

**Communication and Perspective-
Taking Skills of Pupils Excluded or At
Risk of Exclusion from School:**

**An investigation into deficits in
communication skill and
implications for intervention**

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Research Overview

Area of Focus

The research focuses on young people excluded from school, and those identified as being at risk of exclusion. It assesses their skills in communication, empathy / perspective taking, and incorporates information from staff at their schools relating to their perceptions of the participants' communication skills and their risk of exclusion. This data, along with interviews with a smaller sample of the young people who have experienced permanent exclusion, is used to discuss implications for policy and intervention with regard to supporting pupils with language difficulties.

The research is set out in two papers. Paper One describes the findings from an assessment of communication skill and empathy / perspective taking. Paper Two uses the findings from Paper One to compare the participants' skills with the perceptions of their teachers regarding their communication ability and risk of exclusion, and also describes the findings from interviews with a selection of the participants.

Background and Research Objectives

The research was carried out by a Trainee Educational Psychologist in one of the metropolitan boroughs of Greater Manchester in order to provide information on the communication skills and development of perspective taking in young people excluded from school or who may be at risk of exclusion in the future. Consideration is also given to the links between language and verbal abilities and involvement in antisocial behaviour, with regard to previous research and interview data from the current study.

Permanent exclusions in England have risen rapidly over recent years, and research has suggested that the disruptive behaviour of young people permanently excluded may be a result of difficulties with social understanding. This investigation seeks to provide further information regarding exclusions and whether difficulties with language, particularly with pragmatic language and perspective taking, may be related to behaviour issues and exclusion from school. The discovery of any connections between these areas can lead to consideration being given to how to identify young people with such difficulties and timely interventions that could be implemented to extend their language skills in order to reduce the risk of exclusion later in their school career. The research also aims to inform thinking

and policy developments regarding the work of Educational Psychologists in identifying children with language difficulties and working with parents, school staff and other professionals in order to assist young people to develop their language and communication skills.

Research Questions

The research poses many questions relating to language difficulties, behaviour and exclusion:

- ♦ Do young people who have been excluded from school or who are at risk of exclusion have difficulties with language and communication as assessed using the Children's Communication Checklist (CCC-2)? What are the extent of these difficulties in comparison to typically developing young people? Are these difficulties disproportionately in the domain of pragmatic language?
- ♦ Do young people who have been excluded from school or who are at risk of exclusion display deficits in their demonstration of empathy and perspective taking?
- ♦ For the above measures, are there differences between the sample groups, genders, and in relation to the age of the young people?
- ♦ Are members of staff in the young people's educational settings aware of any language difficulties that are discovered in the sample groups? Are there any differences in this awareness that relate to setting or the role of the member of staff?
- ♦ What themes emerge from in-depth interviews with young people who have experienced exclusion from school?

Methods

The sample groups were:

1. Pupils who had been permanently excluded from school;
2. Pupils on the Educational Psychology Service (EPS) database who had been referred to the service for reasons of emotional or behavioural difficulties (EBD);
3. Pupils identified by Special Educational Needs Co-ordinators (SENCOs) who were at risk of exclusion from school currently or may be in the future.

The specific key measurements taken during this study were:

- As assessment of each participant's communication skill to identify those who have a communication difficulties, and to explore the ease and adequacy of the assessment tool for future use in identifying children with language difficulties;
- An assessment of each participant's empathy and perspective taking;

The Children's Communication Checklist, CCC-2 (Bishop, 1998; 2003), was used to assess communication and was completed by a member of staff at the participant's school. Each participant completed the Interpersonal Reactivity Index, IRI (Davis, 1980; 1983), which measures the cognitive and affective components of empathy. Statistical analyses and comparisons were performed using the scores from the CCC-2 and IRI in order to discover any communication deficits in the sample, differences between sample groups, and also whether there were any correlations and links which may suggest the circumstances, processes and pathways leading to exclusion from school.

In the second phase of the research, reported in Paper Two, the same member of staff who completed the CCC-2 was asked to complete a questionnaire in order to explore their opinion on the young person's communication skill, their behaviour in school, and their risk of exclusion. In addition, a qualitative in-depth analysis of interviews with participants who had experienced permanent exclusion was performed. The data was gathered using semi-structured interviews with the participants regarding their exclusion from school and the support they received. Interviews were also completed where possible with a teacher from each young person's setting in order to triangulate the information obtained from the participants.

Key Findings

A total of 138 pupils were identified for involvement. Most were attending mainstream secondary schools, with others attending mainstream primary schools and the Pupil Referral Units. Questionnaires and checklists were distributed for all of these pupils; of these 81 were completed and returned for analysis in Paper One along with 81 staff questionnaires for the purposes of Paper Two. The respondents to the staff questionnaires were mostly teachers, with just over a quarter being teaching assistants or mentors.

The participants' scores on the CCC-2 demonstrated significant difficulties with most aspects of language and communication in comparison to the means obtained from typically developing children with no known language impairments. Over three-quarters of the sample had an overall General Communication Composite (GCC) within the lowest 10 percentiles, and almost three-quarters had disproportionate difficulties with pragmatic language.

There were few differences between the sample groups. Younger children obtained higher scores on the *Interests* scale than older participants attending secondary school, and pupils who had been permanently excluded obtained higher scores on the *Nonverbal Communication* scale in comparison to the participants known to the EPS for reasons of Emotional and Behavioural Difficulties. Around 16% of the sample had a profile typical of the Asperger Syndrome group in Bishop's (2004) validation study, with over 42% of the participants attending the Pupil Referral Unit at Key Stage 4 showing this profile.

Scores on the Interpersonal Reactivity Index differed significantly from published means but there were few differences within the sample groups. Only age groups showed a difference, with younger children obtaining higher scores than older participants.

The questionnaire in Paper Two, completed by staff, showed that they generally have an awareness of their pupils' difficulties with language. Much of this is attributed to 'overall' language rather than 'social' language, and comparisons of staff ratings with actual scores from the CCC-2 suggested that staff are not aware of the extent to which the pupils were experiencing communication difficulties. Correlations between staff ratings and actual scores suggested that teaching staff are more accurate than support assistants.

The interviews showed that all participants had been excluded as a result of behaviour issues. Most felt that more support from teachers and other professionals would have been beneficial to them, and many would have liked to attend a meeting with relevant school staff and other services where options could have been discussed relating to how they could be supported to remain in school. Many preferred attending the Pupil Referral Unit due to the smaller class sizes. Some were aware of some difficulties understanding language forms, and said that additional support in school regarding basic skills or small group teaching would have been useful.

Conclusions

The current research demonstrated significant communication difficulties in the sample groups. This has implications for their prospects, as the literature review highlights the difficulties that young people can experience if their language difficulties are not addressed.

The questionnaire completed by staff shows that although many staff were aware of the pupils' language difficulties, they often underestimated the extent of these difficulties. Furthermore, ratings from support staff showed no correlations with the actual language scores obtained by participants on the CCC-2. This suggests that staff training would be extremely beneficial relating to how language difficulties present, the connections between language and behaviour, the prospects for children with communication difficulties, and how to address language and communication difficulties in school.

The research also discusses interventions, giving examples of how young people can be helped. However the focus is more about how policy needs to develop in order for appropriate services and professionals to be able to provide the interventions needed. The study has demonstrated language difficulties in a group where language had not been expressed as a concern, therefore it is likely that there will be many more young people where language is a difficulty that has not been recognised. This has implications on the number of children that would benefit from access to additional support, which has consequent implications on the requirement for adequate staffing and resources to meet the needs of young people in order to prevent the negative outcomes occurring which have been highlighted by previous research. Due to the complex nature of communication and behaviour difficulties, and the other factors that are likely to be involved, interventions are likely to be more effective if delivered through a multi-agency approach.

Table of Contents

Item	Page
Paper One	9
Abstract	10
Table of Contents	11
List of Tables and Figures	13
Introduction	18
Methods and Research Design	24
Results	29
Discussion	38
Conclusions and Implications	46
Bibliography	48
Paper Two	56
Abstract	57
Table of Contents	58
List of Tables and Figures	60
Introduction	63
Methods and Research Design	70
Results	75
Discussion	82
Conclusions and Implications	91
Bibliography	95

Appendices Paper One	102
Data Collected	
Examples of Numerical Raw Data	103
Details about Procedures Undertaken to Conduct the Data Collection	105
Letter to parents and information sheet to young people	108
Details of Data Collection	
Questionnaires	111
Data Collection Techniques	121
Details of Data Analysis	
Response Rates and Participants	125
Skewness of Data within the Research Sample	128
Descriptive Statistics	131
Statistical Analyses	150
Limitations of and Extensions to the Research	175
Appendices Paper Two	177
Details about Procedures Undertaken to Conduct the Data Collection	178
Details of Data Collection	180
Questionnaire and Interview Schedule	181
Development of Data Collection Techniques	184
Data Collected	
Examples of Numerical Raw Data	187
Example of Interview data followed by Case Studies	188
Details of Data Analysis	
Descriptive Statistics	200
Statistical Analyses	203
Discussion about Interventions and Multi-Agency Approaches	218
Ethical Considerations	
Certificate of Ethical Research Approval	221
Details about Ethical Issues Involved in the Research	225

Paper One

Abstract

The current study investigates communication difficulties in a sample of young people who have been excluded from school or who are at risk of exclusion. The sample is drawn from three groups: pupils permanently excluded from school, young people known to the Educational Psychology Service for reasons of Emotional and Behavioural Difficulties, and pupils suggested by Special Educational Needs Co-ordinators who had concerns that the pupils may become at risk of exclusion. A member of staff at the young person's setting completed the Children's Communication Checklist (CCC-2) and participants completed the Interpersonal Reactivity Index (IRI), a multidimensional measure of empathy.

The results demonstrated that across the three sample groups there were difficulties with language skills, particularly pragmatic language. Scores were very significantly different to typically developing children without language impairments. Most of the sample had deficits on the CCC-2 General Communication Composite (GCC), with almost three-quarters of the sample being placed in the lowest 10 percentiles compared to normal means. The CCC-2 Social Interaction Deviance Composite (SIDC) compares pragmatic language skill with structural language skill. On this measure, almost three-quarters of the sample had disproportionate difficulties with pragmatic language.

The IRI scores were also significantly different than published means, suggesting diminished levels of empathy or perspective taking. There were few significant differences between the sample groups on the communication or empathy measures. The findings have implications for service planning and for interventions, and also for how to identify young people in need of additional language support.

A second phase of the research considers the participants' scores with perceptions of staff from their setting, and uses interview data for a more in-depth exploration of the experience of exclusion from school.

Table of Contents: Paper One

Item	Page
List of Tables and Figures	13
Introduction	18
Summary of Relevant Literature	18
The Current Research	22
Methods	24
Research Design and Methodological Approach	24
Checklists and Measuring Devices	25
Participants and Sampling Process	27
Procedures	27
Ethics	28
Results	29
Children’s Communication Checklist Scores	30
Interpersonal Reactivity Index Scores	35
Correlations	37
Discussion	38
Limitations of and Extensions to the Study	43
Conclusions and Implications	46
Bibliography	48

Appendices Paper One	Page
Data Collected	102
Examples of Numerical Raw Data	103
Procedures Undertaken to Conduct the Data Collection	105
Obtaining the sample and Parental Consent	105
Distribution of the Questionnaires and Checklists	106
Further information relating to the research locality	107
Details of Data Collection	
Questionnaires	111
Data Collection Techniques	121
Details of Data Analysis	125
Response Rates and Participants	125
Skewness of Data within the Research Sample	128
Descriptive Statistics	
Composition of the Sample	131
Scores and Graphs relating to the CCC-2	134
Scores and Graphs relating to the IRI	147
Statistical Analyses	
Analyses relating to the CCC-2	150
Analyses relating to the IRI	162
Correlations	170
Limitations of and Extensions to the Research	175
Ethical Considerations	
Ethical form completed and signed	222
Details about Ethical Issues Involved in the Research	225

List of Tables and Figures

Tables and Figures in the Results section

Number	Title	Page
Table 1.1	Means and Standard Deviations of Scaled CCC-2 scores, with percentage of participants in the 'clinical range'	30
Graph 1.1	Percentile scores on the CCC-2 General Communication Composite (GCC)	31
Graph 1.2	Percentages of participants whose GCC was below the 10 th percentile	32
Table 1.2	Differences between SIDC groups on Scaled CCC-2 scores	34
Table 1.3	Scores on the IRI and statistical analyses by Gender and Age Groups	35
Table 1.4	Scores on the IRI and statistical analyses by School Type and Reason	35
Table 1.5	T-tests to show differences between Age Groups	36
Table 1.6	Significant Pearson Correlations between CCC-2 and IRI scales	37
Table 1.7	Significant Pearson Correlations between CCC-2 and IRI scales relating to Gender	37

Tables and Figures in the Appendices

Number	Title	Page
Appendix 1.1: Examples of Numerical Raw Data		
Table A1.1.i	Sample of scaled scores from the Children’s Communication Checklist (CCC-2)	103
Table A1.1.ii	Sample of scores from the Interpersonal Reactivity Index (IRI) (original 1 to 5 scale)	104
Appendix 1.5: Response Rates and Participants		
Table A1.5.i	Schools Participants Were Attending	125
Graph A1.5.i	Pie Chart to show Schools Participants Were Attending	126
Appendix 1.6: Skewness of Data		
Table A1.6.i	Statistical Tests for Normality and Skewness: GCC and SIDC	129
Table A1.6.ii	Skewness of CCC-2 Scales	129
Table A1.6.iii	Skewness of IRI Scales	130
Appendix 1.7: Descriptive Statistics		
Table A1.7.i	Gender of Participants in the Sample	131
Graph A1.7.i	Gender of Participants in the Sample	131
Table A1.7.ii	Schools attended by Participants in the Sample	131
Graph A1.7.ii	Schools attended by Participants in the Sample	132
Table A1.7.iii	Reason for inclusion in the Sample	132
Graph A1.7.iii	Reason for inclusion in the Sample	132
Table A1.7.iv	Participants in the Sample of each Age	133
Graph A1.7.iv	Participants in the Sample of each Age	133
Table A1.7.v	Crosstabulation: Members of school staff who completed the CCC-2 by the school they represented	134
Graph A1.7.v	Members of school staff who completed the CCC-2 and the school they represented	134
Table A1.7.vi	Crosstabulation: Length of time the respondents had known the participants	135
Graph A1.7.vi	Length of time the respondents had known the participants	135

Appendix 1.8: Descriptive Statistics – CCC-2		
Table A1.8.i	Differences between means on the CCC-2 scaled scores by Gender and Age Group	137
Table A1.8.ii	Differences between means on the CCC-2 scaled scores by School Type and Reason for inclusion in the research	138
Graph A1.8.i	CCC-2 scaled scores	139
Graph A1.8.ii	Number of participants in each SIDC group	139
Graph A1.8.iii	Scores on the SIDC by Age Group	140
Graph A1.8.iv	Scores on the SIDC by Gender	140
Graph A1.8.v	SIDC Groups by Gender	141
Graph A1.8.vi	Age of participants within each SIDC Group	141
Graph A1.8.vii	SIDC Group by Age	142
Graph A1.8.viii	SIDC groups of all participants in comparison to those whose GCC was below the 10 th percentile	142
Graph A1.8.ix	GCC below 10 th percentile by Gender	143
Graph A1.8.x	GCC below 10 th percentile by Age Group	143
Graph A1.8.xi	GCC below 10 th percentile by School Type	144
Graph A1.8.xii	GCC below 10 th percentile by Reason for Inclusion in the Research	144
Table A1.8.iii	Percentage of Participants with Asperger profile	145
Table A1.8.iv	Scores on Scales I+J and Differences from Expected Value	146
Appendix 1.9 Descriptive Statistics – IRI		
Graph A1.9.i	Interpersonal Reactivity Index scores by Gender	147
Graph A1.9.ii	Interpersonal Reactivity Index scores by Age Group	148
Graph A1.9.iii	Interpersonal Reactivity Scores by School Type	148
Graph A1.9.iv	Interpersonal Reactivity Scores by Reason	149
Appendix 1.10 Statistical Analysis – CCC-2		
Table A1.10.i	T-tests to compare the sample means with the expected scaled scores	150
Table A1.10.ii	T-tests for differences between Genders on CCC-2 Scales	151
Table A1.10.iii	Non-parametric tests differences between Genders and SIDC Groups	152

Table A1.10.iv	ANOVA for differences between Age Groups on CCC-2 Scales: Descriptives	153
Table A1.10.v	ANOVA for differences between Age Groups on CCC-2 Scales: ANOVA results	154
Table A1.10.vi	Post-Hoc Tests for Significant results	155
Table A1.10.vii	ANOVA for differences between School Type on CCC-2 Scales: Descriptives	156
Table A1.10.viii	ANOVA for differences between School Type on CCC-2 Scales: ANOVA results	157
Table A1.10.ix	Post-Hoc Tests for Significant results	158
Table A1.10.x	Non-parametric tests differences between School Type and SIDC Groups	158
Table A1.10.xi	ANOVA for differences between Reason on the CCC-2 Scales: Descriptives	159
Table A1.10.xii	ANOVA for differences between Reason on the CCC-2 Scales: ANOVA results	160
Table A1.10.xiii	Post-Hoc Tests for Significant results	161
Table A1.10.xiv	One-sample t-test for differences between the Sample mean in comparison to the expected population mean of GCC percentile 50	161
Appendix 1.11 Statistical Analysis – IRI		
Table A1.11.i	T-test comparing scores on the IRI scales grouped by Gender	162
Table A1.11.ii	ANOVA comparing scores on the IRI scales by Age Group: Descriptives	163
Table A1.11.iii	ANOVA comparing scores on the IRI scales by Age Group: ANOVA results	163
Table A1.11.iv	Post-hoc tests for significant results	164
Table A1.11.v	ANOVA comparing scores on the IRI scales by School Type: Descriptives	165
Table A1.11.vi	ANOVA comparing scores on the IRI scales by School Type: ANOVA results	165
Table A1.11.vii	ANOVA comparing scores on the IRI scales by Reason: Descriptives	166

Table A1.11.viii	ANOVA comparing scores on the IRI scales by Reason: ANOVA results	166
Table A1.11.ix	One-sample t-test to compare Sample Means with Published Means (Males)	167
Table A1.11.x	One-sample t-test to compare Sample Means (Davis, 1980) with Published Means by School Type and Age Group (Males)	168
Table A1.11.xi	One-sample t-test to compare Sample Means with Published Means (Females)	168
Table A1.11.xii	One-sample t-test to compare Sample Means (Davis, 1980) with Published Means by School Type and Age Group (Females)	169
Appendix 1.12 Correlations		
Table A1.12.i	Age with CCC-2 Raw Scores	170
Table A1.12.ii	Age with CCC-2 Scaled Scores	171
Table A1.12.iii	Significant Correlations between CCC-2 scaled scores and IRI scales	172
Table A1.12.iv	Significant Correlations between CCC-2 scaled scores and IRI scales: Males	173
Table A1.12.v	Significant Correlations between CCC-2 scaled scores and IRI scales: Females	174

Introduction

The aims of this study are to explore the social language skills and perspective-taking of young people who have been excluded from school or are at risk of exclusion. Since difficulties with language and/or literacy during childhood are linked to later difficulties in adulthood, it would be beneficial to identify young people experiencing such difficulties during their school career where these can be addressed with the hope of reducing the problems they may encounter later.

Much research has focused on the impact of literacy difficulties, for instance low levels of literacy has been suggested as a risk factor for involvement in offending behaviour (eg. Farrington, 1996; Rutter, Giller & Hagell, 1998; Drakeford & McCarthy, 2000; Gilmour, Hill, Place & Skuse, 2004). The DfEE (2001) states that a third of children assessed as having conduct disorder have specific reading difficulties which, because of their behaviour, often go unrecognised. Young people with verbal deficits are more likely to be involved in offending behaviour (see Muñoz, Frick, Kimonis & Aucoin, 2008, for a review), and nearly half of male sentenced prisoners were excluded from school (Lader, Singleton & Meltzer, 2000). Research has also demonstrated that verbal deficits appear to be at least partially independent of other factors such as ethnicity and socioeconomic status (Petee & Walsh, 1987; Moffitt, 1994).

