in this study (see Appendix 9).

The measure asks about 25 attributes, some positive and others negative, which are divided between 5 scales of 5 items each, generating scores for inattention-hyperactivity, emotional symptoms, conduct problems, peer problems and prosocial behaviour. Items are rated on a 3-point Likert scale from 0 = not true, 1 = somewhat true, to 2 = certainly true. All scales (except the prosocial behaviour scale) are summed to generate a total difficulties score which can range from 0-40, with higher scores indicating greater difficulties. With the teacher completed version of the SDQ, a total difficulties score of 12-15 is borderline and that of 16-40 is abnormal. Individual sub-scale are also summed (range 0-10).

Goodman (1997) reported that, in terms of construct validity, there are high correlations between the teacher and parent completed questionnaires and the Rutter Questionnaire, which has well established reliability and validity (range = 0.87 – 0.92). Using the total difficulties score, Goodman (1997) found no differences between his teacher rated

measure and the Rutter Questionnaire in discriminating between children attending psychiatric and dental clinics.

For this study, internal consistency reliabilities, based on Cronbach's alpha, were computed for each of the subscales of the SDQ. They ranged from 0.72 for Peer Problems to 0.89 for Inattention / Hyperactivity.

Wechsler Intelligence Scale for Children (WISC-III-UK : Wechsler, 1992)

The WISC-III-UK is a widely used individually administered instrument for assessing the intellectual ability of children aged between 6 years to 16 years 11 months. It consists of several subtests each measuring a different facet of intelligence. Subtests can be classified according to whether they measure verbal ability or performance ability. From the verbal subtests, Vocabulary (a series of words presented orally which the child defines) was given. From the performance subtests, Block Design (a set of modelled or printed two-dimensional geometric designs, which the child replicates using two-colour cubes) was given.

Children's raw scores on the WISC-III-UK are converted into scaled scores according to the child's chronological age and ability. Scaled scores may range from 1, which is extremely low, to 19, which is very high. On the basis of standardisation, a scaled score of 10 on each subtest reflects average ability.

These particular subtests were chosen because both the Vocabulary and the Block Design subtests on the basis of standardisation are the best verbal and non-verbal

measures of general intelligence (g) or full scale IQ (Kaufman, 1994). To determine the degree to which a subtest measures g, Kamphaus (1993), used the loadings on the unrotated first factor in principal component analysis where factor loadings of .70 or greater define tasks that are 'good' measures of g. From the subtests on the Verbal Scale of the WISC-III, Vocabulary is the best measure of general ability with a g loading of .80. Block Design is the best nonverbal measure of g at .71 (Kaufman, 1994, p.43).

Wechsler Objective Reading Dimensions (WORD: Psychological Corporation, 1993)

These are individually administered tests designed for the assessment of literacy skills in children aged from 6 to 16 years. The Spelling subtest was chosen, which assesses the ability to spell dictated words. The procedure for administering the test was slightly modified so that children were told whether their answers were correct or not and were therefore aware of their performance on the test. When children spelt six consecutive words incorrectly, the test was discontinued.

Wechsler Objective Numerical Dimensions (WOND: Psychological Corporation, 1996)

These are individually administered tests designed for the assessment of numeracy skills in children aged from 6 to 16 years. The Numerical Operations subtest was utilised, which requires the child to solve computational problems involving various operations and to solve simple algebraic equations. The procedure for administering this test was modified so that children were given feedback on their performance and told whether their answers were correct or not. When children's answers to all the questions in a set were incorrect, this subtest was discontinued.

CHAPTER 3

RESULTS

Overview

This results section will commence by comparing children with SENs and without SENs on emotional and behaviour problems, intellectual ability, academic attainment, self-concept and self-schemas. Following this, the main research questions will be addressed: Whether children with SENs exhibited more negative self-schemas related to competence than normally achieving children, and whether negative self-schemas may be activated by an educational task. The relationship between self-cognitions, IQ and emotional and behavioural difficulties will be investigated. Finally, mediating variables in the relationship between SENs and emotional and behavioural difficulties will be examined.

Emotional and Behavioural Difficulties

Mean SDQ Scores for Children with and without SENs

The mean SDQ scores for children with and without SENs are shown in table 3.1.

There were large differences between children with and without SENs on all subscales of the SDQ, with the exception of Prosocial Behaviour. Children with SENs evidenced higher scores and therefore greater difficulties on the Conduct Disorder, Emotional, Hyperactivity, Peer Problems and Total Difficulties subscales of the SDQ.

Table 3.1: Mean SDQ scores for children with and without SENs

	SEN		Non-SEN		t(98)
	M	SD	M	SD	
Conduct Disorder	2.64	2.75	.80	1.325	4.26***
Emotional	2.70	2.68	1.10	1.52	3.68***
Hyperactivity	5.46	3.02	2.90	2.59	4.55***
Peer Problems	2.62	2.29	1.24	1.35	3.68***
Prosocial	6.78	2.68	7.36	2.03	1.22
Total Difficulties	13.42	8.61	6.04	5.16	5.20***

Note All variables were rated on a 3 point Likert scale from 0 = not true, 1 = somewhat true to 2 = certainly true. All scales (except the prosocial behaviour scale) were summed to generate a total difficulties score which can range from 0-40, with higher scores indicating greater difficulties.

As the data were skewed, non-parametric statistics (Mann-Whitney U tests) were also performed on the data. The pattern of results was very similar to the values of t obtained.

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

Prevalence of Emotional and Behavioural Problems

Using Goodman's (1997) criteria, the children's scores were classified as either normal, borderline or abnormal for each of the five subscales. In order to reduce the risk of obtaining false positives and over-reporting the existence of difficulties, the 'abnormal' cut-off scores were used (Goodman, 1997). Table 3.2 shows the number of children with and without SENs scoring in the 'abnormal' range for each subscale. There were differences between the scores of children with SENs and without SENs on all subscales of the SDQ, with children with SENs scoring in the 'abnormal' range significantly more frequently. There was a particularly high incidence of children with SENs exhibiting Hyperactivity and Conduct Disorder: 36% and 34% of children with SENs scored in the abnormal range for the Hyperactivity and Conduct Disorder subscales respectively.

Goodman (1997) proposed that a Total Difficulties score of 16 and above (max = 40) is indicative of deviant behaviour. Using this criterion, 18 individual children were classified as having a total difficulties score in the abnormal range, 16 of these 18 children (88.9%) had SENs, 2 children (11.1%) did not have SENs. In other words, thirty two percent of children with SENs had a total difficulties score in the abnormal range as did 4% of children without SENs.

Table 3.2: Number of children scoring in the ‘abnormal’ range on subscales of the SDQ

	SEN (N=50)	Non-SEN (N=50)	Total (N=100) (percentage)	Chi Square (1)
Conduct Disorder	17	4	21	10.19**
Emotional	8	0	8	8.70**
Hyperactivity	18	5	23	9.54**
Peer Problems	11	1	12	9.47**
Prosocial	13	3	16	7.44**
Total Difficulties	16	2	18	13.28***

Note Items were rated on a 3 point Likert scale from 0 = not true, 1 = somewhat true to 2 = certainly true. All scales (except the pro-social behaviour scale) were summed to generate a total difficulties score which can range from 0-40, with higher scores indicating greater difficulties. Raw scores were classified as either being ‘normal’, ‘borderline’ or ‘abnormal’ according to Goodman’s criteria. ‘Abnormal’ cut-off scores are shown in this table.

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

Intellectual Ability

Mean Block Design and Vocabulary Scores for Children With and Without SENs

Mean scaled scores for the Block Design and Vocabulary subtests of the WISC-III-UK are shown in table 3.3 below. Children in the SEN group obtained a mean score on Block Design of 6.00 and the non-SEN group scored 8.38, ($t(98) = 3.35$, $p < 0.001$); on Vocabulary, children with SENs obtained a mean score of 6.96 and non-SEN children obtained a mean score of 9.82, ($t(98) = 4.60$, $p < 0.001$).

Table: 3. 3: Mean Scores on Block Design and Vocabulary for children with and without SENs

	SEN		Non-SEN		t(98)
	M	SD	M	SD	
Block Design	6.00	3.34	8.38	3.69	3.35***
Vocabulary	6.96	2.65	9.82	3.50	4.60***

When non-parametric tests were performed on the data, the differences between groups remained significant.

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

The WISC-III-UK has been standardised and for all subtests, a scaled score of 10 is considered to reflect average ability. The mean scaled score for children in this sample (even for the non-SEN children) was below 10 on both Block Design and Vocabulary. On Block Design the mean scaled score for non-SEN children was only 8.38.

Scores for Block Design and Vocabulary were categorised according to whether they were indicative of low, or average/high ability (see table 3.4). A scaled score of 6 and under was taken to reflect low ability, and scores of 7 and above were taken to reflect average ability / high ability. Significantly more children with SENs obtain a low score on both Block Design and Vocabulary subtests than non-SEN children.

Table 3.4: Number of children obtaining low or average/high scores on WISC subtests

	SEN (N=50)	Non-SEN (N=50)	Total (N=100) (percentage)	Chi Square (1)
<u>Block Design</u>				
1-6	27	13	40	8.17**
7-19	23	37	60	
<u>Vocabulary</u>				
1-6	21	10	31	5.66*
7-19	29	40	69	

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

SATs Scores of Children With and Without SENs

There were significant differences in the SATs results of the children in the SEN and non-SEN group, which can be seen in table 3.5. Children with SENs attained marks significantly lower than their non-SEN peers, in both Maths and English. There was some data missing in this analysis as Maths and English SATs results were only available for 70 children.

Table 3.5: Mean SATs Scores in Mathematics and English for children with and without SENs

	SEN		Non-SEN		t(67)
	M	SD	M	SD	
Mathematics	1.71	.53	2.21	.53	3.92***
English	1.48	.51	2.15	.49	5.60***

When non-parametric tests were performed on the data, the differences between groups remained significant.

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

Self-Concept

Mean Self Concept Scores for Children with and without SENs

Table 3.6 shows the mean self-concept scores obtained by children with SENs and without SENs on the Self-Perception Profile for Learning Disabled Students.

Comparing the mean self-concept scores of the two groups of children, it is apparent that children with SENs perceived their Reading competence to be significantly lower than did children without SENs ($t(98) = 3.11, p < .01$). They also perceived their competence in Spelling to be lower ($t(98) = 4.16, p < .001$). There was some difference in mean perception of Maths competence between children with and without SENs, the former perceiving themselves to be less competent, but this did not attain statistical significance ($t(98) = .94, p = .055$). There were no other significant differences between children's perceptions of their competence in other domains measured by the Self Perception Profile for Learning Disabled Students.

Table 3.6: Mean Self-Concept scores for children with and without SENs

	SEN		Non-SEN		t(98)
	M	SD	M	SD	
Intellectual Ability	2.79	.61	2.92	.72	.99
Reading	2.69	.86	3.23	.86	3.11**
Writing	2.64	.76	2.67	.80	.19
Spelling	2.30	.84	3.00	.83	4.16***
Maths	2.51	.98	2.89	.96	1.94
Social Acceptance	3.19	.63	3.07	.74	.85
Athletic Competence	2.84	.85	2.82	.78	.12
Physical Appearance	3.22	.72	3.12	.71	.73
Behaviour Conduct	3.17	.74	3.17	.74	.05
Global Self Worth	3.40	.59	3.28	.62	.96

Note Responses were scored on a four point scale from 1 = least competent to 4 = most competent. In order to obtain a child's score for a particular subscale, the mean score is calculated for all the items that make up that particular subscale.

As the data was skewed, non-parametric statistics (Mann-Whitney U tests) were also performed on the data. The pattern of results was very similar to the values of t obtained.

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

Prevalence of Low Self-Concept and High Self-Concept in Children With and Without SENs

Renick & Harter (1988) proposed that subscale scores less than or equal to 2.0 can be considered to reflect relatively low self-perceptions, and subscale scores greater than or equal to 3.75 can be considered to reflect relatively high self-perceptions. Using these criteria, children were categorised as to whether they had relatively low or high self-perceptions or whether their self-perceptions fell in the average range. The number of children with and without SENs demonstrating low, average and high self-perceptions can be seen in table 3.7. There was a significant difference between the self-perceptions of children with and without SENs on the Spelling and Reading subscales, with children with SENs reporting 'low' self-perceptions more frequently, and 'high' self-perceptions less frequently than children without SENs. Interestingly, 20 children with SENs reported themselves to have 'High' self-perceptions of their Global Self Worth, whereas only 15 children in the Non-SEN group claimed to have 'High' perceptions of their Self-Worth.

Table 3.7: Prevalence of Low Self-Concept and High Self-Concept in Children with and without SENs

		SEN (N=50)	Non-SEN (N=50)	Total (N=100)	Chi Square (2)
Intellectual Ability	L	6	7	13	4.32
	A	40	32	72	
	H	4	11	15	
Reading	L	14	8	22	11.05**
	A	29	20	49	
	H	7	22	29	
Writing	L	15	15	30	.36
	A	29	27	56	
	H	6	8	14	
Spelling	L	25	11	36	12.74**
	A	21	23	44	
	H	4	16	20	
Maths	L	21	12	33	3.84
	A	19	23	42	
	H	10	15	25	
Social Acceptance	L	2	6	8	2.24
	A	36	32	68	
	H	12	12	24	
Athletic Competence	L	11	12	23	.24
	A	27	28	55	
	H	12	10	22	
Physical Appearance	L	4	6	10	2.50
	A	28	33	61	
	H	18	11	29	
Behaviour Conduct	L	3	7	10	1.79
	A	30	27	57	
	H	17	16	33	
Global Self Worth	L	2	4	6	1.53
	A	28	31	59	
	H	20	15	35	

Note Responses were scored on a four point scale from 1 = least competent to 4 = most competent. In order to obtain a child's score for a particular subscale, the mean score is calculated for all the items that make up that particular subscale.