Language Difficulties

Whilst research has demonstrated the link between literacy difficulties and antisocial behaviour, it is hypothesised that for many individuals it is actually difficulties with language that underlie the discernable literacy difficulties. Specific Language Impairment (SLI) indicates difficulties mastering language for no known reason (APA, 1994; Bishop, 1998; WHO, 1993) and encompasses a wide range of problems: difficulties with comprehension, expression, syntax and phonology. In others these areas are intact and it is content and use of language that poses problems.

Figures for the proportion of children in school who present with language difficulties are difficult to calculate, especially for those whose language difficulty is unrecognised or unidentified. Snowling, Adams, Bishop and Stothard (2001) quote figures for unexplained language impairment in preschool children as being between 3% (Fundudis, Kolvin &

Garside, 1979; Richman, Stevenson & Graham, 1982) and 7.4% (Tomblin, Records, Buckwalter, Zhang, Smith & O'Brien, 1997). Ripley and Yuill (2005) found that boys excluded from school had previous unidentified language difficulties. The participants displayed relative difficulties with auditory working memory tests, and their expressive language problems were linked with high levels of emotional symptoms.

Pragmatic Language Difficulties

Pragmatics involves the appropriate use and interpretation of language in relation to its context (Bishop, 1997). There are some children whose “pragmatic and social difficulties cannot be explained away as direct or indirect effects of poor mastery of structural aspects of language” (Bishop & Leonard, 2000, p. 102). Bishop (2000) argues this group of children do not fit in with the SLI category, since much of their language use is grammatically correct but they have difficulties with the semantics and pragmatics. Pragmatic Language Impairment (PLI) relates to problems that are not confined to structural aspects of language, but that affect the appropriate use of language in context (Bishop & Norbury, 2002). Children with pragmatic language impairments tend to have difficulties understanding and producing connected discourse, may give stereotyped or socially inappropriate conversational responses and make limited use of nonverbal responses (Bishop, Chan, Adams, Hartley & Weir, 2000). Bishop and Norbury (2002) found that pragmatic deficits compromised the process of building a mental representation of a story, and that children with language impairments were able to make inferences but these were not always relevant to the story context. However, there is little evidence that pragmatic difficulties “form a coherent syndrome” (Bishop & Leonard, 2000, p.108), suggesting a more dimensional than categorical viewpoint.

Pragmatic Language Impairment and Autistic Spectrum Disorders

Some authors have suggested that PLI is the same as high functioning autism, for example Shields, Varley, Broks and Simpson (1996) since their study concluded there was a closer relationship between PLI and ASD than between PLI and typical SLI. However, Bishop (1998) and Bishop & Norbury (2002) concluded that there was a subset of children with pragmatic difficulties who were not diagnosed as having ASD or ‘Pervasive Developmental Disorder Not Otherwise Specified’ (PDDNOS). They found that these children tended to use stereotyped language with abnormal intonation and/or prosody, but they appeared

sociable and communicative and showed few difficulties outside the language/social communication domains (ibid, p.917 and p.927).

Language Difficulties and Behaviour

To date there has been relatively little research on pragmatic or social language and its influence on difficulties experienced by school children, but this area of language difficulty can be very influential on the way children interact with others and on their prospects in school and beyond. Research has demonstrated links between language difficulties and social, emotional and behavioural problems (Botting & Conti-Ramsden, 2000; Howlin, Mahwood & Rutter, 2000), but the causal effects have not been studied and therefore it is not known whether the language difficulties relate to delay, limited social understanding, empathy and emotional development, or other factors. Antisocial behaviour has been closely related in research to an individual's difficulties in dealing with emotions, particularly where their behaviour includes aggressive and violent behaviour (Herpetz, Huebner, Marx, Vloet, Fink, Stoecker, Shah, Konrad, & Herpetz-Dahlmann, 2008).

Many young people with disruptive behaviour in school have been found to have difficulties with social understanding (Milch-Reich, Campbell, Pelham, Connelly & Geva, 1999). They may not be aware of the errors they make and are bewildered by the reactions that occur, and can be likely to repeat their errors again and again (Gilmour et al, 2004). In social interactions, aggressive children are more likely to make impulsive and hostile attributions about the actions of others, even when hostile intent was not present (Denham, Caverly, Schmidt, Blair, DeMulder, Caal, Hamada & Mason, 2002).

Gilmour et al (2004) found that two-thirds of children with conduct disorders had pragmatic language impairments similar in nature and degree to those with ASD, independent of IQ. They completed a further study of children excluded from primary school in a socio-economically disadvantaged area of London and again found two-thirds to have comparable difficulties. Therefore it is important to address behaviour issues early, with particular emphasis on its underlying cause.

In their pursuit of a Positive Youth Development model, Edwards, Mumford and Serra-Rolden (2007) discussed negative predictors of children considered "at risk" (p.31) for school failure. These included chronic absenteeism, behavioural problems, levels of

delinquency, incidents of violent and aggressive behaviour, and reduced educational and occupational expectations (see also Barnett, Clarizio & Payette 1996; Bemak, Chi-Ying & Siroskey-Sabdo, 2005; McMillen, Kaufman & Klein, 1997; Roderick, 1994).

Language and the Development of Empathy

Assessing the social environment, including taking account of another's identity and considering emotional cues, is very important for successful social communication (Cunningham & Odom, 1986). The role of emotional regulation is important for children in determining positive social functioning (Eisenberg, Fabes, Murhpy, Maszk, Smith & Karbon, 1995). According to Eisenberg and Fabes (1992), children who can regulate emotional intensity are more socially competent in comparison to those who cannot and are less likely to experience personal distress when empathising with the emotional upset of others. Denham (1986) found that preschoolers who have difficulties understanding emotions are less often prosocially responsive to their peers and are rated as less socially competent by teachers and less likeable by peers.

Since empathy involves both affective and cognitive processes (Davis, 1994), it follows that some degree of language must be used, in order to understand and make sense of the cognitive aspects and link them to the affective feelings. Through the cognitive and affective processes it is thought that empathy is inversely related to aggression (Davis, 1996; De Wied, Goudena & Matthys, 2005; Feshback, 1997; Hoffman, 2000; Staub, 1986). De Wied et al (2005) found that boys with Disruptive Behaviour Disorders showed deficits in dispositional and situational empathy. However, their empathic responses were reduced in relation to sadness and anger but not to happiness, therefore De Wied et al concluded that the boys did not completely lack the capability of feeling empathy and that situational factors may be involved in their reduced responsiveness to other people's sadness.

Language and Exclusion

Gilmour et al's (2004) study highlighted the significant proportion – up to two-thirds – of pupils demonstrating antisocial behaviour who are excluded or at risk of exclusion from school and who have pragmatic communication difficulties. The issue of a relationship between language, empathy and exclusion from school will be returned to in the

subsequent paper which will consider the data from this article along with the young people's and professionals' perspectives on the issues surrounding their exclusion.

Current Research

This research paper forms the first part of two linked phases of research exploring language and communication, empathy, behaviour, and exclusion from school. The present study aims to add to the very limited area of research into language difficulties, particularly pragmatic language, and the relationship of such difficulties to the development of perspective-taking and empathy. Language difficulties and perspective taking are measured in a sample of young people who have been excluded from school and/or identified as having behaviour difficulties which might put them at risk of exclusion.

The social side of language is perhaps more related to difficulties with social skills, making and maintaining friendships, being influenced by negative peers, and being excluded from school due to behaviour or academic difficulties, than purely difficulties achieving academically in literacy. It was therefore considered useful to assess the pragmatic language abilities of the sample rather than their literacy achievements or language impairments relating to the structure or syntax of language.

Research in this area is particularly important since, from the research described in the above literature review, pragmatic language difficulties can have a great impact on a person's prospects. Exclusions from school may be linked to a young person's difficulties in understanding a situation and their inappropriate response to it. Therefore if exclusion from school and/or involvement in antisocial behaviour are discovered to be related to pragmatic language difficulties, it follows that it would be extremely beneficial to the young people and to society as a whole to intervene earlier to assist them to extend and develop their language skill.

It is expected that the participants in this research will show deficits in pragmatic language skill. Their abilities in each of the Children's Communication Checklist dimensions and their scores on the Interpersonal Reactivity Index will be considered in order to discover any trends relating to patterns of difficulty and to explore any differences between the sample groups.

This initial study will form the basis of the second phase of the overall two-stage research project. The second phase will explore teachers' perceptions of the young people's language skill, behaviour in school, and risk of exclusion. From the overall sample, a smaller group of young people who have all experienced permanent exclusion will be interviewed in order to consider in greater depth the issues of exclusion. The two parts of the research will be considered together to start to consider ways in which Educational Psychology Services and other agencies may work together more effectively to support young people at risk of exclusion.

The Research Design

The study comprises the following statistical analyses of data obtained for the purposes of this study:

1. *Children's Communication Checklist (CCC-2);*
2. *Interpersonal Reactivity Index (IRI);*
3. *Comparisons of the above in relation to the pupils' gender, age, type of school they were attending, and reason for inclusion in the study.*

The research questions whether the young people who have been excluded from school or who are at risk of exclusion have difficulties with language and communication as assessed using the Children's Communication Checklist (CCC-2). It also explores whether these young people have lower levels of empathy and perspective taking, as measured by the Interpersonal Reactivity Index, IRI.

Design and Methodological Approach

Paper One forms the first phase of a two-stage research project which aims to explore in greater detail whether language and perspective-taking difficulties are evident in a sample of pupils excluded or at risk of exclusion from school. This phase is entirely quantitative as data is obtained through a language assessment tool and a perspective-taking measure. This allows correlations and comparisons to be made between different sample groups to explore whether there is an association between language difficulties and exclusion from school. Whereas this may be consistent with a causal influence of difficulties with language resulting in the demonstration of unacceptable behaviour in school, the current study explores concurrent correlations between language and behaviour. The second phase, reported in Paper Two, will compare the information obtained by the first phase with the risk of exclusion assessed by staff at the participants' settings. This questions the extent to which staff are aware of young people's language and communication difficulties. It will also incorporate in-depth qualitative information through interviews of a smaller sample of the participants regarding their experiences of exclusion from school, and the support they felt they received at the time.

Checklists and Measuring Devices

Selection of Language Assessment Tool: The Children's Communication Checklist (CCC-2)

The CCC-2 contains 70 items divided into 10 scales (for further information see Appendix 1.4):

- | | |
|--------------------------------------|-------------------------------------|
| (A) <i>Speech,</i> | (B) <i>Syntax,</i> |
| (C) <i>Semantics;</i> | (D) <i>Coherence;</i> |
| (E) <i>Inappropriate Initiation;</i> | (F) <i>Stereotyped Language;</i> |
| (G) <i>Use of Context;</i> | (H) <i>Nonverbal communication;</i> |
| (I) <i>Social relationships;</i> | (J) <i>Interests.</i> |

Each of these comprises statements which describe a behaviour. The respondent is asked to rate on a given scale how often this occurs. The *Social Relations* and *Interests* scales assess non-linguistic aspects of autistic behaviour in order to discover the extent to which these relate to pragmatic impairments. A General Communication Composite (GCC) is calculated using the communication scales A to H, and the Social Interaction Deviance Composite (SIDC) is calculated by subtracting the pragmatic scales (E, H, I, J) from the structural scales (A to D) to indicate children whose pragmatic difficulties are disproportionate to their structural language abilities. The CCC-2 is useful in research because it is quick to complete and does not require the respondent to have detailed understanding of the development of language ability or how difficulties present. Each participant's scores can be calculated manually or by using a computer spreadsheet. The CCC-2 contains a consistency check which compares scores given by the respondent to positively and negatively worded questions. The consistency check is passed when these scores are considered to match sufficiently. If the scores do not match, for example the respondent continues to answer the final block of questions in the same way as the first two pages despite the change in format, the consistency check fails and it would be unreliable to include the scores for that participant.

Bishop (1998) and Bishop & Baird (2001) concluded that communicative difficulty could be rated reliably by teachers. In the current study, it was considered more appropriate to ask school staff to complete the questionnaire, and a request was made that the respondent should know the young person well. Having a professional complete the CCC-2 removed the issue of return rates when sending the questionnaires to homes for completion and returning. Furthermore, some of the parents/carers of the young people in the sample

may have had literacy difficulties which would have affected the sufficient or adequate completion of the questionnaire, thus making the results less reliable.

Several studies have explored the validity and reliability of the CCC-2 (Bishop, 1998; Bishop & Baird, 2001; Bishop, 2004; Norbury & Bishop, 2004) and its effectiveness in identifying pragmatic language impairments (Bishop & Baird, 2001). Validation studies conducted with different populations of children (Bishop, 2004; Norbury & Bishop, 2004) found that the CCC-2 distinguished children with communication impairments from non-impaired peers, and the SIDC identified children with disproportionate pragmatic and social difficulties in relation to their structural language impairments (Bishop, 2004, p. 345). Bishop's (2004) validation study included 138 children with various needs, including specific language impairment and concerns regarding neurodevelopment. The SIDC also showed good interrater agreement ($r=0.79$).

Selection of Perspective-Taking Measurement Tool: The Interpersonal Reactivity Index (IRI)

The Interpersonal Reactivity Index (IRI; Davis, 1980, 1983) offers four independent subscales which measure the cognitive and affective components of empathy:

- Perspective Taking (PT)
- Empathic Concern (EC)
- Personal Distress (PD)
- Fantasy Scale (FS)

It is not intended that the four scales are summed to produce an overall 'empathy' score.

Similar to the CCC-2, the IRI is short and simple to complete. Davis (1980) reported internal reliabilities ranging from 0.71 to 0.77 for the subscales, with test-retest reliabilities ranging from 0.62 to 0.71. Studies have also indicated good construct validity of the subscales (Carey, Fox & Spraggins, 1998; Davis, 1983). Whilst originating in the USA, the IRI has been used in the UK, especially with the prisoner population (eg. Ireland, 1999). Thornton and Thornton (1995) assessed the factors within empathy measurements and agreed with Davis' proposition that it comprises a comprehensive multi-dimensional framework. Joliffe and Farrington (2004) reported findings from investigations using the IRI along with other measures of empathy. They found the scales to be convergent with measures such as emotionality and personal attributes questionnaires, and divergent with intelligence as

measured by SAT scores and the WAIS vocabulary scale. Due to issues around the reliability of adaptations of the IRI for children (Garton & Gringart, 2005), the original Davis (1980) questions were used with modifications to the readability (these alterations are shown in Appendix 1.3).

Teachers were given instructions that they could assist participants with understanding the language and the answer scale, but not with arriving at an answer. The answering system was also modified by the use of smiley faces to indicate the level of agreement with the statements. It was expected that altering the language style would not significantly affect validity and reliability, as the scores were being used mainly to discover where any perspective-taking difficulties lay, differences between sample groups, and any correlations between empathy scales and communication skills, rather than purely as a norm-referenced comparison to individuals from the original studies used during the development of the IRI scores and norms.

Participants and Sampling Process

The participants involved in the research were school pupils, with no age minimum or maximum stipulated. The participant list was produced from three groups:

1. Pupils who had been permanently excluded from school in the academic year 2007-2008;
2. Pupils on the Educational Psychology Service (EPS) database who had been referred to the service for reasons of emotional or behavioural difficulties (EBD);
3. Pupils identified by Special Educational Needs Co-ordinators (SENCOs) who were at risk of exclusion from school currently or may be in the future.

Procedures

In order that details of young people were not shared prior to consent being obtained, a letter was written and agreed with the Inclusion Officer who distributed it to all relevant parents. This included an information sheet for young people. The same process was used when attempting to obtain a sample of young people identified for involvement in the research by Youth Inclusion Project (YIP) staff. A similar letter was also sent to the parents/carers of the young people known to the Educational Psychology Service.

Special Educational Needs Co-ordinators (SENCOs) from the central region of the borough were asked to consider pupils in their school who they believed may one day be at risk of

exclusion from school. Letters and an information sheet were given to the SENCOs at these schools to distribute to the parents/carers of the pupils they had identified.

For all groups, a telephone number was provided for any parent or carer who had concerns about the research, or any young person who decided they did not want to be involved, to call in order to withdraw. A date was given by which to make contact.

Once consent had been obtained, a CCC-2 and IRI was sent to the previously established contact person at each participant's setting, with instructions on how the paperwork should be completed and returned.

Ethics

Informed consent was sought for every participant, and parental consent was essential. The letter to parents/carers fully explained the purposes of the research and how it would be carried out. All participants received an information sheet about the study, its purposes, how it would be written up and made available, and how they could withdraw at any point.

It was felt that due to the low level of risk of the data being collected and the short timescale for the research, it was sufficient that parents and young people were given the option to withdraw rather than return a signed consent slip. All data was collected by schools on school premises at their convenience and returned through the internal courier system to ensure confidentiality. Headed paper was used for the letter to parents, with a clear name and telephone number to contact should they have any concerns. As a result of the limited number of pupils eligible for inclusion in the research, there was a concern that requesting that parents/carers sign and return a consent form would culminate in a lengthy process of follow-up letters and phone calls, and potentially a very small sample of young people being involved. Whilst it was acknowledged that those parents with literacy difficulties may not have fully understood the letter describing the research, it was felt sufficiently likely that they would have been able to request support from someone and that they would be able to access the telephone number which they could have contacted for further information and discussion. Similarly, contact details were presented on the information sheet for young people. Young people and parents could also have discussed the research with the young person's school.

Anonymity of participants, settings, professionals, services and the borough in which the research was undertaken has been maintained throughout.

Results

The overall response rate was 81 questionnaires returned out of 138 distributed (58.7%). Parents/carers of three young people identified for involvement made contact to request the withdrawal of the young person from the research. Descriptive statistics regarding age, gender, and type of school attended by each participant are given in Appendix 1.5.

Children’s Communication Checklist Scores

The consistency check compares scores throughout the CCC-2 including positively and negatively worded questions, and is passed when these scores are considered to match sufficiently. Therefore only participants whose consistency check was passed are included in the CCC-2 analysis (see Appendix 1.8 for the full results tables).

Table 1.1 below shows the means and standard deviations of the scaled scores on the CCC-2. The figures in parentheses in column one are the means and standard deviations taken from the control group in Bishop’s validation studies (2003, 2004). The figures for the percentage in the ‘clinical range’ relate to the percentage of each group with scores at least two standard deviations below the published control group means, as developed by Bishop (2003, 2004). These results are shown graphically and broken down by gender, age groups, school type and reason for inclusion in the study in Appendix 1.8.

Table 1.1: Means and Standard Deviations of Scaled CCC-2 scores, with percentage of participants in the ‘clinical range’

CCC-2 Scale	Mean N=50	s.d	% in clinical range
Speech (10.75, sd2.40)	6.42	3.720	40.0
Syntax (11.20, sd1.24)	6.96	3.452	64.0
Semantics (11.50, sd2.84)	5.20	3.350	58.0
Coherence (11.65, sd2.35)	5.48	3.092	70.0
Inappropriate Initiation (9.85, sd3.03)	5.36	3.521	30.0
Stereotyped Language (10.90, sd2.63)	6.28	3.405	52.0
Use of Context (10.85, sd2.39)	3.78	3.466	84.0
Nonverbal Comm. (11.70, sd2.18)	4.62	3.719	84.0
Social Relations (11.20, sd2.04)	3.28	3.769	86.0
Interests (10.50, sd3.32)	6.00	2.914	8.0
GCC percentile (Expected = 50)*	11.61	19.514	48.0*

*GCC percentile clinical range is calculated by the percentage of participants whose score fell below the 2.5 percentile (using normal distribution rules).