L = Low self concept – a mean subscale score ≤ 2.00

A= Average self concept – a mean self concept score ≥ 2.00 and ≤ 3.75

H = High self concept– a mean subscale score ≥ 3.75

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

Comparison of Scores on the Self-Perception Profile for Learning Disabled Children with Standardised Scores

Renick & Harter (1988) standardised the Self Perception Profile for Learning Disabled Students on 201 children, 90 of whom attended a public school (equivalent to a UK state school) and 111 students attended a private school where they were in small classes with other children with LDs. Renick & Harter (1988) provide mean scores for both public school and private school children. Since the sample of SEN children in this current study was more similar to the public school children with LDs in Renick and Harter's study, SEN children's mean scores on subscales were compared to the mean subscale scores obtained for public school children with LDs. The children without SENs were compared to subscale mean for normally achieving students provided by Renick & Harter (1988). Table 3.8 and Table 3.9 compare the mean scores obtained by children in this study and those obtained by Renick & Harter (1988).

Some differences were found between the ratings of self perceptions of the LD children in Renick & Harter's (1988) study and the SEN children in this study. The SEN children in this current study had significantly higher perceptions of Intellectual Ability, Social Acceptance, Behaviour Conduct, Physical Appearance and Global Self Worth, but lower perceptions of Maths competence than the LD children in Renick and Harter's study. When comparing the normally achieving students in Renick & Harter's study with the children in this study, the normally achieving children in this current study had significantly lower perceptions of their Global Intellectual Ability, Writing and Maths Competence, but higher perceptions of Physical Appearance than the children in Renick and Harter's study.

Table 3.8: Comparison of mean subscale scores obtained by LD children in Renick & Harter's (1988) study and SEN children in current study

	Current Study		Renick & Harter (1988) Study		t(100)
	M	SD	M	SD	
Intellectual Ability	2.79	.61	2.60	.60	2.22*
Reading	2.69	.86	2.71	.84	.17
Writing	2.64	.76	2.81	.74	1.60
Spelling	2.30	.84	2.51	.89	1.72
Maths	2.51	.98	2.85	.86	2.61*
Social	3.19	.63	2.72	.79	4.65***
Athletic	2.84	.85	2.94	.81	.85
Behaviour Conduct	3.22	.72	2.96	.67	2.64**
Physical Appearance	3.17	.74	2.88	.76	2.73**
Global Self Worth	3.40	.59	3.12	.72	3.00**

All variables were rated on a four point scale from 1= least competent to 4 = most competent. In order to obtain a child's score for a particular subscale, the mean score was calculated for all the items that make up that particular subscale.

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

Table 3.9: Comparison of mean subscale scores obtained by normally achieving children children on the Self-Perception Profile for Learning Disabled students in current study with those obtained by Renick & Harter (1988)

	Current Study		Renick & Harter (1988) study		t(100)
	M	SD	M	SD	
Intellectual Ability	2.92	.72	3.19	.60	2.80**
Reading	3.23	.86	3.38	.64	1.4
Writing	2.67	.80	3.04	.77	3.33**
Spelling	3.00	.83	3.13	.69	1.20
Maths	2.89	.96	3.14	.79	2.01*
Social	3.07	.74	2.96	.74	1.05
Athletic	2.82	.78	2.96	.78	1.27
Behaviour Conduct	3.12	.71	3.13	.64	.10
Physical Appearance	3.17	.74	2.87	.73	2.89**
Global Self Worth	3.28	.62	3.26	.65	.22

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

Self-Schema

Table 3.10 shows the mean number of positive and negative words recalled by children with and without SENs. Overall, the mean number of words recalled by children with SENs was significantly lower than the number of words recalled by children without SENs ($t(98) = 2.10, p < .05$). Children with SENs recalled significantly fewer positive words than children without SENs ($t(98) = 2.26, p < .05$). They also recalled fewer negative words ($t(98) = 1.28, p > .05$) than non-SEN children, although this difference was not statistically significant.

Table 3.10: Mean number of words recalled by children with and without SENs

	SEN		Non-SEN		t(98)
	M	SD	M	SD	
Positive Words	3.76	1.78	4.58	1.85	2.26*
Negative Words	4.54	2.02	5.02	1.72	1.28
Total Words	8.30	3.13	9.60	3.07	2.10*

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

In order to verify whether children actively perceived the self-descriptive adjectives as negative or positive, as intended, children were asked whether each word was 'a good thing to be'. Nearly all the words were perceived by children as positive or negative, as intended, with a few exceptions. The most noticeable difference was for the word 'attractive' where, although 86% perceived the word as intended, 14% felt that the word had a negative connotation. The words 'popular' and 'slow' were also misconstrued by some of the children – 12% of children felt that it was not good to be either 'popular' or 'slow'. Ten percent of children felt that it was not good to be 'brainy' and 7% felt that it was not good to be 'brilliant'. Five percent of children felt that it was not good to be a 'winner'.

Incidental Recall Task Analysis

To investigate whether having a SEN influences the valence of words recalled, and to see if the educational task activated schemas, a 2x2x2 repeated measures ANOVA was performed. There were two between subjects factors: SEN group (SEN vs. non-SEN) and schema activation (activation vs. non-activation) and one within-subjects factor word valence (positive vs. negative). A main effect of SEN group on recall was found ($F(1, 96) = 4.48, p < .05$), indicating that there were differences in the number of words recalled by children with and without SENs. Children with SENs recalled fewer words ($M = 8.30$) than children with no SENs ($M = 9.6$). There was also a main effect of word valence ($F(1,96) = 9.11, p < .01$), with more negative words being recalled by children ($M = 4.78$) than positive words ($M = 4.17$).

There was no significant main effect for schema activation on recall ($F(1,96) = 2.76$, $p = .10$), indicating that the educational task, which was thought might activate schemas, made no significant difference to the number of words recalled. The interaction between word valence and activation was also not significant ($F(1,96) = .30$, $p = .587$), indicating that the educational task had no effect on the number of positive and negative words recalled. The interaction between SEN and word valence was not significant ($F(1,96) = .71$, $p = .40$), demonstrating that there was no significant difference between the number of positive and negative words recalled by children with and without SENs. This failed to support the hypothesis that children with SENs show evidence of a negative self schema specific to failure and competence. There was also no significant interaction between SEN and activation ($F(1,96) = 1.15$, $p = .29$). Finally, the interaction between SEN group and word valence and schema activation was not significant ($F(1,96) = .41$, $p = .52$).

Summary of the Differences between Children with and without SENs

According to their teachers, children with SENs evidenced significantly higher scores and therefore greater difficulties on the Conduct Disorder, Emotional, Hyperactivity, Peer Problems and Total Difficulties subscales of the SDQ. This supports the hypothesis that children with SENs exhibit more emotional and behavioural difficulties than children without SENs. Children with SENs scored significantly lower than children without SENs on tests of intellectual ability (measured using Vocabulary and Block Design from the WISC-III-UK) and in terms of their academic achievement.

Children with SENs had less positive self-perceptions of their Reading competence and Spelling competence than did children without SENs. Their perceptions of competence in other domains however was no different to that of children without SENs. Therefore the hypothesis that children with SENs display lower perceptions of their scholastic competence, behavioural conduct and global self-worth than children without SENs, could only be partially supported.

Finally, results from the incidental recall task did not prove the hypothesis that children with SENs show evidence of a negative self-schema specific to failure and competence. There was no evidence that children with SENs recalled more negative and less positive words than non SEN children. In addition, the educational task, which was thought might activate schemas, made no significant difference to the number of words recalled by children, suggesting that the educational task may not have had the desired effect of activating schemas.

Relationship between Self-Cognitions, IQ and Emotional and Behavioural Difficulties

In testing what mediates the relationship between SEN and emotional and behavioural difficulties, the relationship between self-cognitions, IQ and emotional and behavioural difficulties was examined.

Relationship between Scores on the SDQ, with Intellectual Ability and SATs Results

The relationship between SDQ scores and performance on WISC-III-UK subtests, Block Design and Vocabulary are shown in table 3.11. There was no significant relationship

between Block Design and any of the SDQ subscales. Vocabulary was negatively correlated with Emotional ($r = -.33, p < .05$), Hyperactivity ($r = -.31, p < .05$) and Total Difficulties ($r = -.32, p < .05$).

The relationship between SATs results and scores on the SDQ are also shown in Table 3.11. There was no relationship between Maths SATs results and scores on the SDQ. English SATs results were correlated with Hyperactivity ($r = -.34, p < .05$) suggesting that children rated by teachers as scoring high on Hyperactivity, attained lower marks in their English SATs exams.

Table 3.11: Relationship between Scores on the SDQ, Intellectual Ability and SATs results

<u>SDQ Subscale</u>	<u>WISC-III-UK Subtest</u>		<u>SATS</u>	
	Block Design	Vocabulary	Maths	English
Conduct Disorder	-.01	-.19	.86	-.14
Emotional	-.27	-.33*	.70	-.08
Hyperactivity	-.16	-.31*	.02	-.34*
Peer Problems	-.10	-.06	-.00	-.19
Prosocial	-.03	-.08	-.25	.06
Total Difficulties	-.19	-.32*	-.00	-.28

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

Relationship between Children's Self Perceptions of their Competence with Intellectual Ability and SATs Results

There was no relationship between scores on Block Design and children's perception of their competence in any of the domains. There were significant positive relationships between children's score on Vocabulary and their perceptions of competence in the following domains: Intellectual Ability ($r = .45, p < .01$), Reading ($r = .34, p < .05$), Writing ($r = .33, p = .05$), Spelling ($r = .36, p < .01$), Maths ($r = .28, p < .05$) and Global Self Worth ($r = .28, p < .05$). This suggests that children who scored higher on the Vocabulary subtest rate themselves as being more competent in the above domains than children who received a lower score on Vocabulary.

As shown in Table 3.12, there were significant positive relationships between English SATs results and Intellectual Ability, Reading, Writing and Spelling. There was a negative relationship between Maths SATs results and Behaviour Conduct.

Table 3.12: Relationship between Self-Perceptions of Competence with performance on WISC-III-UK subtests and SATs results

<u>Self Perception Profile</u>	<u>WISC-III-UK Subtest</u>			<u>SATs</u>
	Block Design	Vocabulary	Maths	English
Intellectual Ability	.10	.45**	-.27	.47**
Reading	-.13	.34*	.19	.41**
Writing	-.01	.33*	-.18	.38*
Spelling	-.13	.36**	-.01	.36*
Maths	.18	.28*	-.05	.12
Social Acceptance	.08	-.15	.24	.15
Athletic Competence	-.03	-.08	.05	.09
Physical Appearance	-.02	.22	-.09	.14
Behaviour Conduct	-.06	.06	-.33*	-.00
Global Self Worth	.04	.28*	-.10	.22

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

Relationship between SDQ and Self-Concept Scores

The relationship between SDQ scores and self-concept scores are given in table 3.13. There was a significant negative relationship between Total Difficulties Score on the SDQ and Global Self worth, $r = -.32, p < .05$. This suggests that children who were rated by teachers as experiencing many difficulties, perceived their Global Self Worth to be lower than children reported to have less difficulties. There were negative correlations between Hyperactivity scores on the SDQ and children's perceptions of their General Intellectual Ability ($r = -.43, p < .01$), Spelling Competence ($r = -.33, p < .05$), Behaviour Conduct ($r = .31, p < .05$) and Global Self Worth ($r = -.31, p < .05$). In other words, children who were rated by teachers as scoring high on Hyperactivity have lower self perceptions of their competence in the above areas. There was a significant positive relationship between ProSocial behaviour and Behaviour Conduct. Interestingly, there was no significant relationship between teachers ratings of Conduct Disorder and children's self-perceptions of their Behaviour Conduct.

Table 3.13: Correlation coefficients for relationship between SDQ and Self-Concept scores

Strengths and Difficulties Questionnaire						
Self Perception Profile	Conduct Disorder	Emotional	Hyperactivity	Peer Problems	Prosocial	Total Difficulties
Intellectual Ability	.44	.04	-.43**	-.10	.15	-.22
Reading	.16	.77	-.08	-.13	-.09	-.09
Writing	.14	.11	-.26	-.14	.02	-.10
Spelling	-.06	-.02	-.33*	-.18	.16	-.24
Maths	-.19	-.12	-.19	-.37**	.06	-.28
Social Acceptance	.22	-.02	-.02	-.27	.08	-.03
Athletic Competence	.30*	.20	.19	-.11	-.09	.20
Physical Appearance	-.03	.11	-.22	-.15	.03	-.16
Behaviour	-.22	-.02	-.31*	-.04	.36*	-.23
Conduct						
Global Self Worth	-.17	-.07	-.31*	-.40**	.18	-.32*

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

Mediating Variables in the Relationship between SENs and Emotional and Behavioural Difficulties

This analysis involved testing mediation using multiple regression according to the guidelines of Baron and Kenny (1986).