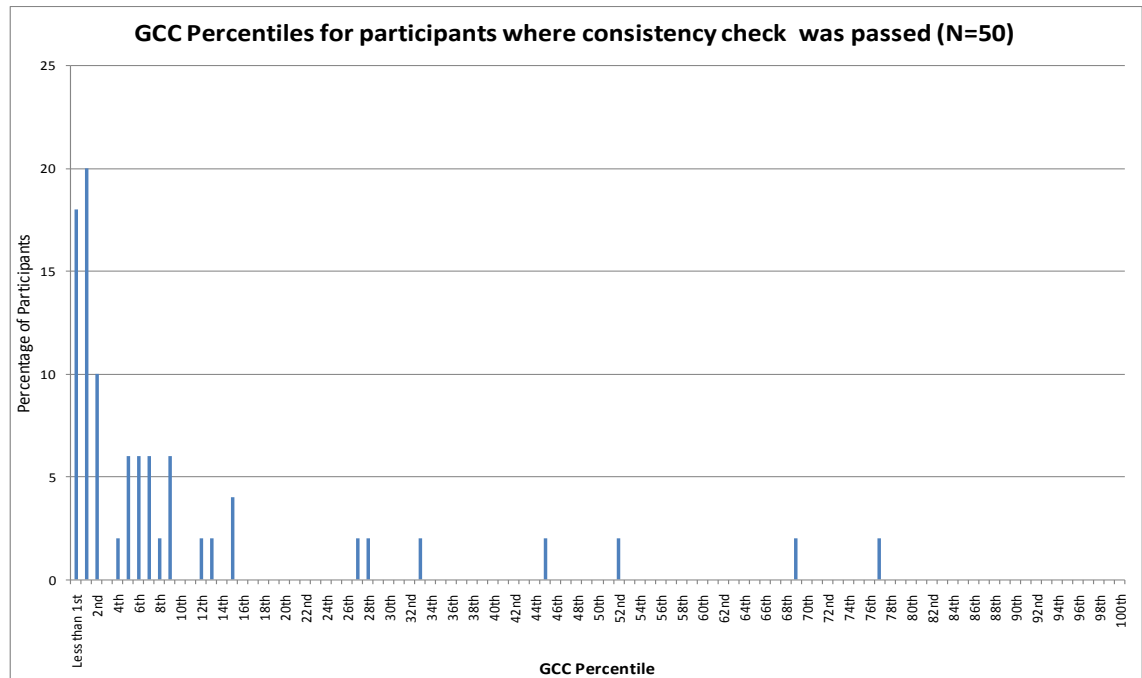
Many participants fell within Bishop’s (1998) definition of the ‘clinical range.’ For the structural language scales, the percentages ranged from 40% to 60% within the clinical range; for pragmatic language scales the percentages ranged from 30% to 86%. Particularly notable scales were the *Use of Context*, *Nonverbal Communication*, and *Social Relations* which contained 84%, 84% and 86% respectively in the clinical range.

The means for the individual Children’s Communication Checklist (CCC-2) scaled scores were all below the expected mean of 10, with particular difficulties in pragmatic scales. The means for the *Use of Context* and *Social Relations* were less than 4. One-sample t-tests were carried out on the above sample means to compare them with the expected mean of 10 for each scale. All tests were extremely significant ($p < 0.001$).

It would be expected that in the population the scores would follow the normal distribution, and the significantly low scores found in the sample are particularly demonstrated by Graph 1.1 which shows the percentiles obtained on the General Communication Composite (GCC). Similarly the graphs in Appendix 1.8 relating to the individual CCC-2 scales show the skew towards low scores. 48% of the sample fell below

the 2.5th percentile on the GCC; of these 9 participants had a GCC percentile of less than 1, 10 a GCC percentile of 1, and a further 5 had a GCC percentile of 2.

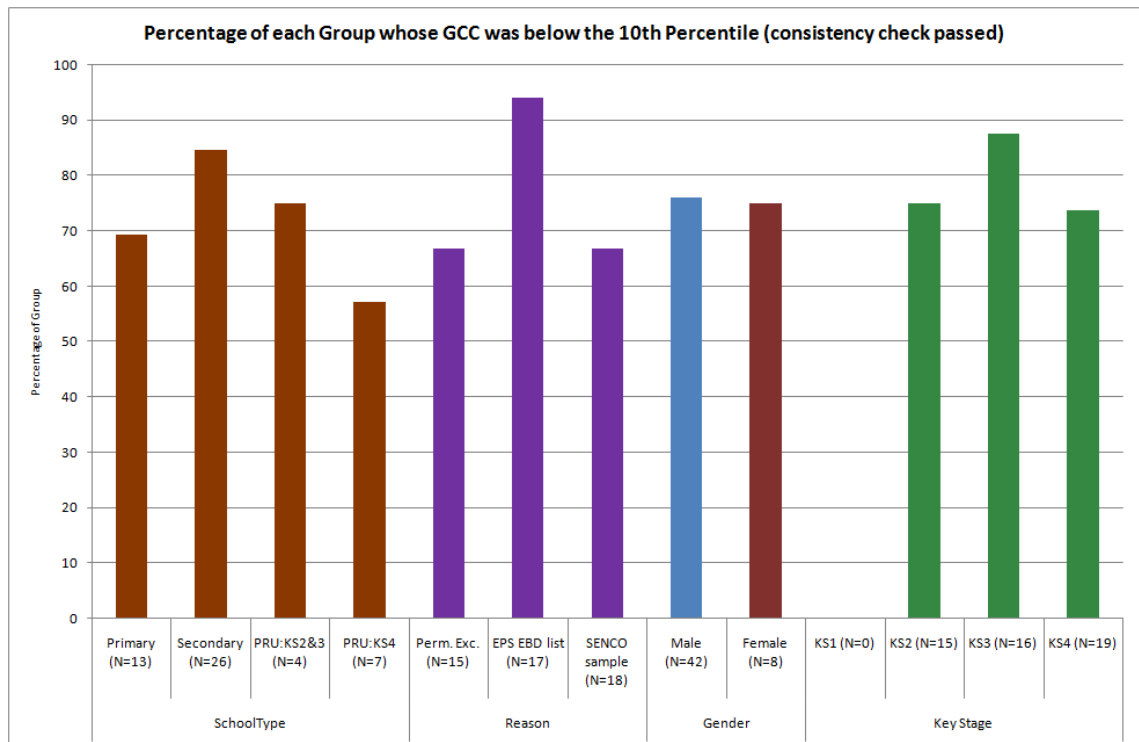
Graph 1.1: Percentile scores on the CCC-2 General Communication Composite (GCC)



In the general population, the average GCC percentile expected would be 50. A one-sample t-test comparing the mean from the sample as a whole (11.610) produced a very significant difference ($t=-13.911$, $p<0.001$). One-way ANOVAs and a t-test showed no significant differences between gender, age groups, school type or reason for inclusion in the sample. The means ranged from 5.469 for the KS3 age group to 19.857 for the participants attending the PRU for KS4.

Graph 1.2: Percentages of participants whose GCC was below the 10th percentile

In the graph below, participants are grouped by school type (orange bars), reason for inclusion in the sample (purple bars), gender (blue and red bars), and their Key Stage to indicate age groups (green bars).



An independent samples t-test showed no significant differences between gender, and one-way ANOVAs showed no significant differences between participants on their GCC percentile scores by school type, reason for inclusion, or key stage. The groups were statistically similar in the proportion of participants with GCC below the 10th percentile.

Differences between Groups (see Appendix 1.8 and 1.10)

Gender. Whilst the sample gave highly significant differences to the expected means, there were no significant differences between genders on the CCC-2 scaled scores.

Age. Participants were divided into age groups relating to the Key Stage they were attending at the time of the research (KS 1 to 4). A one-way ANOVA showed one significant difference in the *Interests* scale ($F=4.391$, $p=0.018$), where the scores of KS2 pupils were significantly higher than KS3 ($p=0.024$) and KS4 ($p=0.046$) pupils.

School Type. Participants were divided into groups relating to the school they were attending. The ANOVA for school type identified that differences again arose on the *Interests* scale, this time between the higher scores from Primary than Secondary school pupils ($F=3.169$, $p=0.033$, post-hoc Tukey $p=0.021$).

Reason for Inclusion in Sample. A significant difference was found on the *Nonverbal* scale of the CCC-2 scores relating to the reasons participants were included in the sample ($F=4.759$, $p=0.013$). A post-hoc Tukey test identified the difference between the higher scores of the Permanently Excluded participants compared to those from the EPS referrals for Emotional and Behavioural Difficulties ($p=0.014$).

For all comparisons there were no significant differences between groups on GCC or SIDC.

Social Interaction Deviance Composite (SIDC)

SIDC Groups. The SIDC measures the discrepancy between pragmatic and structural language skill. The participants' scores on the SIDC are grouped according to Bishop's categorisation (Bishop, 2003; 2004) that a negative SIDC indicates relative difficulties with pragmatic language, a SIDC between 0 and 8 indicates that abilities on the structural language scales are not significantly different to abilities in pragmatic language, and that a SIDC of 9 or above indicates difficulties with structural language relative to pragmatic language, as seen in Specific Language Impairment. 72% of the current sample had scores which resulted in a Negative SIDC, 18% a SIDC between 0 and 8, and 10% had a SIDC over 8.

Bishop (2004) found that a GCC above the 10th percentile in conjunction with a SIDC below 0 was characteristic of the group diagnosed with Asperger Syndrome. Overall 16% of the sample fitted this description. The analysis by gender, age group, school type and reason for inclusion is shown in Table A1.8.iii in Appendix 1.8.

A one-way ANOVA was performed to examine the scores on the CCC-2 scales in relation to SIDC. As the scaled scores are used to compute the SIDC score there will clearly be differences on these scales. However many scores did differ to a significant level and this indicates which scales particularly affected their overall performance.

Table 1.2: Differences between SIDC groups on Scaled CCC-2 scores

CCC-2 Scale	Difference & direction:	Mean Group 1	Mean Group 2	F	Significance
Syntax	SIDC 0-8 < NegSIDC	3.89	8.06	7.443	0.002
Inappropriate Init.	SIDC 0-8 < SIDC over8	5.22	11.00	10.102	0.004
Inappropriate Init.	NegSIDC < SIDC over8	5.47	11.00		<0.001
Stereotyped Lang.	SIDC 0-8 < SIDC over8	3.89	9.60	5.438	0.006
Nonverbal	SIDC 0-8 < SIDC over8	4.56	9.40	5.594	0.039
	NegSIDC < SIDC over8	3.91	9.40		0.005
Social Relations	SIDC 0-8 < SIDC over8	4.22	10.00	15.291	0.004
	NegSIDC < SIDC over8	2.15	10.00		<0.001
Interests	SIDC 0-8 < SIDC over8	6.22	10.20	7.415	0.025
	NegSIDC < SIDC over8	5.35	10.20		0.001
GCC Percentile	NegSIDC < SIDC over8	8.971	32.90	3.536	0.030

The pragmatic skills of the negative SIDC group were very significantly lower than the scores of those who had more structural language impairments. The participants with SIDC in the 0 to 8 range also had many pragmatic language difficulties. The negative SIDC group had GCC percentile scores significantly lower than those with more structural language impairments in the SIDC over 8 group. The SIDC 0 to 8 group were more similar to the negative SIDC group with also very low GCC percentile scores, but these did not reach significance.

Analysis of Scales I and J

Scale I measures *Social Relationships* and Scale J measures *Interests*. The combination of the scaled scores on these measures is taken to indicate autistic-type behaviours (Bishop, 2003, 2004). The expected score on these two scales would be a total of 20, taken from a score of 10 on each scale. A one-sample t-test comparing the whole sample to the expected value of 20 on scales I+J was very significant ($t=-12.472$, $p<0.001$). An independent samples t-test and ANOVA tests produced few differences between the sample groups (see Appendix 1.8, Table A1.8.iv).

Interpersonal Reactivity Index Scores

The tables and graphs below analyse the IRI scores for the current research sample with respect to gender, age, school type, and reason for being included in the sample. Shaded rows within tables contain standard deviations to three decimal places.

Table 1.3: Scores on the IRI and statistical analyses by Gender and Age Groups

CCC-2 Scale	Gender			Age groups				
	Male N=63	Female N=11	T-Test p<0.05	KS1 N=2	KS2 N=27	KS3 N=24	KS4 N=21	ANOVA p<0.05
Perspective Taking	12.84	12.36	n.s.	8.00	14.19	12.79	11.38	n.s.
	5.249	4.696		1.414	5.844	4.443	4.727	
Fantasy	13.71	13.73	n.s.	13.00	14.63	14.46	11.76	n.s.
	5.765	5.781		1.414	5.739	6.136	5.262	
Empathic Concern	17.03	16.09	n.s.	11.50	18.15	16.50	16.24	n.s.
	4.964	3.961		4.950	5.510	4.836	3.375	
Personal Distress	13.13	15.64	n.s.	19.50	12.44	15.38	12.14	F=3.836
	4.689	4.154		4.950	4.619	4.312	4.258	p=0.013*

Table 1.4: Scores on the IRI and statistical analyses by School Type and Reason

CCC-2 Scale	School Type					Reason for Inclusion			
	Pri- mary N=27	Secon- dary N=36	PRU KS2&3 N=5	PRU KS4 N=6	ANOVA p<0.05	Perm Ex N=15	EPS EBD list N=28	SENCO N=31	ANOVA p<0.05
Perspective Taking	13.26	12.53	12.60	12.17	n.s.	12.20	12.43	13.35	n.s.
	5.722	4.855	7.733	0.983		4.539	5.487	5.200	
Fantasy	14.26	13.92	12.80	10.83	n.s.	11.80	14.96	13.52	n.s.
	5.425	5.793	7.855	5.382		5.634	5.433	5.927	
Empathic Concern	17.59	16.75	15.80	15.50	n.s.	15.27	17.36	17.26	n.s.
	5.833	4.430	4.087	2.168		3.555	5.431	4.726	
Personal Distress	12.85	14.17	13.60	12.33	n.s.	12.53	14.50	13.06	n.s.
	4.951	4.919	4.099	1.211		4.086	4.788	4.809	

***Age Groups.** The only significant difference between groups was found on the Personal Distress scale when age groups were processed in a one-way ANOVA (F=3.836, p=0.013), however several post-hoc tests failed to identify where this significant result arose (see Appendix 1.11, Table A1.11.iv).

Table 1.5: T-tests to show differences between Age Groups

Independent samples t-tests were carried out on the age groupings, and the following significant differences were found:

Difference and direction:	T score	Significance
KS1 > KS2	2.079	0.047
KS1 > KS4	2.316	0.031
KS3 > KS2	2.333	0.024
KS3 > KS4	2.523	0.015

Appendix 1.11 gives t-tests which compare the current sample's IRI scores with means from previously published research. All were significantly different, and when analysed in terms of gender, age, school type and reason for inclusion, the results found that males from the PRU-KS4 had the most significantly low score on perspective taking, and females from secondary schools (none attended the PRUs) had the most significantly low score on empathic concern. Compared to the offender sample in Beven, O'Brien-Malone & Hall (2004), the current sample showed a non-significant difference on the Perspective Taking scale ($t=-0.225$, $p=0.823$). Only males could be compared as the offender sample did not include females. However, as the current sample is of young people and the means come from adults, the issue of greater relevance in the current research is differences between the sample groups.

Correlations within and between language and empathy scales

Age and Language Scores (see Appendix 1.12)

Like Bishop (2004), many significant negative correlations were found between age and the raw scores Children’s Communication Checklist scales. As lower raw scores on the CCC-2 demonstrate greater language proficiency, the correlations suggest that as age increases, so do the more positive observations of language skill. However, the raw scores need to be compared to the children’s ages and the level of language that would be expected in a child of that age. For this comparison, the scaled scores were correlated with the participants’ ages, and no significant differences were found. This suggests that the current sample’s language skill does not change in relation to increasing age.

Correlations between the Language and Empathy Scales

As the Interpersonal Reactivity Index is not scaled in relation to age, comparisons were initially made between the scores on the IRI scales and the raw scores on the Children’s Communication Checklist scales. Correlations were also carried out with scaled CCC-2 scores and IRI scales. The tables below show the significant correlations.

Table 1.6: Significant Pearson Correlations between CCC-2 and IRI scales for participants where the consistency check was passed

CCC-2 Scale	IRI Scale	Correlation	Significance
Inappropriate Initiation raw score	Fantasy	0.378	0.009
Interest raw score	Fantasy	0.289	0.049
Context scaled score	Perspective Taking	0.308	0.035
Nonverbal scaled score	Perspective Taking	0.299	0.041
Interest scaled score	Perspective Taking	0.302	0.039
Interest scaled score	Empathic Concern	0.306	0.037

Table 1.7: Significant Pearson Correlations between CCC-2 and IRI scales relating to Gender

Male participants showed no significant correlations, and females produced the following:

CCC-2 Scale	IRI Scale	Correlation	Significance
Social Relations scaled score	Empathic Concern	0.731	0.040
Social Relations scaled score	Personal Distress	-0.742	0.035

Discussion

Communication impairments in children with behaviour difficulties

This research has demonstrated the communication difficulties experienced by the sample groups. Most of the sample had deficits in overall General Communication, measured by the GCC, placing them lower than the 10th percentile compared to normal means (Bishop, 2004). There were large percentages of participants who would be within Bishop's (1998) definition of the 'clinical range' which relates to a level of difficulty typical of children requiring clinical intervention. The *Interests* scale had fewer participants in the clinical range. This suggests that the sample had many significant pragmatic difficulties but few of them showed behaviours typical of Autistic Spectrum Disorders. Only one participant obtained scores within the normal range of means on all scales. This was a primary school male who was referred to the research by the school SENCO, for reasons of low level behaviour issues in school but with no current risk of exclusion. Comparisons between staff perceptions of the participants' language and behaviour difficulties with the scores obtained on the checklists will be undertaken as part of the follow-up study described in Paper Two.

In line with Bishop and Baird's (2001) findings, although some of the children with relatively higher structural language skills may have performed better on the pragmatic scales, still the majority of them scored below the published control mean. However, contrary to Bishop and Baird's findings, their scores on the pragmatic scales were not more than two standard deviations below the control mean. Therefore it does appear that the sample has some participants with disproportionate difficulties in structural language whose pragmatic skills are below the typical norm but not as far below as those children in Bishop and Baird's study who were diagnosed with a Specific Language Impairment. Nevertheless, the pattern of results in the current study supports Bishop and Baird's view of the continuity between the language difficulties.

General Communication Composite. Findings of the current study were consistent with Bishop's (2003, 2004) research where 77% of the Pragmatic Language Impairment group had a GCC score below the 10th percentile; in the current sample the figure was 76%.

Social Interaction Deviance Composite. This is an interesting measure as it compares pragmatic language skill with structural language skill. There were some participants with greater structural deficits, however 72% of participants were placed in the Negative SIDC group, with greater deficits in pragmatic language in comparison to structural language skill. The pragmatic skills of this group were very significantly lower than the scores of those who had more structural language impairments. They also had low scores on *Social Relations*, a behavioural measure. Whilst some participants' SIDC score was within 0–8, suggesting they have similar skills in both areas, all but one had a GCC percentile under 10 and therefore had significant communication deficits. This group was more similar to the negative SIDC group with many pragmatic language difficulties.

Of all the participants with overall communication (GCC) below the 10th percentile, there were no significant differences as to where their main difficulties arose as each SIDC group was similarly represented. Bishop (2004) found that although a GCC score above 55 (10th percentile) is usually an adequate level of communication, this was often found in conjunction with a negative SIDC in the Asperger group. In the current sample, there were 8 participants (16%) with this profile; most strikingly, the 42.9% of the PRU for KS4 pupils had this profile.

Differences between Groups

Overall, there were few significant differences on the ten CCC-2 scales or two composite measures between the groups, indicating that the whole sample was relatively homogeneous in having communication skills significantly different from those of typically developing children. This finding corroborates that of Gilmour et al (2004). Similar to Geurts and Embrechts (2008), there were no significant gender differences, though as in the Gilmour et al (2004) study there was a preponderance of males in the sample (81% in theirs, 86% in this study), which is similar to that seen among ASD and autistic groups (Baron-Cohen, Knickmeyer and Belmonte, 2005).

For age groups only the *Interests* scale produced significant differences: KS2 children scored significantly higher than KS3 and KS4. The few significant differences between the age groups does not follow Norbury & Bishop's (2004) research that language impairments become less specific over time, perhaps as social demands increase. However, the oldest participants were only 16, and comparisons were made between groups rather than

between the same individuals at different points in time. Therefore a longitudinal study of the same sample may confirm Norbury & Bishop's findings.

When 'school type' was analysed, differences again arose on the *Interests* scale, this time between the higher scores from Primary compared to Secondary school pupils. Thus, although there were differences between KS2 compared to KS3 and KS4, these were only with the KS3 and KS4 pupils attending secondary school. It may be that the young pupils already causing concern in KS2 have similar profiles to those attending the PRU, or because at their age the level of their needs is not yet fully acknowledged. The significant difference on the *Interests* scale is also related to a behavioural observation rather than a language skill.

A significant difference was found on the *Nonverbal Communication* scale relating to the reasons participants were included in the sample. This arose between the higher scores of the Permanently Excluded participants compared to the EPS referrals for Emotional and Behavioural Difficulties. It was notable that the EPS EBD sample also had very low scores on *Social Relations* and will be interesting to compare this to the teacher perceptions, which could link to why they had been referred to the EPS.

Bishop and Baird (2001) found that diagnostic groups did not differ on the *Coherence* scale which was originally thought to reflect pragmatic language, asking about aspects of communication such as telling stories and talking about past or future events. Their reasoning for the lack of difference was that the scale is dependent upon skills in structural language. All groups in their study and in the current study obtained low scores on this scale, regardless of whether their difficulties were mainly structural or pragmatic. Bishop and Baird also found that children with ADHD had poor scores on the scale measuring *Inappropriate Initiation* and also demonstrated impairments on scales assessing *Stereotyped Language* and *Social Relationships*. In the current sample around 48% had similar poor scores on these measures. These were particularly in KS3 (69%). For school type and reason for inclusion in the sample, around half of each group fitted this profile.

Empathy and Perspective Taking

As with the analysis of the CCC-2, the Interpersonal Reactivity Index scores were also significantly different in the current sample than in publications of normal means (Atkins &

Steitz, 2002; Davis, 1980). The most significant differences in males were on the *Perspective Taking* and *Personal Distress* scales, which relate to cognitive and affective aspects respectively. In females, the most significant differences were on the *Perspective Taking* and *Empathic Concern* scales also measuring cognitive and affective aspects respectively. Compared to Beven et al's (2004) sample of offenders' scores on the IRI, the current sample showed a non-significant difference on the *Perspective Taking* scale.

Differences Between Groups

Also like the CCC-2, few differences were found between the sample groups. The only significant differences arose between some of the age groupings. This is different to Garton and Gringart's (2005) findings that girls scored higher on empathy measures. However, in this sample, the girls' empathic abilities may be affected by their language difficulties that were similar in nature and extent to those of the boys, and it is likely that this is the reason why their empathy is also more similar to language-impaired boys than to non-language-impaired girls. This finding could be extended by longitudinal studies into the outcomes for girls, particularly to follow-up Dixon, Howie and Starling's (2004) assertion that in females where their behavioural issues have progressed to offending behaviour there are high rates of ADHD and also several forms psychopathology, particularly in relation to conduct disorder, depression and anxiety. Research could also examine whether the adult female offenders also demonstrate language difficulties in order to determine appropriate interventions for girls of school age.

Gilmour et al (2004) suspected that there were links "between the relatively poor verbal abilities of children with conduct problems and emotion processing skills" (p.976). The current sample suggests support for this hypothesis in that the participants had significant pragmatic language difficulties along with lower abilities in the empathy scales than would be expected within the population. The low IRI scores within the sample as a whole concur with Denham et al's (2002) findings that deficits in social information processing and understanding emotional situations were related to young people's behaviour problems. Children need to be able to understand their own feelings and behaviour and why they feel that way in order to understand others in social interactions and how to modify their behaviour accordingly. As hypothesised it is possible that this affects their behaviour towards peers and teachers in school and can lead to exclusions.

Correlations between the CCC-2 and IRI

Although the main purpose of the study was to look for concurrent difficulties in communication skill and empathy, correlations were also explored between the two measures in order to determine if higher scores on one also resulted in higher scores on the other. There were several significant correlations between the scales, but without a further study it is not possible to be certain whether the two measures were powerful enough to produce correlations as they are scored and analysed on different scales. Interestingly, *Perspective Taking* correlated significantly with two pragmatic language scales, *Context* and *Nonverbal Communication*, and one of the social behaviour scales, *Interests*. Perspective taking is a skill likely to be needed in the ability to use context in communication, such as understanding non-literal remarks, and also in nonverbal communication such as being able to interpret nonverbal gestures, facial expression and eye contact. In females, higher scores on *Social Relations* correlated significantly with a higher degree of *Empathic Concern*. Thus their ratings of feelings of sympathy and compassion for others is linked to staff perceptions of their ability to make and maintain friendships.

However, the IRI scores are not scaled by age, therefore the participants who range in age from 6 to 16 may obtain different scores on the IRI according to their understanding of the questions and their developmental level of empathic understanding. However, this alone cannot account for the variability in the current sample, as IRI scores did not increase with age: KS2 pupils produced the highest scores, KS4 the lowest but one. Further research could develop either the IRI or a new measure of empathy and/or perspective taking which also allows for developmental maturation.

Limitations of and Extensions to the Study (see also Appendix 1.13)

There were some limitations to the study, many of which could be resolved and enhanced by further research in the topic area. One limitation was sample size, which was affected by the lack of consistency in 31 of the CCC-2 forms as identified by the CCC-2 consistency check. The eventual sample size was very similar to that of Gilmour et al (2004) and produced very similar findings regarding pragmatic difficulties of excluded pupils. An option for reducing the inconsistency of staff would be to complete the CCC-2 with them, but this would impact upon the available time and possibly further reduce the potential sample size.

The intention for the current study was also to include young people known to the Youth Offending Team, Youth Inclusion Project, and young people at college who had experienced exclusion from school. However despite making contact with professionals in these services, no participants were identified. With more sufficient time, future research could develop closer working relationships with the relevant services, young people, and their parents in order to obtain samples for comparison.

The CCC-2 appeared to be an extremely useful way of assessing the participants' structural and pragmatic language skill and producing two useful composite scores. A wealth of data was produced relating to the ten scales, the composites, and the differences between the four main groups in the study. Further research could triangulate the scores from the CCC-2 with other measures of communication such as The Pragmatics Profile of Everyday Communication Skills in Children (Dewart & Summers, 1995).

Bishop & Norbury (2002) found that some children identified as having PLI on the CCC met diagnostic criteria for autism. Thus further research could also assess pragmatic difficulties and also use autism screening instruments such as the ADOS-G (Autism Diagnostic Observation Schedule – Generic) or ADI-R (Autism Diagnostic Interview – Revised) to determine whether, in pupils excluded from school, the pragmatic impairments are independent or are a correlate of other ASD symptoms.

Research with a longitudinal style could examine Norbury & Bishop's (2004) finding that language impairments become less specific over time: non-verbal abilities decrease, literacy difficulties persist and social impairments become more apparent.

Some studies have shown that there is a group of children with pragmatic difficulties that shows a pattern of Theory of Mind performance which is different from that of normally

developing children (Serra, Loth, Van Geert, Hurkens & Minderaa, 2002). This group, which Serra et al described as 'lesser variants of autism' had difficulties that included predicting other people's emotions, which could be the case in many of the current sample. However there may be difficulties measuring ToM as an independent construct in a sample of participants with language deficits and future research could consider ways of measuring ToM in order to make further comparisons with language and perspective taking.

The Interpersonal Reactivity Index has some limitations due to limited use in the UK, especially with young people, and the extent to which the participants were able to understand it and give accurate responses, and its scores are not able to be norm-referenced to expectations relating to age. The IRI was initially developed for adults and the current study used a version made more child-friendly. However, this has not been tested for reliability or validity and this could form the basis of further research into perspective taking and empathy in young people. Further research into empathy in young people with language and behaviour difficulties could make use of Frick and White's (2008) Inventory of Callous-Unemotional Traits (ICU; Frick, 2004). They argued that the ICU could be a promising method for providing a more extended assessment of the traits, which could then be used to develop individualised intervention programmes such as for developing empathy or emotional regulation.

Future research could also include in its analysis the effect of ethnicity, SEN (special educational needs), children eligible for free school meals, and the index of deprivation of the participants' home addresses. Ethnicity and socioeconomic status were not considered in the present research partially due to time constraints and also because previous research (eg. Hill, 2002; Petee & Walsh, 1987; Moffitt 1994) had suggested that verbal deficits are at least partially independent of the other potentially related factors. Gilmour et al (2004) suspected a causal relationship between social communication problems and exclusions, although acknowledged the role of social, cognitive, psychological and neurobiological factors. Further research could investigate the interactions between communication deficits and other factors. Research could feed into future policy and practice such as developments to the recent government document "Breaking the Link" (DCSF, 2009) and the new Social and Emotional Aspects of Development (SEAD) for early years children (DCSF, 2008).

It is not known whether the young people in this study are aware of their difficulties in comparison to typically developing young people. A future study could assess their own perceptions and whether this is associated with any effect on their behaviour or self-esteem. Further research could also assess the differences in ratings by teachers and parents. Gilmour et al (2004) found that teachers tended to rate children with disorders on the autistic spectrum as less language-disordered than did their parents, which may mean that teachers in the current study underestimated some of the participants' language difficulties. The next study in this series of two will enable an examination of the extent to which teaching staff are able to judge young people's language and communication skill, and understand its relationship to exclusion.

Conclusions and Implications

This research project has highlighted the language and communication difficulties experienced by young people of all ages who have been excluded from school or who may one day be at risk of exclusion. Over three-quarters had an overall communication skill within the lowest 10 percentiles compared to expected and typical norms, and more of the participants had disproportionate difficulties with pragmatic language than with structural language. Whereas literacy difficulties and later academic attainment become apparent over time, the language difficulties are likely to be present during early development. Hence there is a need for early identification and intervention before the language and communication difficulties affect the child's access to the school curriculum, their behaviour, emotional development, and self-esteem. The findings support those of Norbury & Bishop (2004) that children with structural language impairments also show deficits in pragmatic language, suggesting "basic linguistic ability is an important factor in pragmatic functioning" (p.348). Impairments with pragmatic language and social cognition mean that the sample is likely to have difficulties establishing what is shared knowledge (Happé, 1993) or applying world knowledge (Milosky, 1992).

As pragmatic difficulties were found throughout the sample, the findings support Bishop and Baird's view that the CCC-2 does not yet provide a close enough relation to assign diagnoses, but provides a simple and cost-effective method for obtaining systematic information about pragmatic difficulties and the domains in which particular difficulties lie. It can assist in exploring impairments in aspects of communication that are not easy to assess using conventional tests, and most importantly in the current sample it can be used to demonstrate that there are language difficulties in young people for whom language has not been identified as a major concern. As its validity is enhanced when ratings are used from parents and professionals (Bishop & Baird, 2001), the CCC-2 could be a very useful tool for identifying particular areas of difficulty upon which an intervention programme can be based.

The findings have implications for service planning and interventions, and how young people in need of interventions are identified. They also have implications relating to diagnosis and labelling issues, for instance whether more children are assessed and diagnosed with autistic spectrum disorders and what impact this would have on how services within schools and authorities are accessed. Bishop (2000) argued that many

children have “complex constellations” of difficulties but “provision tends to be directed towards the textbook categories” (p.111). However, the current study has corroborated with many from Bishop (2000, 2003, 2004) and Bishop & Baird (2001) that distinct categories have so far not been discovered, and the less specific diagnoses such as Pervasive Developmental Disorder Not Otherwise Specific (PDDNOS, see O’Hare, Qew & Aitken, 1998) can be unhelpful in identifying the kinds of services the young person requires, though it might enable access to *some* kind of services (Bishop, 2000).

In the current research the scores of the participants referred to the research by SENCOs tended to be lower, though not significantly. This is possibly because these young people are only just beginning to cause concern; they have not been referred to the Educational Psychology Service and have not received any exclusions. This will be considered in Paper Two in conjunction with the teacher questionnaire regarding their level of concern and the likelihood of the young people being excluded. Following the analysis of language and communication skill in relation to teacher perceptions, the following study will conclude with implications for interventions and Educational Psychology practice.

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Paper Two

Abstract

The current study follows up the first phase of the overall research which demonstrated communication difficulties in a sample of young people who have been excluded from school or who are at risk of exclusion. Difficulties with communication, particularly pragmatic language, were highlighted, along with diminished empathy or perspective taking scores.

In this second phase, the scores from the Children's Communication Checklist (CCC-2) and Interpersonal Reactivity Index (IRI) were compared with perceptions of staff from the participants' settings. A smaller group of participants was interviewed regarding their experiences of exclusion and what support they believe could have helped them maintain their place in school.

The questionnaires completed by staff showed that they were very concerned about this sample of young people, and also concerned about their risk of exclusion from school. The ratings from staff suggested that many members of staff were aware of the communication difficulties that the participants experienced, but not to the extent that was demonstrated by the CCC-2 scores. There were few differences between the ratings for each of the sample groups. Some differences existed between respondents, with teachers being more accurate than support staff in being aware of language difficulties. Staff in mainstream schools also tended to be more accurate in their ratings than staff at Pupil Referral Units.

The interviews highlighted the language and communication difficulties of the sample and their difficulties reaching an understanding of the perspectives of others. All had been excluded due to behaviour, and most felt that more support from teachers and other professionals would have helped them. They particularly thought that a meeting between relevant staff, and themselves, would have been beneficial in considering the options available for maintaining their school place.

The paper concludes with consideration of issues relating to policy and multi-agency working that are relevant to developing services and approaches for assisting young people with language difficulties who, without intervention, may become at risk of exclusion from school.

Table of Contents: Paper Two

Item	Page
List of Tables and Figures	60
Introduction	63
Summary of Relevant Literature	63
The Current Research	69
Methods	70
Research Design and Methodological Approach	70
Checklists and Measuring Devices	72
Participants and Sampling Process	73
Procedures	73
Ethics	74
Results	75
Scores on the Staff Questionnaire	75
Regression Analyses	77
Themes and quotes from the Interviews	78
Discussion	82
Limitations of and Extensions to the Study	90
Conclusions and Implications	91
Bibliography	95

Appendices Paper Two	Page
Procedures Undertaken to Conduct the Data Collection	
Obtaining the sample and Parental Consent	178
Distribution of the Questionnaires	178
Organisation of the Interviews	179
Details of Data Collection	
Staff Questionnaire	181
Interview Schedule	182
Development of Data Collection Techniques	184
Data Collected	
Examples of Numerical Raw Data	187
Examples of Information from Interviews: Case Studies	188
Details of Data Analysis	
Descriptive Statistics: Questionnaire Scores	200
Statistical Analyses	
Analyses relating to the Questionnaire Scores	203
Analyses of Differences Between Sample Groups	206
Correlations	208
Discussion about Intervention and Multi-Agency Approaches	218
Ethical Considerations	
Ethical form completed and signed	222
Details about Ethical Issues Involved in the Research	225

List of Tables and Figures

Tables and Figures in the Results section

Number	Title	Page
Table 2.1	Participants' scores compared to expected scores	75
Table 2.2	Significant Differences Between Groups	76
Table 2.3	Regression analysis	77
Table 2.4	School participants were attending	78
Table 2.5	Reasons for Exclusion	78
Table 2.6	What would have helped prevent permanent exclusion?	79

Tables and Figures in the Appendices

Number	Title	Page
Appendix 2.1 Examples of Numerical Raw Data		
Table A2.1.i	Sample of scores from the Staff Questionnaire	187
Appendix 2.6 Descriptive Statistics: Questionnaire Scores		
Table A2.6.i	Respondents to the Staff Questionnaire	200
Table A2.6.ii	Questionnaire scores – all participants and by gender	200
Table A2.6.iii	Questionnaire scores – Age	201
Table A2.6.iv	Questionnaire scores – School Type	201
Table A2.6.v	Questionnaire scores – Reason for Inclusion in the Research	201
Appendix 2.7 Statistical Analysis of the Questionnaire Scores		
Table A2.7.i	Differences from expected values questions 1 and 4: All Participants and Participants grouped by Gender	203
Table A2.7.ii	Differences from expected values questions 1 and 4: Participants grouped by Age	203
Table A2.7.iii	Differences from expected values questions 1 and 4: Participants grouped by School Type	203
Table A2.7.iv	Differences from expected values questions 1 and 4: Participants grouped by Reason for inclusion in the research	203
Table A2.7.v	Differences from expected values questions 2 and 3: All Participants and Participants grouped by Gender	204
Table A2.7.vi	Differences from expected values questions 2 and 3: Participants grouped by Age	204
Table A2.7.vii	Differences from expected values questions 2 and 3: Participants grouped by School Type	204
Table A2.7.viii	Differences from expected values questions 2 and 3: Participants grouped by Reason for inclusion in the research	204
Table A2.7.ix	Differences from expected values question 5: All Participants and Participants grouped by Gender	205
Table A2.7.x	Differences from expected values question 5: Participants grouped by Age	205

Table A2.7.xi	Differences from expected values question 5: Participants grouped by School Type and Reason for inclusion in the research	205
Appendix 2.8 Questionnaire Scores: Differences between Groups		
Table A2.8.i	Differences between Groups questions 1 to 4: Participants grouped by Gender and Age	206
Table A2.8.ii	Differences between Groups questions 1 to 4: Participants grouped by School Type and Reason	206
Table A2.8.iii	Differences between Groups questions 5 and 6: Participants grouped by Gender and Age	207
Table A2.8.iv	Differences between Groups questions 5 and 6: Participants grouped by School Type and Reason	207
Appendix 2.9 Correlations		
Table A2.9.i	Correlations between Respondents' questionnaire answers and CCC-2 language scores	208
Table A2.9.ii	Correlations between Respondents' questionnaire answers to the language questions (2 and 3) and CCC-2 language scores grouped by Social Interaction Deviance Composite (SIDC)	209
Table A2.9.iii	Correlations between Respondents' questionnaire answers (Questions 1 and 4) and CCC-2 language scores grouped by Social Interaction Deviance Composite (SIDC)	210
Table A2.9.iv	Correlations between Respondents' questionnaire answers and CCC-2 language scores grouped by Social Interaction Deviance Composite (SIDC)	211
Table A2.9.v	Correlations between Respondents' language ratings and CCC-2 language scores according to Role of Respondent	212
Table A2.9.vi	Correlations between Respondents' language ratings and CCC-2 language scores according to setting of Respondent	214
Table A2.9.vii	ANOVAs to compare staff perceptions on language, behaviour and risk of exclusion in relation to the Social Interaction Deviance Composite (SIDC) groups	215
Table A2.9.viii	<i>Post-Hoc tests</i>	216
Table A2.9.ix	Correlations between the IRI Scales and Staff Questionnaire	217

Introduction

This research paper forms the second part of research exploring language and communication, empathy, behaviour, and exclusion from school. The first part of the research explored the language and perspective-taking skills of young people who had been excluded from school or who were at risk of exclusion. The study discovered that the overall sample had great difficulties with language and communication, particularly with pragmatic language skills.

There were few differences between the three sample groups, but the vast majority of participants produced significant differences in their language skill to typically developing young people in Bishop's (2004) normative sample. More young people had disproportionate difficulties with pragmatic language than with structural language. Over three-quarters of the sample obtained communication scores which would place them in the 'clinical range' with similar scores to young people requiring clinical intervention (Bishop, 1998). Similarly on the Interpersonal Reactivity Index, a perspective-taking measure, there were few differences between the sample groups but the mean score on each of the four scales was significantly different to published means.

The aim of this second phase of the research is to explore the perceptions of a member of staff at the participants' school with respect to their ratings of the participants' language skill, social language skill, behaviour issues in school, and risk of exclusion. This phase will also incorporate interviews with a small selection of young people who have experienced permanent exclusion.