Baron & Kenny (1986) proposed that to test for mediation, the following three regression equations should be examined and, in order for mediation to occur, certain conditions must hold:

1. Regressing the dependent variable on the independent variable; the independent variable must be shown to affect the dependent variable.
2. Regressing the mediator on the independent variable; The independent variable must affect the mediator.
3. Regressing the dependent variable on both the independent variable and on the mediator; the mediator must affect the dependent variable.

If these conditions all hold in the predicted direction, then the effect of the independent variable on the dependent variable must be less in the third equation than in the first. Perfect mediation holds if the independent variable has no effect when the mediator is controlled.

Self-Cognitions as Mediators

The hypothesis that self-cognitions (self-schemas and self-concept) are mediating variables in the relationship between SENs and Emotional and Behavioural Difficulties was tested.

Since there was no relationship between self-schema and SENs, self-schema could not be a mediating variable in the relationship between SENs and emotional and behavioural difficulties.

In order to test whether self-concept (Reading Competence or Spelling Competence) were mediators in the relationship between SENs and total difficulties, the following analyses were undertaken according to the guidelines of Baron and Kenny (1986).

Firstly, regressing the dependent variable (Total SDQ score) on the independent variable (SEN) showed that the independent variable affected the dependent variable ($r = .46$, $p < 0.001$). Secondly, in order to test whether Reading Competence was a mediator, Reading Competence was regressed on the independent variable (SEN), and SEN affected Reading Competence ($r = -.30$, $p < .01$). Finally, regressing the dependent variable (Total Difficulties) on both the independent variable (SEN) and on the mediator (Reading), indicated that Reading Competence ($t = .05$, $p > .05$; Beta = .00) did not significantly affect the Total Difficulties score.

Similarly, in order to test whether Spelling Competence was a mediator, Spelling Competence was regressed on SEN, and SEN was shown to affect Spelling Competence ($r = -.39$, $p < .001$). However, regressing Total Difficulties on both the SEN and on Spelling Competence suggested that Spelling Competence ($t = .65$, $p > .05$; Beta = .06) did not significantly affect the Total Difficulties Score. Therefore, neither Reading Competence nor Spelling Competence were mediating variables in the relationship between SEN and emotional and behavioural difficulties.

Since self-cognitions were not mediating variables, it was decided to investigate whether other variables might be mediating the relationship between SENs and Total Difficulties. Children's performance on subtests of the WISC-III-UK (Block Design and Vocabulary) were considered to see if they could be mediating variables.

Vocabulary and Block Design as Mediators

In order to test whether Block Design and Vocabulary were mediators in the relationship between SENs and total difficulties, the following analysis was undertaken. Firstly, as previously noted, regressing the dependent variable (Total SDQ score) on the independent variable (SEN) showed that the independent variable affected the dependent variable ($r = .46, p < 0.001$). Secondly, when Block Design was regressed on SEN, SEN affected Block Design ($r = -.32, p < .001$). However, regressing Total Difficulties score on both SEN and on the Block Design showed that Block Design did not significantly affect the Total Difficulties score ($t = 1.66, p > .05$; $\text{Beta} = .16$), suggesting that Block Design was not a mediator.

When Vocabulary score was regressed on SEN, SEN affected Vocabulary score ($r = -.42, p < .001$). Furthermore, regressing Total Difficulties score on both SEN and on Vocabulary significantly affected the dependent variable, ($t = 2.62, p < .05$; $\text{Beta} = -.25$).

In addition to this, Baron & Kenny (1986) state that in order for mediation to occur, the effect of the independent variable (SEN) on the dependent variable (Total Difficulties) must be less when the dependent variable is regressed on both the independent variable and on the mediator, than when the dependent variable is regressed on the independent

variable alone. As we saw earlier, when Total Difficulties was regressed on SEN alone, $r = .46$. When Total Difficulties was regressed on both SENs and Vocabulary, $\beta = .36$ for SENs. The value of β in the second equation is evidently numerically smaller than the value of r in the first equation.

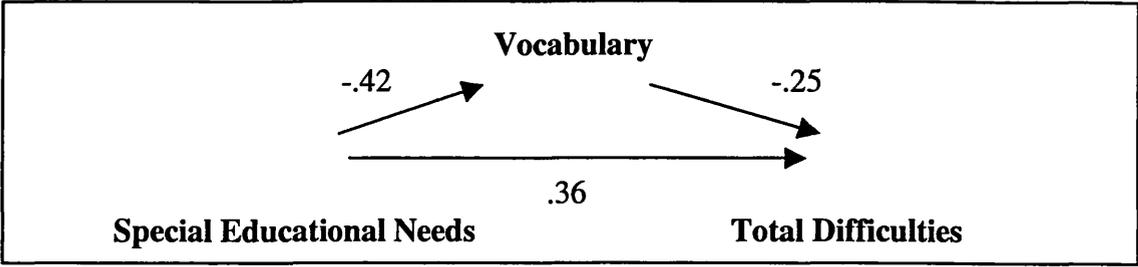
Finally, Sobel (1982) provided an approximate significance test for the indirect effect of the independent variable on the dependent variable via the mediator. Using Sobel's formula, the mediated path was significant ($z = 2.24, p < .05$).

Since these conditions apply, Vocabulary was a partial mediator in the relationship between SENs and Total Difficulties. The mediating effect of Vocabulary can be seen in figure 3.1 below. Perfect mediation holds if the independent variable has no effect when the mediator is controlled. However, as SENs remained significant when Vocabulary was controlled ($t = 3.75, p < .001$), not all of the association between SEN and Total Difficulties was explained by Vocabulary score alone.

Summary of Mediators in the Relationship between SENs and Emotional and Behavioural Difficulties

Neither self-schemas nor self-concept were found to be mediators in the relationship between SENs and emotional and behavioural difficulties. Block Design score was also not a mediator. Vocabulary score was a partial mediator in the relationship between SENs and emotional and behavioural difficulties. However, Vocabulary score alone was not able to explain all of the association between SENs and emotional and behavioural difficulties.

Figure 3.1: Vocabulary as a mediator in the relationship between SENs and Total Difficulties



CHAPTER 4

DISCUSSION

This research was designed to investigate the self-cognitions of primary school aged children with SENs, who due to their academic difficulties, are proposed to be particularly susceptible to developing schemas of incompetence and low self-worth. It examined whether these children, when compared to children not on the SEN register, showed evidence of a more negative self-schema specific to failure and competence, and also whether they evidenced lower self-perceptions about their competence. In addition, the mechanisms involved in making children with SENs more susceptible to developing emotional and behavioural difficulties than non-SEN children, were investigated.

The results showed that, when compared to children not on the SEN register, children with SENs demonstrated more emotional and behavioural difficulties, and lower scores on tests of intellectual functioning and academic attainment. They also had less positive self-perceptions of their Reading competence and Spelling competence than did children without SENs, although their self-perceptions of competence in other domains was similar to that of children not on the SEN register. Results from the incidental recall task did not support the hypothesis that children with SENs have a negative self-schema specific to failure and competence, as there was no evidence that children with SENs recalled more negative and fewer positive words than non-SEN children. In addition, the educational task, which was intended to activate schemas made no significant difference to the number of words recalled by children. Finally, children's score on the

Vocabulary subtest of the WISC-III-UK was found to partially mediate the relationship between SENs and emotional and behavioural difficulties.

Interpretation of the Findings

Prevalence of Emotional and Behavioural Difficulties

Consistent with previous studies, children with SENs demonstrated more emotional and behavioural difficulties than non-SEN children. They displayed greater difficulties on the Conduct Disorder, Emotional, Hyperactivity, Peer Problems and Total Difficulties subscales of the SDQ, and scored in the abnormal range on subscales of the SDQ significantly more frequently than children not on the SEN register. There was a particularly high incidence of children with SENs exhibiting Hyperactivity and Conduct Disorders: 36% and 34% of children with SENs scored in the abnormal range on the Hyperactivity and Conduct Disorder subscales respectively. Altogether, 18 of the 23 children (78%) who had 'abnormal' scores on the Hyperactivity subscale also had a SEN. This is a considerably higher figure than that of Adams et al. (1999), who found that only 20% of children who obtained an abnormal score for Hyperactivity, also had a reading difficulty.

The mechanisms which make SEN children more susceptible to obtaining high scores on Hyperactivity and Conduct Disorder are unclear. While some evidence suggests that antisocial behaviour predisposes the child to underachievement (e.g., DeBaryshe, Patterson & Capaldi, 1993), other studies suggest that learning difficulties (e.g., reading difficulties) can increase the occurrence of disruptive behaviours (e.g., Williams & McGee, 1994). Thus, the causal relationship between learning difficulties and behaviour

problems is unclear. Hinshaw (1992) proposed that shared risk factors might underlie both sets of difficulties, and also that the form of association may change with age, with inattentiveness and hyperactivity the stronger correlates of underachievement in early childhood, and antisocial behaviour and aggression becoming prominent features later on in the developmental sequence.

Using Goodman's (1997) criteria, that a Total Difficulties Score of 16 and above is indicative of deviant behaviour, 32% of children with SENs had a total difficulties score in the abnormal range, as did 4% of children without SENs. The prevalence of children with SENs experiencing emotional and behaviour difficulties seems to be consistent with previous studies. For example, Hinshaw (1992) reported a comorbidity level for academic difficulties and behaviour problems ranging from 10% to around 50%.

Overall, out of this sample of 100 children (50% of whom had SENs), 18% had total difficulties score in the 'abnormal range'. Adams et al. (1999) found that in a sample of 364 children in a UK primary school (where 34% of the children had SENs), 6 % displayed Total Difficulties scores in the abnormal range. Using a weighted average and assuming that 50% of the children in Adams et al.'s sample also had SENs, then one could expect that approximately 9% of his sample would have had Total Difficulties in the 'abnormal' range. Therefore, in comparison to the study of Adams et al (1999), there is a particularly high prevalence of emotional and behavioural difficulties in this present sample of children.

These results, however, are consistent with other epidemiological studies. Target & Fonagy (1996) state that psychiatric impairment among children and adolescents has been estimated at 10-33%, and that recent studies from several different countries have reached a fairly close consensus on a prevalence rate of 20%. Variation in estimates is accounted for by differences in populations studied (e.g., culture, age, gender, geographical location), sampling, definition and severity of disorders, informants and data collection methods (Davis et al., 2000). The highest rates seem to be in inner city areas and in adolescents (Peterson & Leffert, 1995; Rutter, Cox, Tupling, Berger & Yule, 1975). In a recent community based study of children and adolescents aged 0-16 in an inner London borough, similar to the one examined in the current study, Davis et al. (2000) found that nearly 72% of the children had at least one moderate-to-severe problem and that 37% of children had three or more psychological problems.

Intelligence and Academic Attainment

As expected, and consistent with previous studies, children in the SEN group obtained significantly lower mean scores on both the Block Design and Vocabulary subtests of the WISC-III-UK. While children with SENs obtained mean scaled scores of 6.00 and 6.96 on the Block Design and Vocabulary subtests respectively, children not on the SEN register, obtained mean scaled scores of 8.38 and 9.82 for the two subtests. These results are not surprising as one would expect children with SENs, particularly this group who are on the SEN register due to difficulties with learning, to score lower on tests of intellectual functioning. Similarly, as expected children with SENs attained marks significantly lower than their non-SEN peers, on standardised tests of educational attainment.

The children in this sample, even the children not on the SEN register, obtained scores significantly below average ability (scaled score of 10) on the Block Design subtest of the WISC-III-UK, where the mean scaled score for non-SEN children was only 8.38 ($t(100) = 3.10, p < .01$). Children's scores on Vocabulary were only slightly below average ability. Children in the study also performed below National Standards according to their SATs results for Maths and English.

Self-Concept

Children with SENs demonstrated significantly lower self-perceptions of their competence in the domains of spelling and reading. They also demonstrated lower perceptions of their maths competence, although this did not attain statistical significance. Perceived competence in other domains, measured by the Self-Perceptions Profile for Learning Disabled Students (General Intellectual Ability, Global Self-Worth, Writing, Athletic, Social Acceptance, Behaviour Conduct and Physical Appearance) were, significantly, no different for SEN and non-SEN children. This suggests that differences in self-concept between SEN and non-SEN children are very specific to the areas of spelling and reading, and to some extent maths.

As discussed in the Introduction, previous studies examining self-concept of learning disabled (LD) children have produced mixed results. While some studies have found evidence for differences in self-concept between the two groups, others have found no evidence for any differences. The results of this study seem to be consistent with those of Bear et al (1996), who on administering the Self-Perception Profile for Children to LD and normally achieving Third graders, argued that children with LDs recognise their

specific skills deficits, but do not perceive themselves as being less intelligent than their normally achieving peers. In this current study, although SEN children's perceptions of their competence in reading, spelling (and to some extent maths) were lower than that of non-SEN children, their perception of General Intellectual Ability and Global Self-Worth were not affected.

This result, that significant differences in self-perceptions between SEN and non-SEN children are specific to reading and spelling, is interesting. It needs to be asked why self-perceptions of competence in other school domains, such as writing are not affected.

This may be because when children make judgements about their competencies in various domains, they do so by comparing themselves to their peers. Perhaps it is easier to compare oneself to one's peers for reading and spelling than for writing, and consequently, to know if one is at the same level as others in the class. For example, a child will probably know what reading level they are at in comparison with their peers and whether their ability is commensurate or not. Spelling is frequently assessed in primary schools, in both spelling tests and also when work is marked by the class teacher, and again, it is obvious when one is making many errors in this area. Writing ability is perhaps a more subjective experience where it is more difficult to know if one is behind one's peers, and furthermore, writing skills may be assessed less frequently.