Summary of Relevant Literature

Difficulties with language affect the acquisition of basic literacy skills. Both of these issues have been linked to behavioural issues in school and beyond. Ripley and Yuill (2005) found that many boys excluded from school had previously unidentified language difficulties. A significant proportion of prisoners, especially when compared to the general population, has very low levels of literacy (eg. Newman, Lewis & Beverstock 1993; Linacre, 1996). More than half of all prisoners are at or below the level expected of an 11-year old in reading (Home Office, 2003) and nearly half of male sentenced prisoners were excluded from

school (Lader, Singleton & Meltzer, 2000). Difficulties with literacy have been linked to re-offending rates, whereas learning basic skills contributes to a reduction in re-offending (Social Exclusion Unit, 2002). It would appear beneficial to identify literacy difficulties in younger people, and take steps to provide support and additional learning opportunities at a younger age. However, since language difficulties can manifest as low achievement in literacy, or as behaviour difficulties, the question then arises about how *language* difficulties are identified and addressed.

There is also an issue regarding how well teachers are able to or trained to identify difficulties with language or communication, especially if young people have efficient skills in structural language or manage to develop strategies to cope which mask their difficulties. Pragmatic difficulties can be found not only in children who meet the clinical descriptions of Pragmatic Language Impairment and who use fluent and complex language, but also in children who exhibit structural language difficulties.

Language Difficulties and Behaviour

To date there has been relatively little research on pragmatic or social language and its influence on difficulties experienced by school children, but this area of language difficulty can be very influential on the way children interact with others and on their prospects in school and beyond. Research has demonstrated links between language difficulties and social, emotional and behavioural problems (Botting & Conti-Ramsden, 2000; Cantwell, Baker, Mawhood & Rutter, 1989; Howlin, Mawhood & Rutter, 2000), but it is not known whether the language difficulties relate to delay, limited social understanding, empathy and emotional development, or other factors.

Many young people with disruptive behaviour in school have been found to have difficulties with social understanding (Milch-Reich, Campbell, Pelham, Connelly & Geva, 1999). They may not be aware of the errors they make and are bewildered by the reactions that occur, and can be likely to repeat their errors again and again (Gilmour, Hill, Place & Skuse, 2004). In social interactions, aggressive children are more likely to make impulsive and hostile attributions about the actions of others, even when hostile intent was not present (Denham, Caverly, Schmidt, Blair, DeMulder, Caal, Hamada & Mason, 2002). Antisocial behaviour has been closely related in research to an individual's difficulties in dealing with emotions, particularly where their behaviour includes aggressive

and violent behaviour (Herpetz, Huebner, Marx, Vloet, Fink, Stoecker, Shah, Konrad, & Herpetz-Dahlmann, 2008).

Language, Empathy, and Behaviour

Research has suggested that empathy is inversely related to aggression, with empathic feelings inhibiting aggressive behaviour through the cognitive and affective processes involved (Davis, 1996; Feshbach, 1997; Hoffman, 2000). More recently, antisocial and/or delinquent behaviour has been linked to a different concept of reduced empathy termed callous-unemotional (CU) traits (Frick and White, 2008). CU traits incorporate lack of guilt, absence of empathy and the callous use of others for personal gain. The term has been used in young people whose antisocial behaviour has become a stable pattern. This may relate to some young people who are excluded from school for consistent unacceptable behaviour. Callous-unemotional traits have been interestingly linked to empathy and pragmatic language ability in that young people with CU traits have been found to have deficits in the way they process negative emotional stimuli (Loney, Frick, Clements, Ellis & Kerlin, 2003; Kimonis, Frick, Fazekas, and Loney, 2006). It is proposed that callous-unemotional traits comprise three dimensions, one of which is behavioural and incorporates an impulsive and irresponsible behavioural style involving poor planning and a proneness to boredom. This is another aspect which could relate to young people excluded from school.

Connections have been found between the emotion processing skills and relatively poor verbal abilities of young people with conduct problems (Speltz, DeKlyen, Calderon, Greenberg & Fisher, 1999). Rothenberger (2006) found links between emotional and conduct problems, oppositional/defiant behaviour, and Attention Deficit Hyperactivity Disorder (ADHD). ADHD has been suggested as a predictor of later antisocial behaviour (Rutter, Kim-Cohen & Maughan, 2006). Gilberg (1992) suggested that there is a continuum of disorders of empathy, with autism being at one end of the extreme, and ADHD at the other.

Prospects for those with PLI

Following a study of young people with Specific Language Impairment, Snowling, Bishop, Stothard, Chipchase & Kaplan (2006) found that those children whose difficulties persisted beyond age 5.5 years had a higher risk of psychiatric morbidity in adolescence. Still

relatively little is known about the long-term outcomes for children with SLI (Conti-Ramsden & Botting, 2008) and less is known about the prospects for those with PLI.

If a child has subtle social communication problems, these are likely to create new difficulties in adolescence, when interaction with peers assumes particular importance. In a study comparing outcomes of children with autism or receptive language impairment, Howlin et al (2000) found that many people who had been diagnosed with receptive language impairments at an early age developed more pervasive abnormalities as they grew older, affecting social interaction and range of interests. Bishop (2000) argues that the description of these cases suggests that many would fit her PLI category.

Aggressive behaviour tends to decrease with age (Barker, Tremblay, Nagin, Vitaro & Lacourse, 2006) as other ways of dealing with feelings and emotions become more efficient, and usually this revolves around the use of language to discuss and resolve matters without recourse to aggressive behaviour. If an individual does not develop this language skill, it is possible that they will continue with the use of aggression to deal with their feelings, emotions, and frustrations.

Clegg, Hollis, Mawhood and Rutter (2005) found that for a sample of children with Developmental Language Disorder followed up into their mid-thirties, the prospects were very concerning. Most had not maintained employment, only two-fifths were living independently, and approximately half had sustained problems in establishing relationships and social networks. With the significant difficulties in theory of mind reasoning found in this sample, it may be that a significant proportion had pragmatic language impairments that contributed to their social impairment. Clegg et al concluded that the evidence from their study suggests the value of further study of pragmatic deficits.

Language and Exclusion

Behaviour issues in school have been linked to language impairments, particularly implicating receptive language difficulties at an early age and expressive difficulties at a later age (Ripley and Yuill, 2005). Gilmour et al's (2004) study highlighted the significant proportion – up to two-thirds – of pupils demonstrating antisocial behaviour who are

excluded or at risk of exclusion from school and who have pragmatic communication difficulties.

Permanent exclusions in England have risen rapidly over recent years (DfEE, 1992; DfEE, 1999). The NUT (1992) found that the most common reasons for exclusion were aggression and 'insolent' and 'uncooperative' behaviour, and Milch-Reich et al (1999) highlighted difficulties in social understanding in young people with disruptive behaviour in school. Statistically, those at highest risk of exclusion from school are male, have special educational needs, and live in areas of social deprivation (Gilmour et al, 2004). Since an overlap has been suggested between pragmatic language difficulties and autistic traits (Gilmour et al, 2004), it is probable that more boys will experience these difficulties than girls since more boys are diagnosed with autistic spectrum disorders (Baron-Cohen, Knickmeyer and Belmonte, 2005). It is also possible that the 'special educational needs' referred to by Gilmour et al (2004) as a risk factor for exclusion may have language difficulties as an underlying feature.

According to Hagell and Newburn (1994), a negative experience of school and school failure resulting in low self-esteem are linked to the beginning of offending behaviour in young people. They also reported that offending is related to peer influence, which may also be linked to exclusion as sometimes young people are excluded simultaneously as a result of their behaviour in a group. Peer influence can also be hypothesised to link to difficulties with language, both expressive and pragmatic, whereby the language difficulty results in young people being less able to determine the intentions of others, express their own desires, and instead go along with the group. A further impact of pragmatic language impairment upon empathy leads to the young person being less aware of the consequences of their own actions upon others.

Considering the consequences, highlighted in previous research, that having a language and/or perspective-taking impairment can have on a young person, it is likely that these difficulties are present in many young people demonstrating behaviour issues in school and those who experience exclusion from school. Vernon and Sinclair (1999) stated that their findings showed exclusion from school to be a "significant risk factor in terms of undesirable outcomes for young people" (p.4) therefore a high priority for multi-agency professionals should be to work together to maintain children in school.

Interventions

Where research demonstrates associations, for example between language difficulties and exclusion from school, this has a significant impact on how to assist and support young people at risk of exclusion. Earlier than this, prior to young people becoming at risk of exclusion through their behaviour, it would be beneficial to provide support and additional intervention regarding their language difficulties. Bullying may occur where children do not sufficiently understand the language or intentions of others, and the importance of intervening in bullying situations in school is also highly important: long-term effects observed into adulthood for bullies include delinquency, crime, and alcohol abuse (Magnusson, Stattin and Duner, 1983; Loeber and Dishion, 1994) and depression and lower self-esteem for victims (Olweus, 1993). However the issue of identifying language difficulties persists, especially where a young person may display adequate structural language skill but underneath possesses difficulties with pragmatic understanding.

The current study phase will assess the extent to which school staff are able to identify language deficits, particularly pragmatic difficulties, in a sample where it has already been established there are significant pragmatic impairments. Whereas it may be necessary to identify children who need additional services through schools and wider professional agencies in order for them and their families to access help and intervention, it must be done in such a way that the identification does not emphasise pathology or the risk factors themselves (Edwards, Mumford and Serra-Roldan, 2007). This has implications on how services identify young people with difficulties and how interventions are implemented.

The Current Study

This research project as a whole explores the language difficulties in a sample of young people excluded from school or at risk of exclusion. The sample's difficulties with language, particularly pragmatic, and with perspective-taking in comparison to published control group norms has already been identified. This second phase of the research will explore teachers' perceptions of the participants' language skill, behaviour in school, and risk of exclusion. From the overall sample, a smaller group of young people who have experienced permanent exclusion will be interviewed in order to consider in greater depth the issues of exclusion. Interviews will be undertaken with the young people and also a representative from their setting in order to provide additional information. Along with findings from the first phase the research aims to suggest ways in which Educational Psychology Services and other agencies may work together more effectively to support young people at risk of exclusion.

The Research Design

The study follows on from phase one of the research which analysed data from the Children's Communication Checklist (CCC-2) and Interpersonal Reactivity Index (IRI). This second phase comprises further strands:

- 1. Statistical analysis of data from a questionnaire designed for the purposes of this study and completed by staff from the participants' settings;*
- 2. Statistical analysis of the above questionnaire with data from the previous research phase;*
- 3. Analysis of qualitative information from participants relating to permanent exclusion from school.*

This phase of the research questions the extent to which members of staff in the young people's educational settings are aware of any language difficulties that were discovered in the first phase. It considers whether there are any differences in this awareness that relate to setting or the role of the member of staff.

The interviews with young people will be used to explore themes that emerge relating to their experiences of exclusion. Where possible, data from the interviews will be triangulated with information from the participants' school in relation to their exclusions and the support offered before the exclusion and during integration into their new setting.

Design and Methodological Approach

The sample of young people is taken from those who have been permanently excluded or whose behaviour is such that they are currently, or may be in the future, at risk of exclusion. Paper One of the research identified that this sample did have pragmatic language difficulties. Paper Two will assess the extent to which staff at the participants' settings have recognised their language needs, and whether there are any correlations between level of language difficulty and risk of exclusion. This initial section is quantitative as data is obtained through a questionnaire requiring teachers to rate questions on a scale, and give their assessment of when they feel the participant may be at particular risk of exclusion from school. This questionnaire allows correlations and comparisons to be made with the language and empathy measures and between different sample groups.

The final section contains in-depth qualitative information taken from semi-structured interviews with a smaller sample of participants, sampled purposively in line with case study approaches and the use of content and thematic analyses to explore the topics and themes within the interview discussions. Case studies are regularly used in organisational and social science research (Kohlbacher, 2006). The approach utilises multiple sources, with data often used to triangulate information. The data is collected within its context with the aim to “provide an analysis of the context and processes which illuminate the theoretical processes being studied” (Hartley, 2004, p.323). The case studies present a research strategy from which other methods can be utilised, such as content analysis and a quantitative count of emerging themes. The information allows issues to be explored in depth, and allows new constructions to be followed.

Content analysis originated with quantitative approaches incorporating a system of categories (Kohlbacher, 2006) and frequency analyses. However, a qualitative approach to content analysis has developed which incorporates the meaning of and within texts, allowing categories to emerge, and recognising the significance of understanding meaning and context (Bryman, 2004). The thematic analysis of the interview material focused on the development and exploration of identifiable themes and patterns of experience and/or behaviour (Aronson, 1994) through “reading and re-reading of the material” (Rice & Ezzy, 1999, p.258). Themes that emerged were pieced together and interpreted to form a more comprehensive overview of similar experiences. The themes elicited covered the issues mentioned by the young people and could subsequently be used in conjunction with discussions with services for young people regarding how young people at school could be supported better when facing exclusion from school.

The quantitative and qualitative information in the research produces a mixed methodological approach. The quantitative information is extremely useful as a basis for statistical analysis, particularly involving the use of checklists and questionnaires, and the qualitative section allows a more in-depth exploration of issues and for participants to raise further issues that are salient to them.

Checklists and Measuring Devices

Questionnaire for Staff at Schools and Pupil Referral Units

The questionnaire asks staff about the young person's language abilities, social language abilities, concerns around the young person's behaviour, and their risk of exclusion. Answers are on a 10-point scale which enables comparisons between groups and with the participants' language skill as measured by the CCC-2. The member of staff is also asked to estimate when the young person may be at particular risk of actually being excluded, and again this data can be compared to the extent to which the young person experiences language difficulties. As the questionnaire was developed for this research, there is no available information on reliability and validity.

Semi-Structured Interviews

Qualitative data is especially useful when attempting to gather information in an area that is currently not adequately understood. Such approaches enable participants to raise topics that the researcher did not anticipate, which may be important in the research and would otherwise have been missed. It was hoped that in the interviews for this study the participants would provide examples of their own opinions, and the structure of the interview format allowed this to happen. There were no lists of possible answers, although there were some prompts that could be used if participants were unable to think of answers. However questions were not closed, and if participants needed some prompts they could continue to add further ideas and suggestions of their own.

The semi-structured interview questions and format were piloted prior to the research with two pupils in mainstream school, one who had attended the Pupil Referral Unit for a fixed period of time and subsequently allocated a place at a different mainstream school, and the other who had been reintegrated back into her original setting following a few weeks at the PRU. Yin (2003) recommended conducting a pilot case study as a preparation for data collection to allow for any necessary review or refinement of content and procedure. The interviews from the pilot were not included in the final analysis but were used to ensure that the questions were relevant and accessible, and that any issues which arose during the discussion could be included in, removed from, or adapted for the subsequent interviews, as appropriate. The pilot interviews prompted the inclusion of more detail regarding experiences of integrating into other settings and an additional question about what may have helped maintain a place within a mainstream school.

Each participant was asked about their exclusion from school, how it felt, and what support they felt could have been offered at the time. They were asked what they believed may have been contributing factors, and how they will try to avoid the situation recurring. They were also asked about any antisocial or offending behaviour they had been involved in. The interviews allowed topics to be probed further than a survey would allow, and the benefit of interviewing this particular sample with language and literacy difficulties is that they were able to answer verbally and responses could be probed further.

Participants and Sampling Process

The participants involved in the research were school pupils, with no age minimum or maximum stipulated. The participant list was produced from three groups:

1. Pupils who had been permanently excluded from school in the academic year 2007-2008;
2. Pupils on the Educational Psychology Service (EPS) database who had been referred to the service for reasons of emotional or behavioural difficulties (EBD);
3. Pupils identified by Special Educational Needs Co-ordinators (SENCOs) who were at risk of exclusion from school currently or may be in the future.

Members of staff at schools and PRUs were asked to complete the questionnaire regarding language, behaviour and risk of exclusion for each participant. The participants were interviewed in their setting at a time agreed by the school. All participants had received an information sheet distributed with the consent letter to parents and were reminded of the purposes of the research before the interviews began, and given the opportunity to withdraw.

Procedures

Obtaining the interview sample

The smaller sample of young people to be interviewed was taken from the list of young people permanently excluded from school in the previous academic year. Only those participants for whom completed checklists had been returned in the first phase were selected for interview. From this reduced list, contact was made with each setting where

the young people were attending. However the list was further reduced by some young people being absent from school, some having been excluded from their setting and awaiting a further placement, and others currently refusing to attend school.

Distribution of the Questionnaires

Questionnaires were sent to the relevant settings with a list of the young people for whom a questionnaire was required to be completed. The contact person was asked to distribute the questionnaire to a member of staff who knew the young person well.

Ethics

Informed consent was sought for every participant, and parental consent was essential. The letter to parents/carers fully explained the purposes of the research and how it would be carried out. All participants received an information sheet about the study, its purposes, how it would be written up and made available, and how they could withdraw at any point. All interviews were undertaken on school and PRU premises, with permission from staff and at times agreed with staff. Issues surrounding antisocial behaviour and exclusion from school were handled sensitively with understanding.

Anonymity of participants, settings, professionals, services and the borough in which the research was undertaken have been maintained throughout the data analysis and report writing.

Results

Response Rate

81 questionnaires were returned; 27 from primary schools, 40 from secondary schools, 5 from the Pupil Referral Unit for Key Stage 2 and KS3 pupils, and 9 from the PRU for KS4 pupils. Of these, more were from class teachers and teachers of the pupils in some lessons than from other members of staff. Further detail can be found in Appendix 2.6.

Questionnaire Scores

The responses given by the staff members were compared to the expected values should the pupils have presented no difficulties or concerns. The answers to question 6 depended on those to question 5, and therefore there was no expected value and no test carried out for question 6. Responses to question 5, the risk of exclusion, are from primary and secondary pupils only, as the participants from the PRU had already been permanently excluded.

Table 2.1: Participants' scores compared to expected scores

	Mean score	Standard deviation	T-test: t-score	T-test: Significance
Question 1 N=81	7.10	2.432	22.568	<0.001
Question 2 N=81	6.20	2.457	-13.930	<0.001
Question 3 N=81	5.06	2.405	-18.481	<0.001
Question 4 N=81	7.07	2.469	22.144	<0.001
Question 5 N=67	6.58	3.110	14.692	<0.001

Differences between expected values and actual questionnaire responses

Full tables are given in Appendix 2.6 and Appendix 2.7, broken down by gender, age group, school type, and reason for inclusion in the research. Almost all responses showed significant differences between the expected values and the actual values. Only one group produced a non-significant t-test on question 1, 3 and 5. This was the Key Stage 1 age group.

The only other non-significant finding was the PRU–KS2&3 on Questions 2 and 3 relating to the staff perceptions of the participants' language skill.

Differences between groups (Appendix 2.8)

Table 2.2: Significant Differences Between Groups

Question	Group & mean	Group & mean	F	Sig
Social language	Secondary school pupils 4.83	PRU – KS2&3 7.80	2.446	0.044
Social language	EPS EBD sample 4.16	Permanently Excluded 6.00	4.216	0.08
Timescale of exclusion	Key Stage 2 5.35	Key Stage 3 3.70	6.934	0.001
Timescale of exclusion	Key Stage 2 5.35	Key Stage 4 3.56	6.934	0.001
Timescale of exclusion	Primary school pupils 5.32	Secondary school pupils 3.66	t= 5.376	<0.001

The staff members' ratings of concern, language skill, and behaviour difficulties were very similar in all groupings. There were no significant differences on any of the four questions with regard to gender or age group. There were two significant differences on question 3 relating to school type.

The scores for question 5, risk of exclusion, produced no significant differences between any groups. Comparisons between scores for question 6, the timescale by which staff felt pupils may be excluded from school, produced no significant difference by gender or between the different groups by reason of inclusion in the sample. There were significant differences by age group where KS3 and KS4 pupils were considered to be likely to be excluded sooner than KS2 pupils (tukey post-hoc test: KS2>KS3 $p=0.001$, KS2>KS4 $p=0.006$). There was also a corresponding significant difference by school type, whereby secondary school pupils were thought likely to be excluded sooner than primary school pupils.