It may well be the case that the children in this sample did not have lower perceived competence of their Intellectual Ability or Global Self-Worth than their non-SEN peers. Although they realise that they are not so good in certain domains, this does not affect the overall way they perceive themselves, and academic success is not valued by these

children. According to James (1892), individuals compare their level of competence to the importance of success across numerous domains, and the degree of congruency or discrepancy that results will determine their level of self-esteem. It may be possible that academic achievement is not particularly valued by children of this age group – or even that it is regarded as a negative quality (i.e., being a ‘swot’). However, alternative explanations need to be considered.

Given that the Self-Perception Profile for Learning Disabled Students is a self-report measure, it is possible that the SEN children denied that they had lower self-perceptions of their competence, or that they gave socially desirable answers to the questions. The results show that a substantial percentage of children (35%) obtained a global self-worth score which was ‘high’, and interestingly 20 of these 35 children (57.14%) had SENs. It is possible that completing the Self-Perception Profile for Learning Disabled Children requires a certain amount of cognitive competence, which the SEN children in this sample do not yet possess. For example Harter & Pike (1984) showed that although 4-7 year old children are able to articulate their judgements about the self, it is not actually until middle childhood that children have a verbalised concept of their self-worth, as determined by self-report measures (Harter, 1990). Also, research shows that young children tend to inflate their sense of adequacy and tend to produce unrealistically high judgements of their self-worth, and also that their perceptions of their abilities grow more modest and more accurate from early to late childhood (Frey & Ruble, 1987). Harter (1990) believes that this may be because they naturally confuse the wish to be competent with reality. It may be the case that the SEN children in this study are

developmentally delayed in comparison to their normally achieving peers and therefore have unrealistically high perceptions of their competencies.

The group that the SEN children compared themselves to when completing the questionnaire needs to be considered. It is possible that the SEN children in this study did not perceive themselves to be less competent in the majority of domains because they compared themselves to other children with SENs, and do not realise that they are behind when compared to their peers who are not on the SEN register. Also, the academic standard in all the schools where testing took place was below the National Standard, and if a child is not doing well at a school where the standard is low and everyone else is doing badly, it is likely that this will not affect their self-worth to such an extent. However, if all the other children in the class are doing well academically, and a child has difficulties, it is likely that this will have more bearing on self-worth.

The lack of consensus between studies comparing the self-concept of LD children can be partly explained by the different definitions of LD used, and the sample of SEN children in this study were quite different to LD children in Renick & Harter's (1988) standardisation study. According to Renick & Harter's criteria, a child is said to have a LD, if they obtain a score on the WISC-R IQ of at least 80, at least a 40 % discrepancy between academic and performance levels as measured by the Woodcock-Johnson Psychoeducational Battery (Woodcock & Mather, 1989) and a significant impairment in one or more areas of information processing. According to the definition of SEN used in the current study, a child has a SEN on the basis that they have a learning difficulty which calls for special educational provision to be made. However, frequently, no

formal assessment of the child's ability is made unless a child is being assessed for a Statement of Special Needs. Therefore, the definition of SEN in this study is far broader than the definition of LD in Renick & Harter's (1988) study.

The SEN children in the current study had significantly higher perceptions of Intellectual Ability, Social Acceptance, Behaviour Conduct, Physical Appearance and Global Self-Worth, but lower perceptions of Maths competence than the LD children in Renick and Harter's (1988) study. When comparing the normally achieving students in Renick & Harter's (1988) study with the children in this study, the normally achieving children in this current study had significantly lower perceptions of their Global Intellectual Ability, Writing and Maths Competence, but higher perceptions of Physical Appearance than the children in Renick and Harter's (1988) study.

Self-Schema

The current study tested the hypothesis that children with SENs show evidence of a negative self-schema specific to failure and competence, i.e., that children with SENs will remember more negative and fewer positive adjectives than children without SENs.

Results showed that there were significant differences in the number of words recalled by children with and without SENs. Children with SENs recalled altogether fewer words (both positive and negative) than children without SENs. This result was expected since recall ability (or working memory) is an aspect of intellectual functioning, and children with SENs typically score lower on such tasks.

There was no difference, however, between the proportion of positive and negative words recalled by children with and without SENs, which does not support the hypothesis that children with SENs show evidence of a negative self-schema specific to failure and competence. Both children with SENs and those without SENs recalled significantly more negative words than positive words, which could imply that all children in the sample exhibited schemas of incompetence. Typically, research on schemas has been conducted on children in the United States and it could be that this disposition towards remembering negative words is a trait of British schoolchildren, and that American schoolchildren are more confident about their ability.

In addition, the educational task, which was thought might activate schemas, made no significant difference to the number of words (positive or negative) recalled by children with or without SENs. Therefore, it is possible that the educational task did not have the desired effect of activating schemas.

This study therefore did not provide evidence that children with SENs display schemas more specific to failure and competence than children without SENs. There are several possible explanations for this finding. Firstly, it may well be the case that primary school children do not have a generalised schema specific to failure and competence. Instead, children may have schemas specific to a particular area of competence. Indeed, results with the Self-Perception Profile for Learning Disabled students showed that differences between the perceptions of competence in children with and without SENs are very specific to the areas of Reading and Spelling. This may also be true for schemas. It is also possible that the 8-11 year olds in this study have not yet developed

schemas of incompetence. This is a somewhat contentious claim, however, contradicting theoretical accounts (e.g., Young, 1994) which claim that schemas develop in early childhood.

Secondly, it is possible that there *are* differences in the self-schemas of children with and without SENs, but the educational task did not have the desired effect of activating these schemas. The majority of previous studies that have found evidence of negative schemas have been conducted on depressed children and data clearly indicates that they are not detectable until the person is depressed (e.g., Hammen et al., 1985). Such findings suggest that schemas may be 'latent' until activated by depressed mood. Taylor & Ingram (1999) suggest that triggering or activating variables be incorporated into studies which set out to measure schemas, as it is likely that schemas may not become active until they are accessed by a triggering event. It may be the case that schemas are activated only in extreme conditions and that the spelling and mathematical task utilised in this current study were not sufficiently challenging to activate schemas of incompetence.

The third possibility is that there are schemas of incompetence in children, but the incidental recall task was unable to access or measure these schemas. There were several limitations with the schema measure which will be covered in greater detail later in this discussion. Reliable measurement of schematic processing remains elusive (Segal et al., 1988). This is partly due to the lack of consensus within the field regarding what an acceptable self-schema measure is, and is well illustrated by the current proliferation of such tasks.

A final possibility is that self-schema is not actually a valid construct, and this explains the difficulty in constructing a reliable and valid schema measure. Although theoretically the schema concept is continually used to explain a variety of psychological difficulties, based on the observations of this study, the measurement of self-schemas remains poor and low in face validity.

Mediators in the Relationship between SENs and Emotional and Behavioural Difficulties

There was a significant negative relationship between Global Self-Worth and Total Difficulties scores on the SDQ. This suggests that children who were reported by teachers as experiencing many difficulties, perceived their Global Self-Worth to be lower than children reported to have fewer difficulties. However, when this relationship between Total Difficulties and Global Self-Worth was looked at separately for children with and without SENs, it was found that although Global Self-Worth was correlated with Total Difficulties for children not on the SEN register ($r = -.32, p < .05$), for children with SENs, there was actually no significant relationship between Global Self-Worth and Total Difficulties scores. This finding is consistent with those of Cadieux (1996), who on conducting a study to investigate the association between scores on self-concept and rated classroom behaviour among LD and non-LD pupils in Grades 1-4, found that a relationship between self-concept and classroom behaviour only existed for high achievers in the older classes (Grades 3 and 4). Cadieux (1996) believes that factors such as intelligence may be influential in explaining the relationship between self-concept and behavioural difficulties. As stated previously, it may also be that children not on the SEN register are more developmentally advanced than their SEN peers, and

are therefore more aware of their emotional and behavioural difficulties, which leads to them having a lower Global Self-Worth. It may also be that the children with SENs are aware of their emotional and behavioural difficulties, but this does not affect their Global Self-Worth.

Neither self-schemas nor self-concept were found to be mediators in the relationship between SENs and emotional and behavioural difficulties. Children's performance on the Vocabulary subtest of the WISC-III-UK was found to mediate the relationship between SENs and emotional and behavioural difficulties, although Block Design score was not a mediator. It should be remembered, however, that Vocabulary score was not able to explain all of the variance in the relationship between SENs and emotional and behavioural difficulties, and therefore, additional variables must have been at work.

Possible explanations as to why Vocabulary mediates the relationship between SEN and Emotional and Behavioural Difficulties shall be considered. The Vocabulary subtest (a series of words presented orally which the child defines) is one of the Verbal subtests of the WISC-III-UK, and out of all the WISC-III-UK subtests, is the best measure of general intelligence or Full Scale IQ (Kaufman, 1994). The Block Design subtest (a set of modelled or printed two-dimensional geometric designs, which the child replicates using two-colour cubes) is a non-verbal subset.

Kaufman (1994) states that the Vocabulary subtest reflects the individual's fund of information or acquired knowledge, their degree of abstract thinking, their long term memory and their learning ability. It also measures verbal concept formation and verbal

expression. The subtests unique ability involves measurement of the individual's language development and his or her word knowledge. Factors which influence performance on this subtest include: Cultural opportunities at home; having a foreign language background; the individual's intellectual curiosity and striving; his or her interests; outside reading and reading ability; richness of the individual's early environment; and their school learning. Cooper (1995) claims that Vocabulary is one of the most purely verbal of all the subtests of the WISC-III, and since language is one of the most fundamental characteristics of human beings, this subtest reflects that most uniquely human ability of individuals, to understand and to express themselves in words.

The finding that a higher Vocabulary score is related to teachers' ratings of classroom behaviour is interesting. Children whose verbal skills are good might be more able to benefit from the classroom setting, where much learning is dependent on understanding the written and spoken word. Verbal ability may also increase the ability to understand and comply with teachers. Communication skills may improve peer relationships and consequently one's ability to perform in a group setting. However, this proposal was not supported, as Vocabulary score was not significantly related to teacher-rated Peer Problems. Furthermore, experiencing communication difficulties might be considerably frustrating for children, which could precipitate or maintain externalising behaviour and achievement difficulties (Hinshaw, 1992). Although further studies are needed, there is some evidence that expressive, as opposed to receptive language disorders, early in life are more specifically associated with externalising problems (see Beitchman, Tuckett & Bath, 1987). According to Hogan & Quay (1984), verbal mediation is a key factor in

self-regulation, and acting-out behaviour is negatively associated with a variety of relevant verbal skills.

Also, since children with high scores on Vocabulary may have greater powers of expression in the classroom, it is possible these children may come to the notice of teachers and be perceived as good students because of their good communication skills. If this is the case, teachers may confuse good behaviour in the classroom, including obedience and ability to learn, with good communication. The fact that Block Design was unrelated to ratings of classroom adjustment seems to support this interpretation.

It is also possible, however, that since Vocabulary is strongly associated with Full-Scale IQ, it may be that sub-average IQ is the mediating factor in the relationship between SENs and emotional and behavioural difficulties, not Vocabulary score per se. If this were so, then general neurodevelopmental delays or cognitive deficits might predispose the child both to language problems and to subsequent conjoint presence of externalising behaviour and underachievement.

Attainment in English (and not attainment in maths), was also related to teachers' ratings of classroom behaviour. There was a negative correlation between English SATs results and Hyperactivity, suggesting that children who were reported by teachers to be Hyperactive received lower scores in English. These results are consistent with Adams et al., (1999), who found in that in general, children with behaviour problems had more significant difficulty with reading than arithmetic. Adams et al. (1999) believe that this may occur because although these two skills receive equivalent emphasis in the

curriculum, it is more likely that children with good attention and prosocial behaviours will read outside of the classroom context. The effects of poor attention on reading attainment might therefore be greater than on arithmetic skill because of associated low levels of exposure to print.

Verbal ability was also more important than performance ability in explaining a child's self-perceptions of their competence. This may be because the ability to express oneself is very important to one's overall esteem as a person, and not being able to express oneself properly may lead to lowered self-regard.

Methodological Limitations of the Study

This study had a number of strengths. Research in the field of schemas is scarce and controversy exists as to how one best measures schemas. This study was concerned with examining the methodology of the schema measure, thus adding to the dearth of literature in the area. Moreover, many studies have found a relationship between academic difficulties and emotional and behavioural difficulties and this study was designed to investigate the mechanisms between the two.

In addition, this study had a large sample size of 100 children from four different schools in an inner city education authority and, in terms of ethnicity, the sample was very diverse. The sample of children studied (i.e., children in a UK primary school) is currently under-researched and most of the previous research on schemas and self-concept in children has been done on North American children or college students. The

study, however, suffered from several methodological limitations. These will be outlined alongside suggestions for future research.

Limitations with the Schema Methodology

Firstly, the educational task, consisting of maths and spelling tests did not appear to activate schemas. The educational tasks selected were made up of questions that became increasingly difficult as the test progressed. Although children were able to answer the first items of the test correctly, as the tests became progressively more difficult, considerably more of the children's answers became incorrect. It was thought that not being able to answer the questions correctly and receiving feedback that their answers were incorrect would challenge the children's sense of competence.

However, this procedure had its limitations. Some of the words the children were asked to spell and the sums they were asked to calculate were quite difficult, and had not yet been covered by the school curriculum. An observation made during administration of the educational task, was that several children commented that the sums or spelling they were asked to do were things that they had not yet learnt at school. It is therefore possible that the children may have attributed not being able to do these tasks to the fact that they had not yet learnt how to do them at school, rather than the fact that they considered themselves incompetent.

The fact that children were able to answer the easier questions (at the beginning of the maths and spelling tests) may have cancelled out any thoughts of incompetence that the child might have had when not able to do the latter questions. This idea, however,

contradicts schema theory, which suggest that a person with a 'Failure' schema would focus on the errors that they have made on a task, rather than the questions they have answered correctly.

It could also be argued that the task of asking children to rate whether adjectives are self-descriptive was actually enjoyable for children, and that again, any activation of schemas that may have occurred as a result of the educational task was cancelled out. This claim is rather debatable, since the task of rating adjectives as self-descriptive should not be pleasant if a child sees themselves as lacking competence – it would be quite upsetting for children to say that they are not clever, bright, etc. However, looking at the profile of children's answers on the rating task, where they have to say if adjectives are self-descriptive or not, both SEN and non-SEN children gave very similar answers on the whole, saying that the majority of positive adjectives were self-descriptive, while the negative adjectives were not self-descriptive. Endorsing positive adjectives as being self-referent should not be an upsetting task for the children and, indeed, several children commented that they enjoyed this rating task.

The study could be replicated, this time studying a more demanding event for children which would provide a better test of whether stressful events activate schemas. This could be an event such as a difficult and important exam. Another idea might be to give children a difficult task at which they are unlikely to succeed, and before administering the task, telling children that this is a task that most children their age are able to do. This procedure would probably activate schemas of incompetence, although it would obviously be questionable for ethical reasons.

Another methodological limitation was that the words utilised in the schema measure were not correctly understood by all children. Although many of these words were selected following consultation with children in Year 7, not all these words were understood by the Year 4-6 children in the study. For example, the words 'attractive' and 'popular' were misconstrued by 14% and 12% of the children respectively who thought that the words had a negative connotation. When children who misunderstood the words were asked to define what they thought the words meant, 'attractive' was defined as 'wearing short skirts and being liked by boys' and a number of the children questioned believed that the word 'popular' meant that 'many people know you'. The fact that the word 'popular' is not understood by many of the children is interesting as the Self-Perception Profile for Learning Disabled Students uses this word in the Social Acceptance Scale. This limitation of the study could be reduced if the adjectives which were not understood by children were replaced with alternative adjectives.

More negative words than positive words were recalled by all the children, regardless of whether or not they had SENs. The negative words seemed more memorable than the positive words for all children and it is questionable whether this is because all the children in the sample had self-schemas of incompetence, or whether in fact it was an artefact of the words. It seems likely that words such as 'Thick' 'Dumb' and 'Idiot' were more memorable than words such as 'Clever' 'Bright' and 'Smart', as the former tend to be words of abuse, utilised by children in the playground against one another and are therefore 'funny' or 'rude'.

Difficulties existed also with scoring the self-schema incidental recall task. Typically, incidental recall ratios are calculated by dividing the number of positive yes-rated words recalled by the number of positive yes-rated words (likewise for negative words) (Prieto et al., 1992). However, this procedure can be problematic (Prieto et al., 1992). As it was found in this study, children, in both the SEN and non-SEN groups, endorsed very few of the negative adjectives as being self-descriptive, and therefore had this procedure been used, the reliability of the incidental recall ratio for negative words would have been seriously affected. It was decided that this method of basing the self-schema score on adjectives that the children endorsed as being self-descriptive was not an accurate reflection of self-schemas, partly because schematic processing is thought to be beyond conscious awareness and the above method of computing incidental recall ratios is too reliant on the child consciously endorsing adjectives as self-descriptive. Instead, as described in the method section, it was decided that the task of asking children whether adjectives were self-descriptive should be treated simply as an encoding task and that rather than allowing the adjective endorsed as being self-descriptive to influence the analysis, the number of positive and negative words that the child recalled (regardless of whether they were endorsed as being self-descriptive) should be recorded and used in the analysis. This scoring of the incidental recall task may also have affected the results; however, utilising the procedure described above would have been problematic.

Although this study had some ecological validity, in that the educational task introduced in order to activate schemas was similar to a school situation in which children's maths and spelling work are marked in front of the child, the schema measure itself may have been low in ecological validity. Segal (1988) discusses the ecological validity of the

schema measure and argues that it is susceptible to the type of critique that generally portrays information-processing paradigms as ecologically limited and only marginally relevant to the study of people's thoughts and feelings as they naturally occur.

Furthermore, Segal (1988) feels that it is important to ask the question of whether trait adjectives represent the closest approximation to the types of self-referent information that is stored in semantic memory (Coyne & Gotlib, 1983; Segal & Shaw, 1986).

In addition, Derry & Kuiper (1981) report that there are important differences between the operationalisation of schemas in an incidental recall task, in terms of precisely defined observations of task behaviour, and Beck's use of schemas in a broad sense to describe pervasive strategies for shaping information into attitudes and assumptions. Coyne & Gotlib feel that the incidental recall task therefore only provides a limited test of Beck's model of schematic processing.

Thus, there were several limitations associated with the methodology of the schema measure as outlined above. Further research is therefore undoubtedly needed in this area, with additional attempts made to identify reliable and valid methods of measuring schemas.

Other Methodological Limitations

SEN is very broad group and although attempts were made to narrow this classification by looking at children on the SEN register due to problems with learning, and to exclude children who were on the SEN register as a result of emotional and behavioural difficulties, the sample was nevertheless very heterogeneous. Hinshaw, Lahey & Hart

(1993) argue that progress in understanding the links between academic difficulties and behaviour problems depends on achieving more developmentally sensitive classifications, focusing on relatively homogeneous sub-groups of children. Therefore, this research may have been improved had a homogenous group been used, such as children with developmental reading difficulties. In addition, SENs exist on a continuum from minor difficulties (Stage 1) to more major difficulties (Stage 5) and it is likely that there was some overlap between children with minor difficulties, who were at Stage 1 on the register, and children who were not on the SEN register. To reduce this overlap, the research could have focussed on comparing children at Stage 5 (with more major difficulties requiring Statements of SENs) to children not on the SEN register.

Although children with insufficient spoken English were excluded from the study, many of the children tested came from homes where English was not their first language.

Having a foreign language background would have affected recognition and understanding of self-descriptive adjectives on the schema incidental recall task, and would also have influenced performance on the Vocabulary subtest of the WISC-III-UK. Therefore, the study could be replicated using only children who spoke English as their first language.

Finally, it is possible that there was a low response rate of children bringing in parental consent forms and that this led to a sample bias - in that those children who did return their forms may not be representative of the inner London population being studied. Many more girls than boys returned their consent forms and children with SENs tended to return their forms less frequently than children without SENs. In fact, in order to

recruit enough children with SENs into the study, these children were given the parental information sheets and consent forms on two occasions.

Differences may also have existed between the parents of children who participated in the study and those that did not participate. Perhaps the parents of children who returned their consent forms were less chaotic and more involved in their children's schooling. As many of the parents of children attending schools in this area do not speak English, a higher response rate could have been attained had the consent forms and information sheets for parents been translated into languages other than English. By telephoning parents or visiting their homes, it is possible that many parents who never received the consent forms from their children, or those parents who are illiterate, would have agreed for their child to participate.

Clinical Implications

Children with SENs are more prone to developing emotional and behavioural difficulties than their non-SEN Peers. Therefore, more resources should be provided to help these children, as the high levels of emotional and behavioural difficulties in this group implies that they warrant special monitoring for mental health needs. Special Educational Needs Coordinators (SENCOs) and class teachers could play an important role in identifying and monitoring these children. They may require some additional training on how to identify psychological problems in children, because currently only a small proportion of children experiencing psychological difficulties, 10-15%, currently find their way to psychiatric services (Target & Fonagy, 1996). Since severe childhood psychological disorders do not generally remit spontaneously and many disorders are

associated with poor adjustment in later life (Target & Fonagy, 1996), schools should have, where possible, good access to psychological or psychiatric services, either through school-based services or through close links with local health services.

If children with SENs evidence emotional and behavioural difficulties, which will invariably interfere with their learning, psychological input should be available alongside extra learning support. Currently, a great emphasis is placed in schools on the importance of increasing self-esteem in children with SENs, as it is believed that children's perceptions of their abilities may be crucial in determining their achievement and motivation in school (e.g., Phillips & Zimmerman, 1990). This study found that contrary to this belief, self-cognitions were not important in explaining the relationship between SENs and emotional and behavioural difficulties. In fact, there was very little difference in the self-cognitions of children with and without SENs - except regarding their perceptions of competence in reading and spelling. Although on the basis of this study, we should not discount the importance of focusing on improving the self-esteem of children with SENs, other approaches should be looked at to help this group of children. Since verbal ability was found to partially mediate the relationship between SENs and emotional and behavioural difficulties, concentrating on improving verbal skills could be a particularly useful way of helping children with SENs who have emotional and behavioural difficulties. Children on the SEN register could be provided with extra assistance to help improve their communication and social skills.

Summary and Conclusion

This study examined the self-cognitions of primary school aged children with SENs, who, due to their academic difficulties, are proposed to be particularly susceptible to

developing schemas of incompetence and low self-worth. It examined whether these children, when compared to children without SENs, showed evidence of a more negative self-schema specific to failure and incompetence, and also whether they evidenced lower self-perceptions of their competence. In addition, the mechanisms involved in making children with SENs more susceptible to developing emotional and behavioural difficulties, compared to non-SEN children, were investigated.

The study found that children with SENs evidenced more emotional and behavioural problems, lower scores on subtests of the WISC-III-UK, lower scores on academic attainment tests and lower self-perceptions of their Reading competence and Spelling competence, compared to children without SENs. No differences, however, were found between the valence of words recalled by children with and without SENs on an incidental recall task, suggesting that children with SENs did not show evidence of schemas more specific to failure and incompetence than children without SENs. Children's score on the Vocabulary subtest of the WISC-III-UK acted as a mediator, explaining some of the relationship between SENs and emotional and behavioural difficulties.

A number of methodological problems affected the results of the study. Most importantly, the educational task that was introduced in order to activate schemas made little difference to the number of adjectives recalled by children, raising the question of whether it had had the desired effect of activating schemas. Additional methodological limitations existed with the schema measure used. Finally, there was a possible sample bias in children participating in the study.

Despite these limitations, the study has both theoretical and clinical implications, and there are several opportunities for future research suggested by this study. In terms of the self-schema and self-concept literature, further research within the British educational system is needed. Perhaps the SEN children in this sample, attending mainstream schools, did not have sufficiently low self-perceptions of their competence, and this study could be replicated looking at children in Special schools. This study suggests that Vocabulary is a mediator in the relationship between SENs and emotional and behavioural difficulties. However, not all the variance is explained by Vocabulary score alone. Future research could try and identify other variables that might mediate the relationship.

To date, there has been little research on how to reliably measure schemas and the measurement of schemas remains perplexing. Based on the observations of this study, the measurement of self-schemas remains poor and low in face validity. Considering the abundance of literature theorising about the role of schemas in psychopathology, and the fact that reliable measurement of schematic processing remains elusive (Segal et al., 1988), further work is required on the construction of a valid and reliable schema measure.

In terms of clinical implications, the results imply that children with SENs are a needy group, particularly susceptible to developing emotional and behavioural difficulties. Offering training to help improve social and communication skills may be particularly beneficial, since verbal ability has been shown to act as a mediator of emotional and

behavioural difficulties. Wherever possible, additional resources should be provided to help identify and assist these children.

REFERENCES

- Adams, J.W., Snowling, M.J., Hennessy, S.M. & Kind, P. (1999). Problems of behaviour, reading and arithmetic: Assessments of comorbidity using the Strengths and Difficulties Questionnaire. *British Journal of Educational Psychology*, 69, 571-585.
- Alba, J.W., Alexander, S.G., Hasher, L. & Coniglia, K. (1981). The role of context in the encoding of information. *Journal of Experimental Psychology: Human Learning and Memory*, 7, 283-292.
- Anderson, J.R., & Bower, G.H. (1973). *Human associative memory*. Washington, DC: Winston.
- Bandura, A. (1978). The self-system in reciprocal determinism. *American Psychologist*, 33, 344-358.
- Bandura, A. (1986). *Social foundations of thought and action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice Hall.
- Baron, R.M. & Kenny, D.A. (1986). The moderator - mediator variable distinction in social psychological research: conceptual, strategic, and statistical consideration. *Journal of Personality and Social Psychology*, 51 (6), 1173-1182.
- Bartlett, F.C. (1932). *Remembering*. Cambridge, England: Cambridge University Press.
- Bear, G.G, Clever, A. & Proctor, W.A. (1991). Self perceptions of nonhandicapped children and children with learning disabilities in integrated classes. *Journal of Special Education*, 24 (4), 409-426.
- Bear, G.G. & Minke, K.M. (1996). Positive bias in maintenance of self worth among children with LD. *Learning Disability Quarterly*, 19 (1), 23-32.
- Beck, A.T. (1967). *Depression*. New York: Harper Row.
- Beck, A.T. (1976). *Cognitive therapy and emotional disorders*. New York: International Universities Press.
- Beck, A.T. (1996). Beyond belief: A theory of modes, personality and psychopathology. In P.M. Salkovskis (ed). *Frontiers of Cognitive Therapy* (pp.1-25). New York: Guilford Press.
- Beck, A.T., Freeman, A., & Associates (1990). *Cognitive Therapy of Personality Disorders*. New York: Guilford Press.