Correlations and Regression Analysis

There were so many significant correlations between staff responses and the participants' scores on the CCC-2 that these are displayed in the Appendices (see Appendix 2.9). Most notably, the participants' GCC percentile was correlated with all staff questions. With regard to the Interpersonal Reactivity Index, there were no significant correlations between the staff questionnaire and the *Fantasy*, *Empathic Concern* or *Personal Distress*

IRI scales. Most correlations, though insignificant, were in the direction expected. Questions 1, 4 and 5 correlated significantly with *Perspective Taking* in the direction expected.

Regression

Linear regression was used to determine the strength of the variables which were found to correlate significantly with the questions on the staff questionnaire (see Appendix 2.9). The following statistics were produced.

Table 2.3

	Significant CCC-2 scales				Significant IRI scales			
	R	R ²	F	Sig	R	R ²	t	Sig
Question 1	0.726	0.527	6.678	<0.001	0.371	13.8	-3.395	0.001
Question 2	0.796	0.633	6.737	<0.001	---	---	---	---
Question 3	0.752	0.565	5.075	<0.001	---	---	---	---
Question 4	0.655	0.442	4.064	<0.001	0.317	0.101	-2.839	0.006
Question 5	0.536	0.288	2.893	0.019	0.304	0.092	-2.705	0.009
Question 6	0.503	0.253	1.187	0.342	---	---	---	---

The significant correlating variables relating to Question 6 did not produce a significant regression formula. With regard to Questions 1 to 4, the overall findings were significant but none of the individual predictor variables produced significant values individually. The statistical analysis showed that the participants' *Nonverbal* score and *SIDC* significantly predicted their score for Question 5.

Themes from the Qualitative Analysis of Interviews with Participants

Mayring (2002) produced a sequential model of qualitative content analysis. This included producing a *summary* of the material in order to reduce its amount whilst still preserving the essential content. This is done in the form of case studies (Appendix 2.5). The notes taken during the interview discussions were written up to express what the young people had said regarding their experiences of exclusion, time at the Pupil Referral Unit, reintegration into mainstream school, and experiences of involvement in offending and/or antisocial behaviour.

Another analytical step was the development of themes and categories, which Mayring termed *structuring* whereby the interview text is structured according to content and relevant information is extracted. Thus some of the information was quantified in terms of the frequency of the themes being mentioned by the interviewees. The themes and categories were open and could be changed during extraction if information was discovered which did not fit with the original development (Gläser & Laudel, 1999).

Table 2.4: *Setting participants were attending*

School Type	Number of Participants
Mainstream secondary school	1
PRU – Key Stage 2 and 3	3
PRU – Key Stage 4	5

Most were not aware of their level of literacy (from English tests at either KS2 or KS3 SATs). Most thought they would be taking GCSE English Language but none was sure. Five participants had received prior fixed-term exclusions.

Table 2.5: *Reasons for Exclusion*

	Number (N=9)
Disruptive in class	3
Behaviour in class	6
Behaviour around school	6
Aggressive towards other pupils	6
Aggressive towards staff	6

Table 2.6: *What would have helped prevent permanent exclusion?*

	Number (N=9)
More help/support from teachers	4
More help/support from professionals	2
Multi-agency meeting (with self invited)	5
Taking different subject/options	4
Better skills in literacy	2
Better skills in numeracy	2
Help with basic skills	1
Small group teaching, eg. basic skills	5
Group work on life and social skills	4
Different peer network	1

All participants wanted to continue with school and two-thirds wanted to go to college, mostly for vocational training. One wanted to join the Army and two wanted to join the Police.

Five participants had received a community order for criminal offences, mostly relating to theft and criminal damage. One had served a custodial sentence for taking a car. Contributors to their offences were mainly peers, alcohol and one stated that he had been bored. They had limited ideas how to avoid future offending behaviour. Only one could think of how he could resist this, and said that he now had different friends.

Information was also sought from a member of staff at the interviewed pupils' setting. Members of staff were mostly interviewed over the telephone, and provided information to triangulate that which was given by the young people regarding their exclusions, such as the reasons for exclusion and their move to alternative settings. Members of staff also tended to provide additional information regarding the pupils' literacy, language, achievements in school and relationships with other pupils and staff. The information is provided within the case studies in Appendix 2.5.

Examples of themes and quotes that emerged from the interviews

Uncertainty regarding literacy achievements

Many participants were not aware of whether or not they had taken literacy assessments, or what levels they achieved. Two participants knew their SAT results.

"I've not done SATs so I don't know"

"I'd like a level 5"

"I don't remember"

"I didn't get my results"

"I did SATs but I was never told my results"

"I didn't do SATs"

A preference for attending the Pupil Referral Unit

Many participants stated that they preferred attending the PRU; only one participant expressed a preference for being reintegrated into a mainstream setting.

"there's not loads of people" [at the PRU]

"I prefer a smaller school"

"it's better than because we get to go out in the afternoon"

"smaller classes are better, but sometimes it's a bit boring 'cause there's not as many mates"

"it's ok. The small groups are a lot easier. I'd rather stay here, it's a lot easier"

"I don't want to yet" [go back to mainstream] "I'm scared I'll get kicked out again"

"It's mint" [good] "We finish earlier. I hated it at [mainstream school]. I was excluded about 20 times before coming here"

"There's less people in the class and the lessons are better"

"They tried getting me into [mainstream school]. I went two or three times but kept kicking off"

On being reintegrated into a mainstream setting:

"I didn't want to come here. I don't like the big classes"

"I didn't like it. It was dead strict. If you didn't bring your homework, you got an hour detention"

On being integrated into a new mainstream school prior to second permanent exclusion:

"I didn't know anyone. The teachers were on my back, checking up on me."

A preference for being involved in small group work on basic skills (at the PRU)

A suggestion within the semi-structured nature of the interview was in relation to small group work to improve basic skills. Many participants were keen on this idea, and some stated that they are already involved in such classes.

"It's good. I do that here"

"It's helped me with me work – in all lessons"

"I'm getting help here. It's better than when I was at school"

"I prefer that" [small group work]

Difficulties suggesting strategies they will use to avoid offending/antisocial behaviour

"I don't know. I have a worker. They did work on temper the other day. I see them twice a week, sometimes in school, sometimes they come to my house"

"I'd rather not be doing that" [antisocial behaviour] "My worker is trying to stop me getting an ASBO"

"The YOT order helped" [Youth Offending Team]

"I've only been messing around, nothing serious"

"YOT didn't help"

"I got two months for robbing cars. I didn't find YOT useful. They were....." [expletive]

"I didn't want to kick off. I don't know why I did"

Suggestions for avoiding offending/antisocial behaviour tended to relate to trying to change the social circle

"I've found new mates near home that don't get me into trouble"

"I sometimes don't hang around with the same gang of people"

"It was when I lived in a children's home and didn't have much to do"

Discussion

Staff ratings of concern regarding the sample's language and behaviour difficulties

The scores given by staff on the questionnaire demonstrated that they had significant concerns regarding this sample and the behaviour shown in school. They also rated their language skills significantly different to scores that would be expected where staff have no concerns.

Group Differences compared to values that would indicate no concerns

In the overall sample, all questions produced significant differences from expected values relating to no concerns. There was only one group where staff responses produced insignificant differences to values which would be expected where there are no concerns. This was for the participants in Key Stage 1. However, this was a small group of only two participants therefore this finding may not recur with a larger sample. Furthermore, the staff perceptions of their language did not reflect the participants' scores on the Children's Communication Checklist, CCC-2. Thus whilst the staff members' responses were not significant, the actual communication skills of these participants were significantly lower than norms for children without language impairments.

The only other non-significant finding was the PRU–KS2&3 on Questions 2 and 3 relating to the staff perceptions of the participants' language skill. This was again a small group, only five participants. The t-scores were approaching significance and again the staff perceptions did not accurately reflect the participants' language scores. Only one scored outside the 'clinical range' for general communication, and four of the five had SIDC scores below -5. One participant had a profile very close to that of Asperger Syndrome in Bishop's (2004) validation study, and another was approaching the cut-off for Specific Language Impairment. Therefore despite their staff ratings, these participants were not significantly different from the rest of the sample regarding their difficulties with language in comparison to typically developing children. Their scores on the staff questionnaire may relate to the length of time they have been known at the PRU; this ranged from between 8 and 12 months which is shorter than many of the children in mainstream schools.

Differences between Groups

The staff members' ratings of concern, language skill, and behaviour difficulties were very similar in all groupings. One difference related to school type, where secondary school pupils were considered to have significantly lower social language skill than pupils attending the PRU–KS2&3. However in terms of their actual scores, there were no significant differences between these groups. Therefore the difference lies in the staff perceptions and may relate to sample size, with only five participants in the latter group, and the length of time participants were known to the PRU staff. The group known to the Educational Psychology Service due to Emotional and Behavioural Difficulties (EBD) also had significantly lower social language ratings than the Permanently Excluded group. This may be because their behaviour and contributory factors may be being monitored as part of the EPS input. The link to language difficulties may also be under investigation by the school's Educational Psychologist and so school staff may have higher awareness of the impact of language difficulties. Many of those already permanently excluded will be attending the PRU and may be in the KS2 and KS3 group whose language was rated higher, but where their teachers were less accurate with their perceptions of the participants' language abilities.

Correlations between staff questionnaire and scores from the CCC-2

There were many highly significant correlations between the staff responses and the participants' scores on the CCC-2. These were all in the direction expected, for instance positive correlations were found between higher scores on the CCC-2 scales and higher scores on questions 2, 3, and 6 which indicate better functioning. This suggests that the staff ratings of those participants whose language they think is less effective, about whom they have concerns and perceive a higher risk of exclusion, are the ones who have the most difficulties on the language scales. Thus staff are mostly able to identify pupils whose language they do not consider to be very highly skilled, and this is a useful finding for identifying children with language and communication difficulties.

However their ratings were not as low on the 10-point scale as the actual scores on the CCC-2, given that most of the sample's overall language skill was within the lowest 10 percentiles. This links with Bishop and Norbury's (2002) findings that there are non-autistic children with PLI who tend to be sociable, talkative and use nonverbal as well as verbal communication. However they sometimes produce stereotyped language with abnormal

intonation and prosody, and whilst this is perhaps detected by the CCC-2 it is not recognised by teachers in their ratings of language skill. Also, staff often rate overall and social language the same, which differs from the actual finding where almost three-quarters had disproportionate difficulties with pragmatic language. Therefore although staff do have an awareness of language difficulty, it appears there is also a need for further awareness-raising regarding the extent of language difficulties, the connection with behaviour, and the presentation and impact of pragmatic language difficulties.

Comparing the ratings of staff members with regard to their setting, primary and secondary staff were the most accurate compared to the CCC-2 results. Primary staff were particularly accurate with social language and this may reflect the fact that they see the children for longer periods of time and in a wider variety of contexts; different lessons, group work, and play times. Secondary staff were particularly accurate with structural and overall language (GCC), and may reflect the kinds of work they observe and receive from the pupils which are more language-based than at primary level. It may also reflect the subject in which they teach the pupil. For example, a more social or discursive lesson such as drama may lead teachers to have more awareness of pupils' pragmatic difficulties.

The PRU-KS4 staff provided many significant correlations with their 'overall language' ratings when it was compared to the CCC-2 pragmatic scales. It is possible that they see those who have pragmatic difficulties as having overall language difficulties, without distinguishing between the types. Furthermore, some of the pragmatic correlations, especially relating to scales such as *Inappropriate Initiation* and *Interests*, are perhaps more observable through the behaviour issues observed by PRU staff and which they relate to the overall language difficulties seen in their pupils. It is also further support for the context-dependent nature of communicative abilities as discussed by Bishop and Baird (2001).

Bishop and Baird (2001) found that levels of parent-professional agreement were not considerably higher for those professionals who had regular small-group or individual contact with the child compared with the remainder. Similarly in the current study, it does not seem to be amount of contact with the participants which correlated better with the results on the CCC-2, rather the respondents' role; teaching staff had the highest correlation compared with non-teaching staff such as support assistants who probably

spend more time with the participants in small groups or doing individual work. Also primary and secondary staff produced more accurate ratings despite PRU staff possibly spending time with participants in groups of smaller pupil:teacher ratios. In their training and experience of multi-agency work, it is possible that teachers develop more awareness of the impact of language than do support staff. The lower accuracy of PRU teachers is possibly again an association with having known the pupils for shorter periods of time.

Social Interaction Deviance Composite (SIDC) groups

As Norbury and Bishop (2004) suggested, the SIDC can be a useful measure when looking for correlates with language. Staff believed that participants in the Negative SIDC group had significantly better language than the SIDC 0–8 group (whose structural and pragmatic language skills form a more even profile, though nevertheless impaired compared to typically developing children). Yet staff rated the Negative SIDC group as causing most concern and being at higher risk of exclusion. This demonstrates how the Negative SIDC group's disproportionate 'skill' in structural language masks their significant pragmatic difficulties from their teaching staff.

Correlations between Staff Questionnaire and Interpersonal Reactivity Index (IRI)

There were significant correlations between the staff questionnaire and the *Perspective Taking* scale which suggests that this scale is the most reliable one for considering the participants' empathy and its relation to the level of concern staff have regarding their behaviour and risk of exclusion. This would be an interesting finding to follow up with further research into the role empathy, or perspective taking, plays in pupils at risk of exclusion particularly where there are concerns regarding behaviour.

Interviews with Participants

The interviews were not transcribed verbatim as the intention was to elicit themes and general information, and no form of discourse analysis was required. It was also felt that the participants could feel uncomfortable being recorded discussing their perceptions of exclusion and the support they felt would have been beneficial, and may not have discussed the issues as openly had a recording device been used.

The discussions with participants and their teachers demonstrated how they had all been excluded due to behaviour issues usually either in class and/or during unstructured times. Few had insight into the reasons for their behaviour or what could have helped them maintain their placement in a mainstream school. Where there was offending behaviour, none was able to suggest without prompts how they could avoid this recurring. Only one participant knew what an Educational Psychologist did and had previous Educational Psychology input, which was when he was attending school in a different local authority. Once the role of an EP had been explained, more thought EP input would have been useful. With prompting, many thought that more support from teachers and other professionals would have helped them, especially if the professionals had attended a meeting, with the young person invited, and discussed options for keeping them in school. However, many were inclined to discuss their exclusions with little responsibility; they discussed them as actions that had happened, often excluding personal pronouns indicating what their own actions were. None acknowledged any consequences for the victims of assaults or fights or expressed any remorse for their actions. Some expressed that they had felt 'stressed' and disliked by teachers in their mainstream schools, which could indicate pragmatic language difficulties, social skills needs, and/or limited abilities in perspective-taking. Many talked about how they preferred attending the PRUs because of the smaller classes. However most intended to go on to further education and had ideas about what they wanted to do for a job.

The interview analysis further agreed with the outcomes on the pragmatic language scales and low scores on perspective taking measures which correlated with their language and staff questionnaire ratings. It suggests this group does indeed have difficulties reaching an understanding of other people's perspectives and would benefit from early intervention regarding pragmatic language, social skills, and more effective communication.

The behavioural style described by Frick and White (2008), “an impulsive and irresponsible behavioural style involving poorly planned behaviour and proneness to boredom” (p.359), was described by many of the young people and their teachers in relation to their exclusions from school. Frick and White state that young people with callous-unemotional traits demonstrate a temperament characterised by deficits in their emotional arousal of fear and distress in others, and their responses to cues of punishment and danger differ from the expected norm. They argue that this could lead to a tendency to display thrill- and novelty-seeking behaviours due to a reduced level of distress over the consequences of their behaviour.

Links with Autistic Spectrum Disorders and ADHD

Gilmour et al (2004) found that within their sample of children with Conduct Disorder, they believed that many had unidentified ASD and that others would not reach a formal ASD diagnosis but nonetheless had pragmatic difficulties. This is certainly a possibility within the current sample regarding their pragmatic difficulties that occur in many without the typical behaviours characteristic of ASD. Bishop and Norbury (2002) warn that it is not helpful to equate pragmatic impairments with autistic spectrum disorders. Inappropriate assumptions and labelling could be counter-productive, thus Bishop and Norbury suggest that if a child is found to have pragmatic difficulties, this should prompt professionals to consider exploring whether there is an underlying autistic disorder.

As Geurts and Embrechts (2008) described, language disorders are often present in children with ADHD, and these tend to include pragmatic difficulties (Bishop & Baird, 2001). Thus it is possible that in the current sample there may be some young people who would meet the diagnosis for ADHD. Geurts and Embrechts found no significant differences between the ASD and ADHD children on the GCC, therefore an alternative measure would be needed if this distinction was required.

Prospects for those with Language Impairments

The current sample has demonstrated associations between exclusion, or the risk of exclusion, with language and perspective taking difficulties. All of those interviewed were permanently excluded from school due to their behaviour in the classroom or around school, and the majority for a verbal and/or physical assault on a member of staff which they felt was a response to an unfair or threatening situation. This links to Denham et al’s

(2002) finding that young people displaying aggressive behaviour are more likely to make impulsive and hostile attributions of others, even when hostile intent does not exist, and that boys appear especially susceptible to this. It also relates to research by Ferguson, Horwood and Ridder (2005) which found that conduct problems at ages 7 to 9 years were associated with increased risk for antisocial behaviour and crime and with poor educational achievements. Thus a young person with a language impairment is at risk of making inaccurate assumptions which lead to inappropriate behavioural responses and exclusion from school.

The permanently excluded sample mostly described in their interviews several incidents that had led to fixed-term exclusions prior to the permanent exclusion. This agrees with Zoccolillo, Pickles, Quinton and Rutter (1992) that compromised social and relationship functioning is often associated with earlier conduct problems. The age of the participants in the research also agrees with Rutter, Kim-Cohen and Maughan's (2006) study which found that although some young children show a delay in spoken language, there is at least as high a proportion that goes on to show language difficulties that persist through adolescence and on into adult life. From their research they concluded that although SLI is defined as a language impairment, the adult outcome tends to involve a much wider "deficit that is social (and social cognitive) as much as linguistic" (p.280).

There are implications for the future prospects of young people who have the profile of the participants in this sample. Children with SLI have been found to be at greater risk of anxiety disorders (Beitchman, Wilson, Johnson, Atkinson, Young, Adlaf, Escobar & Douglas, 2001) yet this could also include pragmatic language impairment as the boundary between these language difficulties is not that precise, since many children with SLI also display pragmatic impairments. Anxiety and language difficulties may mean that young people find it hard to express and communicate their feelings, which may manifest as behaviour problems. Persisting SLI was also linked to higher risk of psychiatric morbidity in adolescence (Conti-Ramsden & Botting, 2008) which could link to the difficulties demonstrated in the current sample. Clegg et al (2005) showed how language impaired young people have difficulties in adult life, and this could be the same for young people with pragmatic language impairments if their educational needs are not met. There is a risk of continued behavioural issues, limited qualifications, unemployment, offending, and community and custodial sentences, which have all been linked to impairments of

understanding and communication, and difficulties with perspective taking. The failure of the group in Clegg et al's study to obtain formal qualifications on leaving school impacted on their employment prospects which subsequently limited their social opportunities, increased their isolation, and reduced their quality of life.

Limitations of and Extensions to the current study

As described in Paper One, there are limitations as a result of the measuring tools. Measuring language skill through a checklist is reliant on the retrospective reports of school staff, and on how well they know the children in different contexts. It is also a complex process because it requires the analysis of behaviour, some of which is overt, some inferred, and some that represents different levels of processing (Adams, 2002). Thus there is bound to be some error of measurement associated with the instruments used (Bishop and Norbury, 2002), partly due to some ratings being unreliable and also because the child's behaviour may not be representative in a classroom setting. There may be an order effect relating to the order in which staff completed the questionnaires. If they completed the CCC-2 first, it might have raised their awareness of the difficulties the pupil has and this could have affected their answers on the questionnaire, particularly relating to questions 2 and 3. There are also other influences on language, including social and cultural, and since pragmatic assessment is a relatively new area there are limited comparative developmental norms.