Beck, J.S. (1995). *Cognitive Therapy: Basics and Beyond*. New York: Guilford Press.

Beitchman, J., Tuckett, M. & Bath, S. (1987). Language delay and hyperactivity in preschoolers: Evidence for a distinct subgroup of hyperactives. *Canadian Journal of Psychiatry*, 32, 683-687.

Bierer, B. (1982). Behavioural and motivational correlates of children's accuracy in judging their cognitive competence. Unpublished doctoral dissertation. University of Denver. In Harter, S. (1983). Developmental perspectives on the self-system. In E.M. Hetherington (Ed.) & P.H. Mussen (Series Ed). *Handbook of Child Psychology: vol.4. Socialization, personality and social development* (pp.275-386). New York: Wiley.

Cadieux, A. (1996). Relationship between self-concept and classroom behaviour among learning and non-learning disabled students in regular classes. *Perceptual and Motor Skills*, 82, 1043-1050.

Chazan, M., Laing, A.F. & Davies, D. (1991). *Helping Five to Eight Year Olds With Special Educational Needs*. London: Basil Blackwell.

Clark, D.A., Beck, A.T., & Brown, G. (1989). Cognitive mediation in general psychiatric outpatients: A test of the content-specificity hypothesis. *Journal of Personality and Social Psychology*, 56, 958-964.

Code of Practice on the Identification and Assessment of Special Educational Needs (1994). DFE/Welsh Office.

Collins Shortened English Thesaurus In AZ Form. Glasgow: Harper Collins Publishers.

Cooley, C.H. (1964). *Human Nature and the Social Order*: Schocken Books. (Original work published 1902).

Cooley, E.J. & Ayers, R.R. (1988). Self-concept and success-failure attributions of nonhandicapped students and students with learning disabilities. *Journal of Learning Disabilities*, 21, 174-178.

Cooper, S. (1995). *The Clinical Use and Interpretation of the Wechsler Intelligence Scale for Children: Third Edition*. Springfield, Illinois: Charles C. Thomas.

Coopersmith, S. (1967). *The Antecedents of Self-Esteem*. San Francisco: Freeman.

Coopersmith, S. (1990). *SEI: Self-esteem Inventories*. Palo Alto, CA: Consulting Psychologists Press.

Coyne, J.C. & Gotlib, I.H. (1983). The role of cognition in depression: A critical appraisal. *Psychological Bulletin*, 94, 472-505.

- Coyne, J.C. & Gotlib, I.H. (1986). Studying the role of cognition in depression: Well trodden paths and cul-de-sacs. *Cognitive Therapy and Research*, 10, 794-812.
- Craik, F.I.M. & Lockhart, R.S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Behavior*, 11, 671-684.
- Croll, P. & Moses, D. (1985). *One in Five*. London: Routledge & Kegan Paul.
- Chazan, M., Laing, A.F. & Davies, D. (1991). *Helping Five to Eight Year Olds With Special Educational Needs*: London: Basil Blackwell.
- Davis, H., Day, C., Cox, A. & Cutler, L. (2000). Child and adolescent mental health needs assessment and service implications in an inner city area. *Clinical Child Psychology and Psychiatry*, 5, 169-188.
- DeBaryshe, B.D., Patterson, G.R. & Capaldi, D.M. (1993). A performance model for academic achievement in early adolescent boys. *Developmental Psychology*, 29, 795-804.
- Derry, P. & Kuiper, N. (1981). Schematic processing and self reference in clinical depression. *Journal of Abnormal Psychology*, 90, 286-297.
- Frey, K.S. & Ruble, D.N. (1987). What children say about classroom performance: Sex and grade differences in perceived competence. *Child Development*, 58, 1066-1078.
- Goodman, R. (1997). The strengths and difficulties questionnaire: a research note. *Journal of Child Psychology and Psychiatry*, 38, 581-586.
- Greenberg, M.S., Vazquez, C.V & Alloy, L.B. (1988). Depression versus anxiety: Differences in self- and other-schemata. In L.B. Alloy (Ed). *Cognitive processes in depression* (pp.109-142). New York: Guilford Press.
- Gross, J. (1993). *Special Educational Needs in the Primary School – A Practical Guide*. Buckingham: Open University Press.
- Hammen, C. (1988). Self-cognitions, stressful events and prediction of depression in children of depressed mothers. *Journal of Abnormal Child Psychology*, 16, 347-360.
- Hammen, C., Adrian, C. & Hiroto, D. (1988). A longitudinal test of the attributional vulnerability model in children at risk for depression. *British Journal of Clinical Psychology*, 27, 37-46.
- Hammen, C. & Goodman-Brown, T. (1990). Self-schemas and vulnerability to specific life stress in children at risk for depression. *Cognitive Therapy and Research*, 14, (2), 215-227.

Hammen, C., Marks, T., deMayo, R. & Mayol, A., (1985). Self-schemas and risk for depression: A prospective study. *Journal of Personality and Social Psychology*, 49, 1147-1159.

Hammen, C. & Zupan, B.A. (1984). Self schemas, depression and the processing of personal information in children. *Journal of Experimental Child Psychology*, 37, 598-608.

Harter, S. (1983). Developmental perspectives on the self-system. In P.H. Mussen (Ed.). *Handbook of Child Psychology: Vol. IV. Socialization, Personality and Social Development* (pp.275-385). New York Wiley.

Harter, S. (1985a). *The Self Perception Profile for Children: Revision of the Perceived Competence Scale for Children. Manual*. University of Denver.

Harter, S. (1985b). Competence as a dimension of self-evaluation: Towards a comprehensive model of self-worth. In R. Leahy (Ed.) *The Development of the Self* (pp.55-118). New York: Academic Press.

Harter, S. (1988). *The Self-Perception Profile for Adolescents. Unpublished Manual*. University of Denver, Denver, CO.

Harter, S. (1990). Causes, correlates and the functional role of global self-worth: A lifespan perspective. In R.J. Sternberg & J.Kolligan, Jr. (Eds). *Competence Considered* (pp.67-97). New Haven: Yale University Press.

Harter, S. & Nowakowski, M. (1987). The relationship between self-worth and affect in children. Implications for childhood depression. Paper presented at the meeting of the Society for Research in Child Development, Baltimore, M.D. In Harter, S. (1990). Causes, correlates and the functional role of global self-worth: A lifespan perspective. In R.J. Sternberg & J.Kolligan, Jr. (Eds). *Competence Considered* (pp. 67-97). New Haven: Yale University Press.

Harter, S. & Pike, R. (1984). The pictorial perceived competence scale for young children. *Child Development*, 55, 1969-1982.

Harter, S., Whitesell, N.R. & Junkin, L.J. (1998). Similarities and differences in domain-specific and global self-evaluations of learning-disabled, behaviourally disordered, and normally achieving adolescents. *American Educational Research Journal*, 35, (4), 653-680.

Hayley, G.M.T, Fine, S., Marriage, K., Moretti, M.M. & Freeman, R.J. (1985). Cognitive bias and depression in psychiatrically disturbed children. *Journal of Consulting and Clinical Psychology*, 53, 535-537.

Higgins, E.T & Parsons, J.E. (1983). Social cognition and the social life of the child: Stages as subcultures. In E.T. Higgins, D.N. Ruble & W.W. Hartup (Eds.) *Social Cognition and Social Development: A Sociocultural Perspective*. New York: Guilford Press.

Hinshaw, S.P. (1992). Externalizing behaviour problems and underachievement in childhood and adolescence: Causal relationships and underlying mechanisms. *Psychological Bulletin*, 111, 127-155.

Hinshaw, S.P., Lahey, B.B. & Hart, E.L. (1993). Issues of taxonomy and comorbidity in the development of conduct disorder. *Development and Psychopathology*, 5, 31-49.

Hogan, A.E. & Quay, H.C. (1984). Cognition in child and adolescent behavior disorders. In B.B. Lahey & A.E. Kazdin (Eds). *Advances in Clinical Child Psychology (Vol. 7)* (pp. 1-34). New York: Plenum Press.

Huntington, D.D. & Bender, W.N. (1993). Adolescents with learning disabilities at risk? Emotional well-being, depression, suicide. *Journal of Learning Disabilities*, 26, 159-166.

James, W. (1892). *Psychology*. New York: Fawcett.

Kamphaus, R.W. (1993). Clinical assessment of children's Intelligence. Boston, MA: Allyn & Bacon. In A.S. Kaufman (1994). *Intelligent Testing with the WISC-III*. New York: John Wiley & Sons.

Kaufman, A.S. (1994). *Intelligent Testing with the WISC-III*. New York: John Wiley & Sons.

Kazdin, A.E. (1990). Evaluation of the Automatic Thoughts Questionnaire: Negative cognitive process and depression among children. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 2, 73-79.

Kennard, B.D., Emslie, G.J. & Weinberg, W.A. (1992). Mood, affect and their disorders in children and adolescents. In S. Segalowitz & I. Rapin (Eds.) *Handbook of Neuropsychology*, Vol. 7. Child Neuropsychology (pp. 331-335). Amsterdam: Elsevier.

Kershner, J.R. (1990). Self-concept and IQ as predictors of remedial success in children with learning disabilities. *Journal of Learning Disabilities*, 23 (6), 368-374.

Kelly, G.A. (1955). *The Psychology of Personal Constructs (Vols. 1-2)*. New York: Norton.

Kistner, J., Haskett, M., White, K. & Robbins, F. (1987). Perceived competence and self-worth of LD and normally achieving students. *Learning Disability Quarterly*, 10 (1), 37-44.

- Kovacs, M. (1980.1981). Ratings scales to assess depression in school-aged children. *Acta Paedopsychiatrica*, 46, 305-315.
- Markus, H. (1977). Self-schemata and processing information about the self. *Personality and Social Psychology*, 35, (2), 63-78.
- Markus, H. (1983). Self-knowledge: An expanded view. *Journal of Personality*, 51, 543-565.
- Markus, H., Cross, S. & Wurf, E. (1990). The role of the self-system in competence. In R.J. Sternberg & J.Kolligan, Jr. (Eds). *Competence Considered*. (pp. 205-225). New Haven: Yale University Press.
- Markus, H. & Nurius, P. (1986). Possible selves and coping with crisis. *American Psychologist*, 41, 954-969.
- McGinn, L.K., Young, J.E. (1996). Schema-Focused Therapy. In P.M. Salkovskis (Ed). *Frontiers of Cognitive Therapy* (pp. 182-207). New York: Guilford Press.
- McDaniel, M. & Kerwin, M.L. (1987). Long-term prose retention: Is an organizational schema sufficient? *Discourse Processes*, 10, 237-252.
- Meyer, A. (1983). Origins and prevention of emotional disturbances among learning disabled children. *Topics in Learning and Learning Disabilities*, 3, 59-70.
- Miller, D.T. & Turnbull, W. (1986). Expectancies and interpersonal processes. *Annual Review of Psychology*, 37, 233-256.
- Moses, D. (1982). Special Educational Needs: The relationship between teacher assessment, test scores and classroom behaviour. *British Educational Research Journal*, 8, 2, 111-122.
- Neeman, J. & Harter, S. (1986). *The Self Perception Profile for College Students. Manual*. University of Denver.
- Nicholls, J.G. (1984). Achievement motivation, conceptions of ability, subjective experience, task choice and Performance. *Psychological Review*, 91, 328-346.
- Padesky, C. A. (1994). Schema change processes in cognitive therapy. *Clinical Psychology and Psychotherapy*, 1, 267-278.
- Persons, J.B., & Miranda, J. (1992). Cognitive theories of depression: Reconciling negative evidence. *Cognitive Therapy and Research*, 16, 485-502.
- Petersen, A. & Leffert, N. (1995). What is special about adolescence? In M.Rutter (Ed.) *Psychosocial Disturbance in Young People: Challenges for Prevention*. Cambridge: Cambridge University Press.

- Phillips, D.A. & Zimmerman, M. (1990). The developmental course of perceived competence and incompetence among competent children. In R.J. Sternberg & J. Kolligan, Jr. (Eds). *Competence Considered* (pp. 41-66). New Haven: Yale University Press.
- Piaget, J. (1947/50). *Psychology of Intelligence* (M. Piercy & D.E. Berlyne, trans). New York: Harcourt Brace & Co. (Originally published 1947).
- Piers, E. & Harris, D. (1969). *The Piers-Harris Children's Self-Concept Scale*, Nashville, TN: Counselor Recordings and Tests.
- Prieto, S.L., Cole, D.A. & Tageson, C.W. (1992). Depressive self-schemas in clinic and non-clinic children. *Cognitive Therapy & Research*, 16 (5), 519-534.
- Renick, M.J & Harter, S (1988). *Manual for the self-perception profile for learning disabled students*.
- Renick, M.J. & Harter, S. (1989). Impact of social comparisons on the developing self-perceptions of learning-disabled students. *Journal of Learning Disabilities*, 18, 273-278.
- Reynolds, W.M. & Miller, K.L. (1985). Depression and learned helplessness in mentally retarded and nonmentally adolescents: An initial investigation. *Applied Research in Mental Retardation*, 6, 295-306.
- Rogers, H. & Saklofske, D.H. (1985). Self-concepts, locus of control and performance expectations of learning disabled children. *Journal of Learning Disabilities*, 18, 273-278.
- Rogers, T., Kuiper, N. & Kirker, W. (1977). Self-reference and encoding of personal information. *Journal of Personality and Social Psychology*, 35, 677-688.
- Rosenberg, M. (1979). *Conceiving the Self*. New York: Basic Books.
- Ruble, D.N. (1983). The development of social comparison processes in achievement related self socialization. In E.T. Higgins, D.N. Ruble & W.W. Hartup (Eds.) *Social Cognition and Social Development: A Sociocultural Perspective*. New York: Guilford Press.
- Rutter, M., Cox, A., Tupling, C., Berger, M. & Yule, W. (1975). Attainment and adjustment in two geographical areas. I: The prevalence of psychiatric disorder. *British Journal of Psychiatry*, 126, 493-509.
- Schmidt, N.B. (1994). The Schema Questionnaire and the Schema Avoidance Questionnaire. *Behavior Therapist*, 17 (4), 90-92.

- Segal, Z.V. (1988). Appraisal of the self-schema construct in cognitive models of depression. *Psychological Bulletin*, 103 (2), 147-62.
- Segal, Z.V, Hood, J.E., Shaw, B.F. & Higgins, E.T. (1988). A structural analysis of the self-schema construct in major depression. *Cognitive Therapy and Research*, 12, (5), 471-485.
- Segal, Z.V. & Ingram, R.E. (1994). Mood priming and construct activation in tests of cognitive vulnerability to unipolar depression. *Clinical Psychology Review*, 14, 663-695.
- Segal, Z.V. & Shaw, B.F. (1986). When cul-de-sacs are more mentality than reality: a rejoinder to Coyne & Gotlib. *Cognitive Therapy and Research*, 10, 813-826.
- Silverman, R. & Zigmond, N. (1983). Self-concept in LD adolescents. *Journal of Learning Disabilities*, 16, 478-482.
- Snyder, M. (1979). Self-monitoring processes. *Advanced Experimental Social Psychology*, 12, 85-128.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equations models. In S. Leinhardt (Ed.) *Sociological methodology 1982* (pp. 290-312). San Francisco: Jossey-Bass. In R.M. Baron & D.A. Kenny (1986). The moderator - mediator variable distinction in social psychological research: conceptual, strategic, and statistical consideration. *Journal of Personality and Social Psychology*, 51 (6), 1173-1182.
- Stanley, P.D., Dai, Y., Nolan, R.F. (1997). Differences in depression and self-esteem reported by learning disabled and behavior disordered middle school students. *Journal of Adolescence*, 20, 219-222.
- Steele, (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.) *Advances in Experimental Social Psychology*.
- Sternberg, 1990. In R.J. Sternberg & J.Kolligan, Jr. (Eds). *Competence Considered*. (pp.41-66). New Haven: Yale University Press.
- Target, M. & Fonagy, P. (1996). The psychological treatment of child and adolescent psychiatric disorders. In A. Roth & P. Fonagy (Eds.) *What Works for Whom? A Critical Review of Psychotherapy Research* (pp.263-320). London: The Guilford Press
- Taylor, E. (2000). *The Role of Primary School Children's Schemas in Predicting their Reaction to Secondary Transition*. Unpublished doctoral dissertation. UCL, London.
- Taylor, L. & Ingram, R.E. (1999). Cognitive reactivity and depressotypic information processing in children of depressed mothers. *Journal of Abnormal Psychology*, 108, (2), 202-210.

Teasdale, J.D. (1996). Clinically relevant theory: Integrating clinical insight with cognitive science. In P.M. Salkovskis (Ed). *Frontiers of Cognitive Therapy* (pp.26-47). New York: Guilford Press.

Teasdale, J.D. & Barnard, P.J. (1993). *Affect, Cognition and Change*. Hillsdale, NJ: Erlbaum.

Wechsler, D. (1992). *Wechsler Intelligence Scale for Children – Third Edition UK*.

Wechsler Objective Numerical Dimensions (1996). UK: Psychological Corporation.

Wechsler Objective Reading Dimensions. (1993). UK: Psychological Corporation.

Whitman, P.B. & Leitenberg, H. (1990). Negatively biased recall in children with self-reported symptoms of depression. *Journal of Abnormal Child Psychology*, 18, 15-27.

William, S. & McGee, R. (1994). Reading attainment and juvenile delinquency. *Journal of Child Psychology and Psychiatry*, 35 (4), 441-461.

Woodcock, R.W., & Mather, N. (1989). *Manual for the Woodcock-Johnson Tests of Cognitive Ability*. Allen, TX: DLM Teaching Resources.

Young, J.E. (1990) *Cognitive Therapy for Personality Disorders: A Schema focused approach*. Sarasota, FL: Professional Resource Exchange

Young, J.E. (1994). *Cognitive Therapy for Personality Disorders: A Schema focused approach* (Rev. ed.) Sarasota, FL: Professional Resource Press

Young, J.E. & Brown, G. (1994). Young schema questionnaire (2nd ed.). In J.E. Young. *Cognitive Therapy for Personality Disorders: A Schema focused approach* (Rev. ed.) Sarasota, FL: Professional Resource Press. 63-76

Zieman, G.L. (1982). Self-esteem, social interest, and delinquency: A test of Adlerian theory (Doctoral dissertation, Colorado State University). Dissertation Abstracts International, 43, 892B. In Harter, S., Whitesell, N.R. & Junkin, L.J. (1998). Similarities and differences in domain-specific and global self-evaluations of learning-disabled, behaviourally disordered, and normally achieving adolescents. *American Educational Research Journal*, 35, (4), p.653-680.

Zupan, B., Hammen, C. & Jaenicke, C. (1987). The effects of current mood and prior depressive history on self schematic processing in children. *Journal of Experimental Child Psychology*, 43, 149-158.

Appendix 1

Letter of Ethical Approval

LOCAL RESEARCH ETHICS COMMITTEE

Research & Development Unit, 3rd Floor, West Wing, St. Pancras Conference Centre
St Pancras Hospital, London NW1 0PE
tel: 020 7530 3376 fax: 020 7530 3235
e-mail: research.office@dial.pipex.com
Chair: *Stephane Elffe* Administrator: *Michael Post*

Tuesday, 03 October 2000

Dr Peter Fuggle
Clinical Service Manager
Child & Adolescent Service
Hornsey Rise Health Centre
LONDON N19 3YU

Dear Dr Fuggle

Ref: 00/74 (please quote in all further correspondence)

Title: Self cognitions and adjustment problems in primary school aged children

Thank you for your letter dated 8th September 2000 addressing the items raised by the committee at their meeting held on Monday 31 July 2000, and the amended information sheets. I am pleased to inform you on behalf of the Local Research Ethics Committee that you have ethical approval to proceed with your study. Please would you write and inform Angela Williams of the start date of your project, at the above address.

Please note that the following conditions of approval apply:

- It is the responsibility of the investigators to ensure that all associated staff including nursing staff are informed of research projects and are told that they have the approval of the Ethics Committee.
- If data are to be stored on a computer in such a way as to make it possible to identify individuals then the project must be registered under the Data Protection Act 1998. Please consult your department data protection officer for advice.
- The Committee must receive immediate notification of any adverse or unforeseen circumstances arising out of the project.
- The Committee must receive notification: a) when the study is complete; b) if it fails to start or is abandoned; c) if the investigator/s change and d) if any amendments to the study are made.

Page 1 of 2



USMAN KHAN: Chair
ROB LARKMAN: Chief Executive

- ♦ The Committee will request details of the progress of the research project periodically (i.e. annually), and require a copy of the report on completion of the project.

Please forward any additional information/amendments regarding your study to contact the Local Research Ethics Committee Administrator or myself at the above address. If you have any queries, please do not hesitate to contact the Ethics Committee Administrator at the Research & Development Unit.

Yours sincerely



 Stephanie Ellis
Committee Chair

Appendix 2

Letter sent to Head Teachers

**Child and Adolescent Mental Health Service
Camden and Islington Community NHS Trust
Hornsey Rise Health Centre
Hornsey Rise
London N19 3YU
Tel: 020 7530 2450**

Head Teacher
Primary School

Dear

I am writing to ask if you would consider supporting a study about children's beliefs about themselves, particularly in relation to their own competence in learning. The study would particularly focus on children with special educational needs in years 4-6 and would examine whether specific self beliefs significantly contribute to emotional and behavioural adjustment in school.

This study has the support of the Cambridge Education Associates (CEA) in Islington, and Thanos Morphitis, Assistant Director of Pupil Services at the CEA. It has been suggested that schools interested in taking part in the study may do so as part of the Education Action Zone initiatives.

The study will require approximately 100 children between the ages of 9 and 11. Fifty of these children need to be on the education code of practice. Written consent from parents will be required for children to participate. Children will be asked to complete some problem solving tasks, a spelling test, a maths test and a memory test. They will also be asked to complete a questionnaire which measures their self esteem. Teachers will be required to answer a very brief questionnaire for each child participating in the study.

I have enclosed an 'Information sheet for teachers' which will give you further information on the study and tell you more about what participating in the study would entail.

This study is being carried out under the supervision of Dr Peter Fuggle, Consultant Clinical Psychologist, in the Camden and Islington Community NHS trust. I am a Clinical Psychologist in Training currently undertaking the Doctorate in Clinical Psychology at University College London (UCL).

I will telephone you in the next few days to discuss this further. I would be very grateful for your help with this matter.

Yours sincerely

Naomi Goldwater
Clinical Psychologist in Training

Appendix 3

Information Sheet for Teachers

Confidential

**Self Cognitions and Adjustment Problems in
Primary School Aged Children**

Information Sheet for Teachers

I am a Clinical Psychologist in Training currently undertaking the Doctorate in Clinical Psychology at University College London (UCL). Under supervision from Dr Peter Fuggle, Consultant Clinical Psychologist, in the Camden and Islington Community NHS trust, I am conducting a study comparing a group of children who have Special Educational Needs to a group of children without Special Educational Needs (SENs).

The study aims to investigate the following areas:

- The differences in self perceptions between children who have SENs and those who do not have SENs
- Whether there is a relationship between children's view of themselves and their emotional and behavioural adjustment in school.

This study hopes to further our understanding of how we can best help children who find learning difficult and as a result of this, sometimes have problems at school.

What will children have to do?

Children between the ages of 9-11 years old, with and without SENs, will be tested individually. It will be necessary to take children out of the classroom to be tested, however this should not take longer than 40 minutes in total for each child. Children participating in the study will be asked to complete a problem solving task (which requires the child to put together wooden blocks to make patterns), a vocabulary test (where they have to describe the meaning of various words), a spelling test, a maths test and a memory test. They will also be asked to complete a questionnaire which looks at their self esteem. Children generally find the tasks that will be used enjoyable.

In order for children to partake in the study, their parents need to give written consent. All children in the class will be given an information sheet about the study and a consent form to take home to their parents. Parents will be asked to sign the consent form if they agree to their child taking part in the study, and give it to their child to return to school. Each child will also need to give their written consent. They will be told that they do not



need to take part in the study if they do not want to and that they can withdraw at any time without having to give a reason.

What will teachers have to do?

Teachers will be asked to complete a brief questionnaire for each child in their class who is participating in the study, describing the child's behavioural and emotional adjustment in school. Completing this questionnaire will take approximately 5 minutes for each child. Teachers will also be asked for each child's results on the School Achievement Test. In addition, teacher's help would be appreciated in handing out information sheets and consent forms to children and collecting in completed consent forms.

I realise that teachers are very busy and I do not want to give you extra work, but I would be very grateful if you would agree to participate in the study.

This study has support from the Education Service in Islington, who have suggested that I contact your school to partake in the study. In addition all proposals for research using human subjects are reviewed by an ethics committee before they can proceed. This proposal was reviewed by the Camden & Islington Community Health Service NHS Trust Local Research Ethics Committee.

Thank you very much for your assistance.

Contact Persons

Naomi Goldwater
Clinical Psychologist in Training
Sub-dept. of Clinical Health Psychology
University College London
Gower Street
London WC1E 6BT
Tel: 020 7380 7897
Email: naomigoldwater@hotmail.com

Dr Peter Fuggle
Clinical Service Manager
Child & Adolescent Mental Health Services
Hornsey Rise Health Centre
Hornsey Rise
London N19 3YU
Tel: 020 7530 2450

Appendix 4

Information Sheet for Parents and Parent Consent Form

Confidential

**Self Cognitions and Adjustment Problems in
Primary School Aged Children**

Information Sheet for Parents

Dear Parent / Guardian

Your child's school has agreed to be one of several schools in the area, taking part in a research study. I am writing to you to ask if you would be willing for your child to take part in this study.

The aim of the study is to see how much children's beliefs about themselves makes it easier or more difficult for them to learn at school. The reason for doing this study is to improve how we help children who find learning difficult and are often getting in to trouble at school.

All parents of children in your child's class are being contacted to see if they would be willing for their child to participate in this study. I would be grateful if you could sign the enclosed consent form, allowing your child to take part in this study.

What will my child have to do?

Children participating in the study will be asked to complete a problem solving task (which requires the child to put together wooden blocks to make patterns), a vocabulary test (where they have to describe the meaning of various words), a spelling test, a maths test and a memory test. They will also be asked to complete a questionnaire which looks at what things children value about themselves. Each child will be seen one at a time outside the classroom by the researcher. This should take only 40 minutes. Children generally find the tasks that will be used enjoyable.