The level of awareness of the presentation and impact of language difficulties will undoubtedly differ between respondents. Thus whilst it is a useful insight into language difficulties, data must also be treated with caution and triangulated wherever possible for example by using different measuring tools, interviews, and observations. There may also be reasons why respondents, professionals as well as parents, may over- or under-report a history of impairment (Barry, Yasin & Bishop, 2007), for example staff may over-exaggerate a young person's difficulties if they find their behaviour difficult to manage. A future study could use the same questionnaire completed by a variety of teachers and other school staff who observe young people in more social contexts in order to triangulate information and ensure greater content validity.

There are also issues of reliability and validity with the analysis of qualitative information, for example relating to the inferences made regarding the interview material and the correlative validity with other measures. As discussed above with regard to questionnaires and checklists, the validity of interview and case study data could be enhanced by checking the findings with the participants (Hartley, 2004).

Further research could also consider other factors such as ethnicity, socioeconomic status, and early measures of emotional and behavioural adjustment which were not possible in the timescale of the current study.

Conclusions and Implications

The current research corroborates Bishop and Norbury's (2002) findings that there are no sharp dividing lines between children and young people with pragmatic language impairments. The boundaries are imprecise and they appear to represent a continuum; research has proposed a dimensional rather than categorical approach to communicative disorders (Bishop, 2000; Norbury & Bishop, 2004). Although staff in schools have a level of awareness of young people's language skill, they are not aware of the true extent of their difficulties, and find it harder to assess pragmatic language. Whereas literacy difficulties and later academic attainment become apparent over time, the language difficulties are likely to be present during early development. Hence there is a need for early identification and intervention before the language and communication difficulties affect the child's access to the school curriculum, their behaviour, emotional development, and self-esteem. The findings have implications for service planning and interventions.

Undertaking the research provided me with a greater insight into how language and communication difficulties present, and an awareness of the dimensional nature of these difficulties. It enabled me to consider how school staff can be involved in identifying difficulties through the use of tools such as checklists, observational techniques, and interview schedules. Reflecting on the process and discussing the findings with other EPs served as a reminder of my initial interest in the topic area, following my work with ex-offenders with language and literacy difficulties, many of whom had been excluded from school due to their behaviour. Discussions around interventions and policy are further reminders of the importance of addressing language difficulties and their relation to behaviour whilst young people are attending school and are able to access relevant interventions. I have been able to use the research findings in discussions and consultations regarding individual pupils to raise staff awareness and understanding of the links between language and behaviour, and to promote the use of language interventions as a tool for improving communication and behaviour within school.

The research provides many implications for Educational Psychology practice. This includes raising the awareness of language and communication difficulties and their relation to behaviour and exclusion. This can be done through consultations regarding individual pupils, and through EPs being involved in designing and delivering training to school staff. EPs can advise on relevant interventions and be part of multi-disciplinary teams working

together to support young people with language difficulties, or identifying such difficulties in young people identified as being at risk of exclusion as a result of their behaviour. An important aspect of the EP role would also be to reduce negativity shown towards young people with behaviour difficulties, and to promote understanding around their possible language and communication difficulties.

Interventions

When choosing interventions and programmes to assist young people to develop their language skill, Geurts and Embrechts (2008) recommend a multi-disciplinary assessment and evaluations of the child's communicative profile on a regular basis in order to design an adequate and individually-tailored programme. Programmes could be implemented in schools or, if difficulties cannot be sufficiently addressed in a mainstream school, children may be able to access additional support through a language unit whilst maintaining their mainstream place. As one study found, children whose language difficulties resolved early in childhood had good outcomes, not significantly different to children who had not experienced language difficulties, whereas those children whose language difficulties did not resolve went on to have a raised incidence of attention and social difficulties (Snowling, Bishop, Stothard, Chipchase & Kaplan, 2006).

Other interventions can also run alongside language programmes to help young people develop empathy and perspective taking, social skills, and understand about the consequences of their behaviour. For example, the Social Use of Language Programme (SULP; Rinaldi, 2000) and the use of social stories (Gray, 2000). Social integration skills can be actively taught alongside cognitive and language skills, including teaching about conversation, turn-taking, discussing interests, expressing opinion, and how to read and use body language.

Since most antisocial adults have long histories of behaviour problems from childhood (Rutter et al, 2006), it would be useful to explore which children these are and why their path does not follow those who demonstrate antisocial behaviour as children but not in later adult life. By discovering the differences, and any positive factors that helped those whose antisocial behaviour ended as they matured, interventions could be set up utilising the protective factors that enable constructive outcomes.

It is also important that interventions address the underlying issues as well as those that are most obvious. For instance, many behavioural interventions address just the behaviour issues and do not recognise, as demonstrated by the current research sample, the underlying communication difficulties where early intervention may have greater and longer-term benefits. Edwards, Mumford & Serra-Roldan (2007) suggest that pupils with behaviour difficulties could also benefit from receiving training in self-discipline, social skills, building relationships, and positive problem-solving skills. Assisting young people to read emotional cues in the reactions of others helps them understand how and when to modify their own behaviour.

As Gilmour et al (2004) stated, “with accurate identification comes the possibility of a new approach to the management of many excluded children and an opportunity to ameliorate their social communication skill deficits” (p.977). Appleyard, Egeland, van Dulmen and Sroufe (2005) argued that every risk factor reduced matters. Therefore although other factors are likely to play a role, accurate identification of language difficulties can assist the possible approaches and interventions used in the management of young people excluded or at risk of exclusion through the amelioration of their difficulties with social communication.

Edwards et al (2007) said professionals should be cautious about emphasising negative behaviours which become central to classifying students who require the interventions, and suggest that researchers should look to determine the variables that positively influence the trajectories of school-related outcomes in order to develop successful intervention and prevention programmes. Edwards et al suggest the role of the Educational Psychologist, due to their varied training and expertise, in using their influence to expand positive approaches to prevention and intervention which are based on helping students demonstrate the characteristics that are considered necessary. They add that early intervention may reduce the number of students who receive special education labels.

Multi-professional interventions

Whilst it transpired that it was not going to be possible to include young people in the sample who were known to the Youth Inclusion Panel, the language impairments found within the sample and the offending behaviour that some had become involved in, suggest

it is important that there are appropriate services and interventions addressing these issues appropriately. Some authorities utilise a Youth Inclusion and Support Panel (YISP) which focuses on 8 to 13 year olds since this is a period of transition from childhood to adolescence and from primary to secondary school. The YISP develops an individual Integrated Support Plan which is implemented by a key worker. A Youth Inclusion Panel (YIP) is set up to target the most at risk 8 to 16 year olds who are considered to be at risk of criminal behaviour. It provides structured activities, and professionals from a range of services aim to improve school attendance and reduce the risk of exclusions. Multi-agency working and sharing of information is a vital aspect of the programme. Miller, Gulliford, & Stringer (2004) discuss issues involved in successful multi-agency working from a psychological perspective.

Whereas it may be necessary to identify children who need additional services through schools and wider professional agencies in order for them and their families to access help and intervention, it must be done in such a way that the identification does not emphasise pathology or the risk factors themselves. As Edwards et al (2007) assert, determining which variables can *positively* improve the trajectories of the young people's outcomes has important implications for the development of successful intervention, and prevention, programmes. It is important that policy enables interventions to be implemented adequately, but it does appear that Educational Psychologists are indeed a relevant service for designing and implementing interventions relating to communication and behaviour, involving parents, co-ordinating a multi-agency approach, and for raising awareness and understanding in school staff around the difficulties that young people experience as a result of language impairments.

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Appendices to Paper One

Appendix 1.1

Examples of Numerical Raw Data

The following tables give the scores obtained for the first 10 participants.

Numerical codes used:

School Type	Reason for Inclusion in the research
1 Primary	1 Permanently Excluded
2 Secondary	2 EPS Emotional & Behavioural Difficulties
3 PRU – KS2 & KS3	3 Suggested by SENCO
4 PRU – KS4	

Table A1.1.i: Sample of scaled scores from the Children’s Communication Checklist (CCC-2)

	Participant									
	1	2	3	4	5	6	7	8	9	10
Gender	M	M	M	M	M	M	M	M	M	F
Age (months)	134	114	157	197	141	163	119	172	174	157
School Type	1	1	2	2	2	2	3	3	3	2
Reason	2	2	2	1	2	2	1	1	1	3
Speech	1	3	0	0	6	1	0	2	1	1
Syntax	3	1	0	3	4	4	0	2	2	0
Semantics	3	2	1	0	8	5	5	10	3	4
Coherence	5	2	3	1	5	4	3	7	3	5
Inapp. Init.	5	9	16	0	8	6	16	11	6	13
Stereotyped	4	0	3	0	4	1	6	4	4	4
Context	6	0	7	0	11	4	5	8	6	6
Nonverbal	4	7	12	0	5	6	6	10	5	5
Social Rel.	2	6	8	0	6	8	10	10	5	11
Interests	5	6	8	3	7	2	7	7	6	9
GCC	47	68	49	83	31	44	52	28	43	45
SIDC	2	-13	-28	9	3	-1	-22	-5	-6	-17

Table A1.1.ii: Sample of scores from the Interpersonal Reactivity Index (IRI) (original 1 to 5 scale)

	Participant									
	1	2	3	4	5	6	7	8	9	10
Perspective Taking	12	24	19	24	26	11	30	11	15	19
Fantasy	14	26	27	24	20	11	31	16	23	23
Empathic Concern	26	20	17	25	29	22	28	17	21	24
Personal Distress	16	25	19	14	17	14	25	19	25	24

Appendix 1.2

Details about Procedures Undertaken to Conduct the Data Collection

Obtaining the Sample and Parental Consent

The research took place in a north-west metropolitan borough. The participants involved in the research were school pupils, with no age minimum or maximum stipulated. The participant list was produced from three groups:

1. Pupils on a local authority database who had been permanently excluded from school in the academic year 2007-2008;
2. Pupils on the Educational Psychology Service (EPS) database who had been referred to the service for reasons of emotional or behavioural difficulties (EBD);
3. Special Educational Needs Co-ordinators (SENCOs) identified pupils with behavioural difficulties who were at risk of exclusion from school currently or may be in the future.

Participants from groups 1 and 2 were from across the borough. Participants in Group 3 were from schools clustered in the central area of the borough. It was hoped that a group of young people known to the Youth Inclusion Project would be involved in the research, however the YIP staff were unable to locate any young people willing to take part or parents willing to give consent.

The first step in the process of the research was to obtain a list of participants constituting the above groups. Contact was made with the Inclusion Officer in the local authority department responsible for holding the information regarding school pupils excluded during the 2007-2008 academic year. At this point, no parental consent had been obtained for sharing of this information, therefore a letter was written by the researcher which was agreed with the Inclusion Officer. The Inclusion Officer sent the letter to all parents/carers of the young people on the list. An information sheet for young people was included with the letter, and a request was made on the letter for parents/carers to pass this to the young person and discuss the research with them. As all the data collection was to occur on school premises and none of the information was considered sensitive or risky to the young people involved, signed parental consent was not requested. Instead, any parent or carer who had concerns about the research, or any young people who decided they did not want to be involved, were given a telephone number to call in order to withdraw, and

a date by which to make contact. Three individuals made such a call and the young person's name was removed from the list. A similar letter was also sent to the parents/carers of the young people known to the Educational Psychology Service, again with an information sheet for the young person. Contact details and a date were also given in order for young people or their parents/carers to withdraw the young person from the research.

Special Educational Needs Co-ordinators (SENCOs) from the central region of the borough were approached and asked to consider pupils in their school who they believed may have a language difficulty and/or was at risk of exclusion from school. Ten primary schools were asked to select up to 6 pupils, and two secondary schools were asked to select up to 12 pupils. Letters and an information sheet were given to the SENCOs at these schools to distribute to the parents/carers of the pupils they had identified. Again, a date and telephone number was given as a contact point for withdrawal from the study.

In order to obtain a sample of young people known to the Youth Inclusion Project (YIP), contact was made with the YIP members of staff. They were asked to distribute letters and an information sheet to the parents/carers of all young people known to them, and a date and telephone number was given as a contact point for withdrawal from the study.

Distribution of the Questionnaires and Checklists

Once the samples had been obtained, questionnaires and checklists were sent to the schools. The paperwork was sent to the Head Teacher or SENCO, depending on the school and with whom earlier contact had been made by telephone explaining the research. A letter was sent with the questionnaires and checklists reminding the contact person of the research and its aims and objectives, and listing the young people from their school who had been identified by the sampling procedures and for whom parental consent had not been withdrawn. This contact person was asked to distribute the CCC-2 and staff questionnaire to a member of staff who knew the young person well, and to ask this member of staff to give the IRI to the young person. The participants completed the IRI at their school setting. It was left to the school to arrange this, and to provide assistance where necessary should the young person have difficulties with the reading, understanding, or completion of the questionnaire. Details were sent with the questionnaires providing advice on how to give assistance. A return date for the

paperwork was suggested, and all correspondence could be sent via the local authority courier system which enabled schools to return paperwork free of charge.

Pupil Referral Units

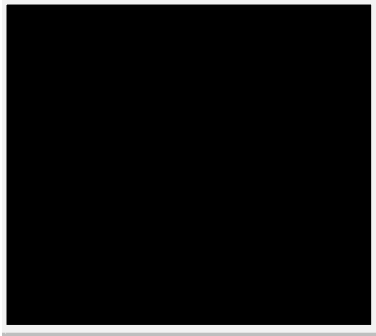
Pupil Referral Units (PRUs) are established and maintained by local authorities with the intention of providing education on a temporary basis for children who are unable to attend a mainstream school, for example as a result of exclusion. Sometimes dual-registration is used so that the pupil continues on the roll of their previous school but also attend the PRU on a part-time basis where work is undertaken to reintegrate the pupil back into their mainstream school full-time. Sometimes older pupils stay at the PRU until the end of compulsory education and the emphasis is on preparation for further education or employment. It was felt that having participants in the research who were attending the PRUs would provide important information about their experiences of exclusion from mainstream school and attending the PRU, and also about their perceptions regarding possible reintegration into a different mainstream setting.

Further information relating the research locality

As a whole the borough has many deprived areas, with relatively high numbers of children living in poverty. Most of the central area, based on the Indices of Deprivation 2007 (Department for Communities and Local Government, DCLG), is contained within the most deprived 20% of areas in the country. One Super Output Area in the central area of the borough ranks as the worst SOA in the country on employment deprivation. 65% of working-age adults are employment deprived. Four areas of the entire borough are in the 100 most deprived Super Output Areas in England.

Information from the Health Profiles (Association of Public Health Observatories, 2008) describes that the borough is significantly worse than the national average for deprivation, children living in poverty, GCSE achievement (5 A*-C), and violent crime. 42.7% of people live in the 20% most deprived areas of England and 30% of children live in families receiving means-tested benefits. 44% of schools have more than 30% of children entitled to free school meals.

The following pages show the letter to parents/carers and information sheet for young people. These have had to be reduced in size to fit the page margins for this report.



"Excellence for Everyone"

Head of Service

SPECIAL EDUCATIONAL NEEDS TEAM

Team Leader

Educational Psychology Service

Tel No:

Fax:

E-mail: educational.psychologyservice@

Web:

Enquiries to: Elizabeth Davies

Date: 3rd December 2008

Dear Parent / Carer,

I am writing to inform you about a research project being undertaken within Educational Psychology Service which is to investigate ways to support children who have experienced behaviour difficulties in school and/or exclusion from school. In order to complete this investigation, the study will also need to include children who have *not* had such difficulties so that comparisons may be made regarding children's experiences and the support pupils receive. I am writing to ensure that you have no objection to your son/daughter being involved in the research, which is explained below.

About the project

It is intended that the research project will provide the authority with further information regarding behaviour and exclusions, and how various services and agencies can work together more effectively to support and maintain pupils in school. It would therefore be very helpful to include as many pupils as possible in the research who have had experience of exclusions, but also those who have *not* had such experience so that comparisons can be drawn. The study will take place over 6 months and is being supervised by researchers at the University of Exeter. The research proposal has been approved by the necessary ethical panels.

What the project involves

For each pupil, involvement in the research will include:

- a short questionnaire completed by a teacher or teaching assistant who knows the pupil well
- a short questionnaire completed by the pupil, with the assistance of a teacher or teaching assistant where necessary.

All information will be gathered by local authority staff on school premises. Pupils can request to be withdrawn from the project at any time.

From this information, a smaller sample will be drawn. Elizabeth Davies, a Trainee Educational Psychologist from the Educational Psychology Service, will then visit each

of the pupils in the smaller sample. Elizabeth will ask them a few questions about various experiences in school. For those children who have had experience of exclusion there will also be some questions relating to how they were supported at the time, and how they feel support could be improved to maintain school placements.

Information collected in the study

All data will be anonymous and strictly confidential; no pupil involved in the research or their school will be able to be identified. The research will be written up and the final report will be available to anyone who wishes to read it. The findings will be distributed to the local authority, local policy makers, and the University of Exeter. Publication in a relevant journal may be sought.

What happens next

Arrangements will be made with the school staff involved to collect the questionnaires and to provide assistance where necessary to pupils completing their questionnaires. For those pupils involved in the smaller sample, a date and time will be arranged through the school for Elizabeth to visit pupils in school for a short discussion about their experiences of exclusion. It is likely that this will be in January or February 2009.

An information sheet for young people is included with this letter, and it would be helpful if you could talk to your son/daughter about the study.

The project workers

A questionnaire will be completed by someone in school who knows your son/daughter well. A smaller sample of pupils will then be visited in school by Elizabeth Davies. Elizabeth is an experienced researcher, having worked in education and research settings for several years. The project will comprise part of Elizabeth's current studies for the Doctorate in Educational, Child and Community Psychology as well as demonstrating practices to assist local authority services to work together more effectively to support pupils. The project is supported by ██████████ Children's Services Access Team.

If you have any concerns about your son/daughter being included in this project, or would like some more information about the research, please contact me so that we can discuss your concerns. In order for the research project to begin as soon as possible, if you have any objections to your son/daughter being involved please contact me before **Monday 5th January 2009**.

Yours faithfully,

Elizabeth Davies

Trainee Educational Psychologist
██████████

Supporting pupils in [REDACTED]

This information sheet tells you about a project being done in [REDACTED].

Who is writing to me?

I work for the [REDACTED] Educational Psychology Service and I am doing a project for the University of Exeter. I intend to find out more about young people's experiences in school with the aim of finding even better ways for schools and other [REDACTED] services to support pupils.

Who is taking part in this project?

Lots of pupils across [REDACTED] will be taking part. They are from many different schools and are aged 4 to 19.

What do you want to find out from me?

Two pieces of information are needed about all pupils involved in this project:

1. Two questionnaires filled in by a member of staff in your school who knows you well – probably your class teacher or a teaching assistant working in your classroom. You won't have to do anything for these questionnaires.
2. A questionnaire filled in by you at school. If you want to, you can have help with this from your teacher or a teaching assistant. This will take you about 15 minutes.

There will be lots of pupils involved in this part of the study. I then want to meet with some pupils to talk to them, but I won't be able to meet with everyone. I will randomly select some names of pupils that it is possible for me to visit, and your name may or may not be on my list. If I do visit you, it will be at school during school time and will take about 20-30 minutes. I will ask you a set of questions, the same questions that I will ask everyone that I visit. These questions will be about your experiences in school – what it is like, what help and support you receive, and any help or support you think it would be good to receive. I will write notes about what we talk about. I will only visit you once, at a time that suits you and your school.

Will my parents, my teacher, or anybody else in the school be told about what I say?

No – I do not intend to discuss what you say with your parents, your teacher or anyone else without your permission. However, if you give me information relating to harm or abuse then I have a duty to disclose this information to a professional, such as your teacher, the head teacher, or a social worker.

What will happen with the information I give?

I will use the information to write a report about school experiences and how people in [REDACTED] can work together to help support pupils. All information will be anonymous and confidential – this means that I will not mention your name in the report, or the name of your school.

Can I withdraw from the project?

I would like as many young people as possible to be included. The more people who take part, the more useful the information is. Only some pupils will be in the second part – the smaller sample who will have a chat with me – this will be a short and relaxed chat in school, talking about your experiences. However, if during this chat you feel uncomfortable or stressed and you no longer wish to take part, that is OK and you only need to tell me and we will stop the chat.