Teachers will be asked to complete a brief questionnaire for each child in their class who is participating in the study, which gives a brief description about how your child is getting on at school. This asks about a number of things including whether he/she finds it hard to concentrate on school work, whether he/she makes friends easily and whether he/she appears worried about things. Teachers will also be asked for your child's results on the School Achievement Test.

All studies with children have to follow clear rules to ensure that no children take part if they don't want to. Because of this, we will explain the study carefully to your child and ask him/her whether he/she minds taking part. All the children taking part are told that they do not need to take part in the study if they do not want to and that they may withdraw at any time without having to give a reason. Although we believe that taking part in this study will be interesting and enjoyable for your child, we think it is very important that these

procedures are followed. Because of this we will ask him/her to give written consent to take part in the study.

All information obtained from this study will remain confidential. It will NOT affect your child's schooling in any way. Your child's performance on tasks and answers to questions will not be discussed with teachers.

This study has support from the Education Service in Islington. In addition all proposals for research using human subjects are reviewed by an ethics committee before they can proceed. This proposal was reviewed by the Camden & Islington Community Health Service NHS Trust Local Research Ethics Committee.

You are under no obligation to allow your child to take part in this study. I would however be very grateful if you would allow and encourage your child to participate.

Thank you very much for your assistance.

If you have any further questions about this study, please contact me:

Naomi Goldwater Sub Department of Clinical Health Psychology
University College London, Gower Street
London WC1E 6BT
Email: naomigoldwater@hotmail.com

**Self Cognitions and Adjustment Problems in
Primary School Aged Children**

Naomi Goldwater
University College London

Supervised by: Dr Peter Fuggle
Camden and Islington NHS Trust

Confidential

Parent Consent Form

Please complete this form and give it to your child to bring back to school, if you are willing for them to participate in the study.

I have read the information sheet explaining this study. YES/NO

I understand that I am free to withdraw my child from the study at any time without giving a reason. YES/NO

I agree that my child can participate in this study YES/NO

Parent/Guardians Signature.....

Name of Parent/Guardian.....

Name of Child.....Child's Class.....

Date.....

Thank you very much for your assistance

Appendix 5

Information Sheet for Children and Child Consent Form

Confidential

**Self Cognitions and Adjustment Problems in
Primary School Aged Children**

Information Sheet for Children

All children are asked to do work at school and some of this work can be quite hard. Most children think that they're good at some things and less good at other things. Sometimes when children think that they're not so good at things, this makes it harder for them to learn new things.

We don't know if this is true so we're asking lots of children if they can help us find out by answering some questions and doing some puzzles and a little school work.

The whole thing will take about 40 minutes. Most children find the activities O.K. to do.

Everything that you tell me is confidential - that means I will not tell other people what you said without asking you first.

Your teacher will also give me some information about you - again this is confidential.

You do not need to take part in the study if you do not want to.

If while you're taking part, you decide that you don't want to carry on with the study, you can stop at any time. You do not have to give a reason for wanting to stop.

Thank you very much for your help.



**Self Cognitions and Adjustment Problems in
Primary School Aged Children**

Naomi Goldwater
University College London

Supervised by: Dr Peter Fuggle
Camden and Islington NHS Trust

Confidential

Child Consent Form

Please complete this form if you are willing to take part in the study.

I have been told about the study and have had my questions answered YES/NO

I understand that I can stop at any time without giving a reason YES/NO.

I agree to take part in this study YES/NO

Please sign your name

Date.....

Thank you for your help

Appendix 6

Certificate given to children

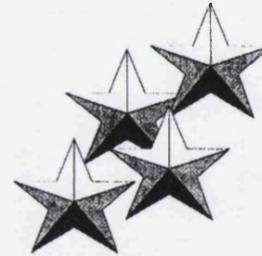
This is to certify that



helped out in a research study

Signed:

Thank you for your help!



Appendix 7

Self-descriptive adjectives used in the incidental recall task and scoring sheets

Self-Descriptive Adjectives used in the Incidental Recall Task

- | | | | |
|-----|------------|-----|-------------|
| P) | helpful | 15) | naughty |
| P) | slow | 16) | bright |
| 1) | friendly | 17) | sad |
| 2) | brainy | 18) | sensible |
| 3) | rough | 19) | popular |
| 4) | dumb | 20) | ugly |
| 5) | happy | 21) | annoying |
| 6) | brilliant | 22) | interesting |
| 7) | loser | 23) | clever |
| 8) | quick | 24) | lonely |
| 9) | stupid | 25) | idiot |
| 10) | gentle | 26) | dim |
| 11) | thick | 27) | boring |
| 12) | winner | 28) | intelligent |
| 13) | useless | 29) | silly |
| 14) | attractive | 30) | smart |

Is this word like you?

Please tick Yes or No for each item

- | | | | | | |
|-----|------------------------------|-----------------------------|-----|------------------------------|-----------------------------|
| P) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 15) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| P) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 16) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 1) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 17) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 2) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 18) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 3) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 19) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 4) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 20) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 5) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 21) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 6) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 22) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 7) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 23) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 8) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 24) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 9) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 25) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 10) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 26) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 11) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 27) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 12) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 28) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 13) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 29) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 14) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 30) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

Is this something good to be?

Please tick Yes or No for each item

- | | | | | | |
|-----|------------------------------|-----------------------------|-----|------------------------------|-----------------------------|
| P) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 15) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| P) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 16) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 1) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 17) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 2) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 18) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 3) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 19) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 4) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 20) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 5) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 21) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 6) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 22) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 7) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 23) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 8) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 24) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 9) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 25) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 10) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 26) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 11) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 27) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 12) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 28) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 13) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 29) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 14) | Yes <input type="checkbox"/> | No <input type="checkbox"/> | 30) | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

Appendix 8

Self-Perception Profile for Learning-Disabled Students

What I Am Like

Name.....Age.....Birthday.....(Month:Day)

Boy or Girl (circle which)

SAMPLE SENTENCE

	Really True for me	Sort of True for me		BUT		Sort of True for me	Really True for me
(a)	<input type="checkbox"/>	<input type="checkbox"/>	Some kids would rather play outdoors in their spare time	BUT	Other kids would rather watch T.V.	<input type="checkbox"/>	<input type="checkbox"/>
<hr/>							
1.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are sure that they are pretty smart in school.	BUT	Other kids are not so sure they are all that smart in school.	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids find it hard to make friends	BUT	For other kids it is pretty easy.	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids can read most stories and books pretty easily	BUT	Other kids have a hard time reading stories and books.	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids don't do well at new outdoor games	BUT	Other kids are good at new games right away.	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids can write good stories or papers pretty easily	BUT	Other kids find it hard to write good stories or papers.	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids often do not act the way they are supposed to	BUT	Other kids usually act the way they know they are supposed to.	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids can do their maths pretty easily	BUT	Other kids have a hard time when it comes to maths.	<input type="checkbox"/>	<input type="checkbox"/>
8.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids wish that something about their face or hair looked different	BUT	Other kids like their face and hair the way they are.	<input type="checkbox"/>	<input type="checkbox"/>
9.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids know how to spell most words they come across	BUT	Other kids find it hard to spell most words.	<input type="checkbox"/>	<input type="checkbox"/>

Continued on next page...

	Really True for me	Sort of True for me			Sort of True for me	Really True for me
10.	<input type="checkbox"/>	<input type="checkbox"/> Some kids are unhappy with themselves	BUT	Other kids are pretty pleased with themselves.	<input type="checkbox"/>	<input type="checkbox"/>
11.	<input type="checkbox"/>	<input type="checkbox"/> Some kids feel that they are just as smart as others their age	BUT	Other kids aren't so sure and wonder if they are as smart.	<input type="checkbox"/>	<input type="checkbox"/>
12.	<input type="checkbox"/>	<input type="checkbox"/> Some kids would like to have a lot more friends	BUT	Other kids have as many friends as they want.	<input type="checkbox"/>	<input type="checkbox"/>
13.	<input type="checkbox"/>	<input type="checkbox"/> Some kids are really good readers	BUT	Other kids have a hard time with their reading.	<input type="checkbox"/>	<input type="checkbox"/>
14.	<input type="checkbox"/>	<input type="checkbox"/> Some kids wish they could be a lot better at sports	BUT	Other kids feel they are good enough at sports.	<input type="checkbox"/>	<input type="checkbox"/>
15.	<input type="checkbox"/>	<input type="checkbox"/> Some kids can easily write good sentences and paragraphs to make a nice story	BUT	Other kids have trouble writing sentences and paragraphs in order to make a good story.	<input type="checkbox"/>	<input type="checkbox"/>
16.	<input type="checkbox"/>	<input type="checkbox"/> Some kids usually get into trouble because of the things they do	BUT	Other kids usually don't do things that get them into trouble.	<input type="checkbox"/>	<input type="checkbox"/>
17.	<input type="checkbox"/>	<input type="checkbox"/> Some kids are good at maths	BUT	Other kids have a hard time with maths.	<input type="checkbox"/>	<input type="checkbox"/>
18.	<input type="checkbox"/>	<input type="checkbox"/> Some kids wish their physical appearance (how they look) was different	BUT	Other kids like their physical appearance the way it is.	<input type="checkbox"/>	<input type="checkbox"/>
19.	<input type="checkbox"/>	<input type="checkbox"/> Some kids have problems with their spelling	BUT	Other kids can spell most words pretty easily	<input type="checkbox"/>	<input type="checkbox"/>
20.	<input type="checkbox"/>	<input type="checkbox"/> Some kids are happy with themselves as a person	BUT	Other kids are not happy with themselves.	<input type="checkbox"/>	<input type="checkbox"/>
21.	<input type="checkbox"/>	<input type="checkbox"/> Some kids are not very good learners in school	BUT	Other kids are good learners in school.	<input type="checkbox"/>	<input type="checkbox"/>
22.	<input type="checkbox"/>	<input type="checkbox"/> Some kids are always doing things with a lot of kids	BUT	Other kids usually do things by themselves.	<input type="checkbox"/>	<input type="checkbox"/>

Continued on next page...

- | | Really True for me | Sort of True for me | | | Sort of True for me | Really True for me | |
|-----|--------------------------|--------------------------|---|-----|---|--------------------------|--------------------------|
| 23. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids have trouble with their reading | BUT | Other kids do well in reading. | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids do very well at all kinds of sports | BUT | Other kids don't feel that they are very good when it comes to sports. | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids find it hard to write good stories or papers | BUT | Other kids can write good stories or papers. | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids behave themselves very well | BUT | Other kids often find it hard to behave themselves. | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids have trouble doing maths problems | BUT | Other kids do well at their maths problems. | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids think that they are good looking | BUT | Other kids think that they are not very good looking. | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids have trouble spelling a lot of words | BUT | Other kids can spell a lot of words pretty easily. | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids like the kind of person they are | BUT | Other kids wish they were someone else. | <input type="checkbox"/> | <input type="checkbox"/> |
| 31. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids sometimes feel kind of dumb when it comes to doing their schoolwork | BUT | Other kids feel that they are pretty bright when it comes to doing their school work. | <input type="checkbox"/> | <input type="checkbox"/> |
| 32. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids are popular with others their age | BUT | Other kids are not very popular. | <input type="checkbox"/> | <input type="checkbox"/> |
| 33. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids read pretty fast | BUT | Other kids are pretty slow readers. | <input type="checkbox"/> | <input type="checkbox"/> |
| 34. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids think they could do well at just about any new athletic activity | BUT | Other kids are afraid they might not do well at a new athletic activity. | <input type="checkbox"/> | <input type="checkbox"/> |
| 35. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids have a hard time writing good sentences and paragraphs | BUT | Other kids can write good sentences and paragraphs. | <input type="checkbox"/> | <input type="checkbox"/> |

Continued on next page...

	Really True for me	Sort of True for me			Sort of True for me	Really True for me	
36.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids usually follow rules about how they are to behave	BUT	Other kids find it hard to follow these rules.	<input type="checkbox"/>	<input type="checkbox"/>
37.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids find it hard to understand maths	BUT	Other kids can understand maths pretty easily.	<input type="checkbox"/>	<input type="checkbox"/>
38.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are not happy with the way they look	BUT	Other kids are happy with the way they look.	<input type="checkbox"/>	<input type="checkbox"/>
39.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids have a hard time with their spelling	BUT	Other kids do well in spelling.	<input type="checkbox"/>	<input type="checkbox"/>
40.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are very happy being the way they are	BUT	Other kids wish they were different.	<input type="checkbox"/>	<input type="checkbox"/>
41.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids feel that they are very good at their schoolwork	BUT	Other kids worry about whether they can do the schoolwork assigned to them.	<input type="checkbox"/>	<input type="checkbox"/>
42.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids have a lot of friends	BUT	Other kids don't have very many friends.	<input type="checkbox"/>	<input type="checkbox"/>
43.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids feel that they are better than others their age at sports	BUT	Other kids don't feel they can play as well.	<input type="checkbox"/>	<input type="checkbox"/>
44.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids do not like the way they behave	BUT	Other kids usually like the way they behave.	<input type="checkbox"/>	<input type="checkbox"/>
45.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like their body the way it is	BUT	Other kids wish their body was different.	<input type="checkbox"/>	<input type="checkbox"/>
46.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are not very happy with the way they do a lot of things	BUT	Other kids think the way they do things is fine.	<input type="checkbox"/>	<input type="checkbox"/>

Marl Jo Renick and Susan Harter, University of Denver, 1988

Appendix 9

Strengths and Difficulties Questionnaire