What happens next?

Please talk about this with your parents/carers. A letter has been sent to them to make sure they are happy for you to be involved in the project. If you or your family has any concerns, please contact me at the Educational Psychology Service's office. The office telephone number is [REDACTED].

Appendix 1.3

Questionnaires

The Children's Communication Checklist (CCC-2)

The Children's Communication Checklist (copyright) is shown on the following pages.

Children's version of the Interpersonal Reactivity Index

The pages following the CCC-2 show a copy of the IRI distributed to participants. Due to the narrower margins for this Appendix section, the version contained here is in a smaller font size than the actual 2-page version that participants completed.

The presentation of the IRI distributed to participants is followed by a table showing the alterations to the original Davis (1983) questionnaire which were made with the intention of making the wording and phrasing more accessible to young people in the UK.

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Name: _____






To adults providing help: Please explain sentences that cause any confusion and provide assistance with the answer rating scale. Explain there are no right or wrong answers, and encourage children and young people to think about their own honest answer quite quickly.






The following statements ask about your thoughts and feelings in a variety of situations. For each statement, please say how well it describes you. Use the following scale for your answers:

- Circle **1** if the statement **does not describe you at all** 
- Circle **2** if the statement **does not really describe** you well 
- Circle **3** if the statement **neither** describes you well or not very well 
- Circle **4** if the statement **describes you quite well** 
- Circle **5** if the statement **describes you very well** 

Please note.... This is about how you feel. There are no right or wrong answers!

		Circle your answer (scale 1–5) for each question				
		Does <u>not</u> describe me at all 	Does <u>not</u> describe me well 	Neither 	Describes me quite well 	Describes me very well 
1	I daydream and fantasise quite often about things that might happen to me	1	2	3	4	5
2	I often have caring and concerned feelings for people less fortunate than me	1	2	3	4	5
3	I sometimes find it difficult to see things from another person's point of view	1	2	3	4	5
4	Sometimes I don't feel very sorry for other people when they are having problems	1	2	3	4	5
5	I really get involved with the feelings of the people in a story	1	2	3	4	5
6	In emergency situations, I feel nervous and anxious	1	2	3	4	5
7	I am usually objective (impartial / detached) when I watch a film or TV show. I don't tend to get completely caught up in it.	1	2	3	4	5
8	I try to think about everybody's side of a disagreement before I make a decision.	1	2	3	4	5
9	When I see someone being taken advantage of, I feel kind of protective towards them.	1	2	3	4	5

		Does <u>not</u> describe me at all 	Does <u>not</u> describe me well 	Neither 	Describes me quite well 	Describes me very well 
10	I sometimes feel helpless when I am in the middle of a very emotional situation.	1	2	3	4	5
11	I sometimes try to understand my friends better by imagining how they see things.	1	2	3	4	5
12	I rarely become involved in a good book or film.	1	2	3	4	5
13	When I see someone get hurt, I tend to stay calm.	1	2	3	4	5
14	Other people's difficulties don't really disturb me very much.	1	2	3	4	5
15	If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.	1	2	3	4	5
16	After seeing a TV show or film, I have felt like I was one of the characters.	1	2	3	4	5
17	Being in a tense emotional situation scares me.	1	2	3	4	5
18	When I see someone being treated unfairly, I sometimes don't feel sorry for them.	1	2	3	4	5
19	I am usually quite effective at dealing with emergencies.	1	2	3	4	5
20	I am often quite pleased by the nice things that I see.	1	2	3	4	5
21	I believe there are two sides to every story, and I try to look at them both.	1	2	3	4	5
22	I would describe myself as quite a soft-hearted person.	1	2	3	4	5
23	When I watch a good film, I can very easily put myself in the place of the leading character.	1	2	3	4	5
24	I tend to lose control during emergencies.	1	2	3	4	5
25	When I'm upset with someone, I try to "put myself in their shoes" for a while.	1	2	3	4	5
26	When I'm reading an interesting story, I imagine how I would feel if the story was happening to me.	1	2	3	4	5

		Does <u>not</u> describe me at all 	Does <u>not</u> describe me well 	Neither 	Describes me quite well 	Describes me very well 
27	When I see someone who needs help in an emergency, I go to pieces.	1	2	3	4	5
28	Before criticising someone or saying something bad about them, I try to imagine how I would feel if someone said that about me.	1	2	3	4	5

Alterations to the original IRI

Original IRI	IRI amended for use with young people
I daydream and fantasize, with some regularity, about things that might happen to me	I daydream and fantasise quite often about things that might happen to me
I often have tender, concerned feelings for people less fortunate than me	I often have caring and concerned feelings for people less fortunate than me
I sometimes find it difficult to see things from the "other guy's" point of view	I sometimes find it difficult to see things from another person's point of view
Sometimes I don't feel very sorry for other people when they are having problems	<i>No change</i>
I really get involved with the feelings of the characters in a novel	I really get involved with the feelings of the people in a story
In emergency situations, I feel apprehensive and ill-at-ease	In emergency situations, I feel nervous and anxious
I am usually objective when I watch a movie or play, and I don't often get completely caught up in it	I am usually objective (impartial / detached) when I watch a film or TV show. I don't tend to get completely caught up in it.
I try to look at everybody's side of a disagreement before I make a decision	I try to think about everybody's side of a disagreement before I make a decision.
When I see someone being taken advantage of, I feel kind of protective towards them	<i>No change</i>
I sometimes feel helpless when I am in the middle of a very emotional situation	<i>No change</i>
I sometimes try to understand my friends better by imagining how things look from their perspective	I sometimes try to understand my friends better by imagining how they see things.
Becoming extremely involved in a good book or movie is somewhat rare for me	I rarely become involved in a good book or film.
When I see someone get hurt, I tend to remain calm	When I see someone get hurt, I tend to stay calm.
Other people's misfortunes do not usually disturb me a great deal	Other people's difficulties don't really disturb me very much.
If I'm sure I'm right about something, I don't waste much time listening to other people's arguments	<i>No change</i>

After seeing a play or movie, I have felt as though I were one of the characters	After seeing a TV show or film, I have felt like I was one of the characters.
Being in a tense emotional situation scares me	<i>No change</i>
When I see someone being treated unfairly, I sometimes don't feel very much pity for them	When I see someone being treated unfairly, I sometimes don't feel sorry for them.
I am usually pretty effective in dealing with emergencies	I am usually quite effective at dealing with emergencies.
I am often quite touched by things that I see happen	I am often quite pleased by the nice things that I see.
I believe that there are two sides to every question and try to look at them both	I believe there are two sides to every story, and I try to look at them both.
I would describe myself as a pretty soft-hearted person	I would describe myself as quite a soft-hearted person.
When I watch a good movie, I can very easily put myself in the place of a leading character	When I watch a good film, I can very easily put myself in the place of the leading character.
I tend to lose control during emergencies	<i>No change</i>
When I'm upset at someone, I usually try to "put myself in his shoes" for a while	When I'm upset with someone, I try to "put myself in their shoes" for a while.
When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me	When I'm reading an interesting story, I imagine how I would feel if the story was happening to me.
When I see someone who badly needs help in an emergency, I go to pieces	When I see someone who needs help in an emergency, I go to pieces.
Before criticizing somebody, I try to imagine how I would feel if I were in their place	Before criticising someone or saying something bad about them, I try to imagine how I would feel if someone said that about me.

Appendix 1.4

Details of the Data Collection Techniques

The Development of the Children's Communication Checklist, CCC-2

The original Children's Communication Checklist (CCC) was developed by Bishop (1998) with the intention of distinguishing within the population of children with language impairments. Since then modifications have been made, resulting in the CCC-2 (Bishop, 2003, 2004). The checklist was standardised on a large sample of children in the UK with no known language difficulties and who were selected to be representative for geographic distribution and socio-economic status (Bishop, 2004). Bishop and Baird (2001) used the scores on the CCC completed by parents in conjunction with scores completed by teachers and found a significant positive correlation.

The CCC-2 contains 70 items divided into 10 scales:

- (A) *Speech*, which measures fluency, intelligibility, and clear articulation;
- (B) *Syntax*, which measures the individual's ability to produce grammatically correct utterances that are developmentally appropriate;
- (C) *Semantics*, which incorporates verbosity, word finding, and appropriate word choices;
- (D) *Coherence*, measures the child's ability to tell a story or talk about events either in the past or future in an appropriate temporal context;
- (E) *Inappropriate Initiation*, measures impulsive behaviour such as interrupting conversations, and whether conversations are initiated in an appropriate manner;
- (F) *Stereotyped Language*, measures whether the child tries to engage in conversations allied to their own interests but which may not be appropriate to the situation, and whether they use stereotyped phrases;
- (G) *Use of Context*, measures whether the individual understands non-literal remarks such as sarcastic comments;
- (H) *Nonverbal communication*, includes understanding gestures that convey meaning, and the interpretation of non-verbal gestures, facial expression, and eye contact;
- (I) *Social relationships*, considers the child's ability to make and maintain friendships and behave appropriately with peers;

- (J) *Interests* concerns social behaviour and whether the individual has overriding interests and/or records large amount of factual knowledge.

Each of the 10 scales comprises statements describing a behaviour. The respondent is asked to rate whether this occurs less than once a week or never, at least once a week but not every day, once or twice a day, or several times a day or always. Five items in each scale measure communicative difficulties and two items address communicative strengths. A General Communication Composite (GCC) can be calculated using the communication scales A to H, and the Social Interaction Deviance Composite (SIDC) is calculated by subtracting the sum of scales E, H, I and J from the sum of scales A to D in order to indicate children whose pragmatic difficulties are disproportionate to their structural language abilities. A child with predominantly structural language difficulties (eg. SLI) would obtain a positive SIDC value, whereas a child with predominantly pragmatic and/or social language difficulties would obtain a negative value. Geurts & Embrechts (2008) also calculated a General Pragmatics Score (GPS) can also be calculated by summing scales D to H; this is similar to Bishop's (1998) Pragmatic Composite Mean, but is no longer used in the CCC-2. In a study differentiating between children with autism, ADHD and normal controls, teacher ratings classified group membership correctly for 77% of the children (Geurts, Verte, Oosterlaan, Roeyers, Hartman, Mulder, Van Barckelaer-Onnes & Sergeant, 2004).

Alternatives to the Children's Communication Checklist, CCC2

The CCC-2 seemed the best overall measure of pragmatic language abilities. Others such as the Clinical Evaluation of Language Fundamentals (CELF, Semel, Wiig & Secord, 2000), the Test of Language Competence (Wiig & Secord, 1989) and the Assessment of Comprehension and Expression (Adams, Cooke, Crutchley, Hesketh & Reeves, 2001), contain some pragmatic subtests but are not tests purely of pragmatics, and the latter example only covers children aged 6 to 11. The Test of Pragmatic Language (Phelps-Terasaki & Phelps-Gunn, 1992) is devoted to pragmatic assessment but is complex, designed for adolescents, and would be too lengthy for the current research project. Another tool developed for measuring pragmatic language skill in children is The Pragmatics Profile of Everyday Communication Skills in Children (Dewart & Summers, (1995). However, this profile is only developed for children up to age 10 and has not been the subject of research into its reliability and validity or further development as has the CCC-2. Furthermore, The Pragmatics Profile is an interview schedule and was therefore not

applicable to the current style of research. A possible alternative is Prutting and Kirchner's (1987) Pragmatic Protocol which contains 30 pragmatic aspects which are rated according to whether they are used appropriately, inappropriately, or not observed. However, there appeared to be less published literature on this protocol which would have made reliability and validity questionable in the current research.

The Development of the Interpersonal Reactivity Index, IRI

The Interpersonal Reactivity Index (IRI; Davis, 1980, 1983) offers four independent subscales which measure the cognitive and affective components of empathy. The scales are:

- Perspective Taking (PT) – the ability to adopt another's perspective;
- Empathic Concern (EC) – feelings of sympathy and compassion for others who are less fortunate or who suffer misfortune;
- Personal Distress (PD) – the tendency to experience distress and discomfort in response to others experiencing extreme situations or distress;
- Fantasy Scale (FS) – the extent to which an individual can transport themselves into a fictional situation, such as when reading about a character in a book, and to identify themselves emotionally with that character.

As some of these were found by Davis to be negatively correlated, it is not intended that the four scales are summed to produce an overall 'empathy' score.

Carey, Fox and Spraggins (1998) concluded that the IRI subscales do measure four discernibly different dimensions of empathy. Beven, O'Brien-Malone and Hall (2004) assert that the IRI is possibly the most widely used self-report measure of empathy currently available. Litvack-Miller, McDougall & Romney (1997) adapted the IRI for use in first-grade children, developing the scale to one administered to the children verbally. Factor analysis again produced four factors similar to those found by Davis (1980) which the researchers assigned the same labels as they "bore a sufficiently close resemblance" (Litvack-Miller et al, 1997, p.310). However, Garton and Gringart (2005) questioned the validity of the scale and the extent to which the items of Litvack-Miller et al's scales overlapped.

The IRI in the current study

The IRI language was made more typical of UK English and was simplified for young people to understand. The original 0 to 4 scale was changed to a 1 to 5 scale as it was felt this would be easier for young people to respond to. In the analysis, their scores were converted back to a 0 to 4 scale to allow comparisons to be made with previous research.

Alternatives to the IRI

There are few empathy or perspective taking measures with sufficient reliability and validity, and the IRI is one of the most used (Beven et al, 2004). An alternative would be Clarbour & Roger's (2004) Emotional Behaviour Scale (EBS) which they claimed was a valid and reliable tool for measuring adolescent emotional behaviour and they aimed to extend the research to the assessment of young offenders. They argued that the EBS has important implications for assessment and treatment. However, in the current research the scales of the EBS were not applicable to the areas of perspective taking that it was intended to measure in the current sample. Furthermore, the IRI had available norms which could be statistically compared to the sample and were not available for the EBS.

Appendix 1.5

Response Rates and Participants

Responses

There were 55 pupils permanently excluded and 63 on the EPS database list, with 3 pupils' names appearing on both these lists. Eleven SENCOs were approached for their suggestions of pupils about whom they had concerns regarding communication and/or behaviour; six SENCOs suggested 25 names of pupils, with the remaining SENCOs responding that they knew of no pupils fitting this description. Parental consent was sought for all pupils identified, and checklists were sent to schools for all pupils for whom parental consent was obtained. A total of 81 completed checklists were returned.

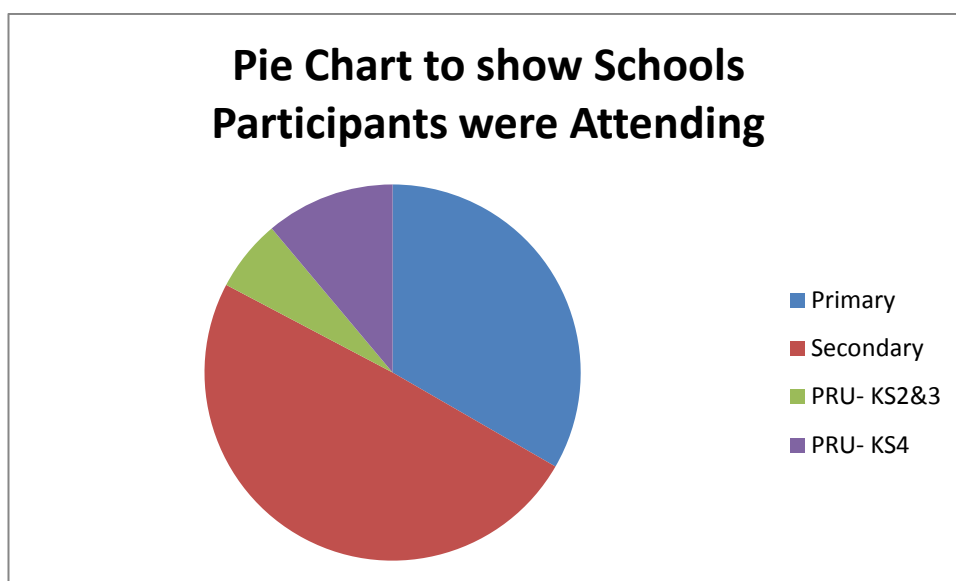
Table A1.5.i: Schools Participants Were Attending

The table below illustrates the young people included in the research in relation to the school they were attending at the time of the questionnaires being completed and returned. The percentage (given to 1 decimal place) relates to the number of participants attending each type of school as a percentage of the total 81 participants. The table also displays the response rate for each type of school as a percentage of the questionnaires distributed to schools within that category.

School Type	Number Distributed	Number Returned	Percentage of 81 participants	Response Rate (% returned)
Primary	42	27	33.3	64.3
Secondary	55	40	49.4	72.7
PRU – Key Stage 2&3	15	5	6.2	33.3
PRU – Key Stage 4	26	9	11.1	34.6
Total	138	81	100	

Graph A1.5.i: Pie Chart to show Schools Participants Were Attending

The following pie chart shows the analysis of where the young people in the sample were attending school at the time of the checklists and questionnaires being completed.



Response Rate

Table A1.5.i on the previous page displays the response rate for each type of school. It can be seen that the overall response rate, 58.7%, is higher than is often found in research. The response rate was improved by personal contact to the schools prior to questionnaires being distributed. Each school was telephoned, and the researcher spoke to either the SENCO or Head Teacher, or left a message explaining the research if neither was available. The schools in the central region whose SENCOs were asked to identify young people they were concerned about also had a very high response rate which was most likely due to the good working relationship already established. The response rate for the schools in the "SENCO suggested" sample of participants was 100%.

The lowest response rates were from the three Pupil Referral Units. One of these did not return any questionnaires. The response rates from the Pupil Referral Units were 33.3% and 34.6% for the PRUs covering Key Stage 2 and 3 pupils and the PRUs covering Key Stage 4 pupils respectively. The relatively low response rate from these three settings had an adverse impact on the sample of pupils from which the qualitative information could be obtained for the second phase of the research, as there were only 14 pupils for whom questionnaires were received in this first phase. There were only eleven pupils attending

mainstream schools at the time of the research who had previously been permanently excluded, and questionnaires for only five of these pupils were returned.

Some difficulties were also encountered regarding pupils who changed schools around the time of the questionnaires being distributed. As a result of internal administrative procedures in schools and the local authority courier system, it was found that several weeks elapsed before it was known that a pupil had moved school and further questionnaires could be distributed to their correct place of attendance, and yet more time before these were completed and returned. This resulted in many not being returned by the closing date given to schools which related to when the analysis was to begin.

Appendix 1.6

Skewness of scores within the Research Sample

For analysis purposes parametric tests were used on the scale data as it was argued that the scores on the General Communication Composite (GCC) and Social Interaction Deviance Composite (SIDC) would follow the normal distribution in the population as a whole. Indeed for this reason Bishop (2003) assesses the impact of non-normality but uses parametric tests to analyse scores on the composites and individual scales, as does other research involving the CCC-2 scales (Bishop, 1998, 2000, 2003, 2004; Bishop & Norbury, 2002; Gilmour et al, 2004; Norbury & Bishop, 2004). It was also considered that the scores on the Interpersonal Reactivity Index would follow the normal distribution in the population as a whole.

However, it was interesting to analyse the skewness of the sample data as a result of the selection of the participants in the research due to exclusions from school, behaviour difficulties, and/or language difficulties. Lending support for the hypothesis that such young people experience difficulties with language and/or the social use of language, their scores were clustered towards one end of the typical normal distribution resulting in significant skewness figures.

Four methods of observing skewness were used:

1. Histograms were produced to consider whether or not the data appears to have a symmetrical bell-shape;
2. Box-plots were produced to consider whether or not the 25th and 75th percentiles appeared symmetric and if the median and mean were located around the same point in the centre of the box;
3. Normal Probability Plots, which compare the ordered sample data values with a specific theoretical cumulative distribution function (the standard normal distribution function), were produced to consider whether or not the data followed a general linear pattern;
4. Numerical statistical tests were undertaken to obtain the Shapiro-Wilk figure for the variables (Shapiro & Wilk, 1965).

Only the statistical tests are presented within these Appendices due to the volume of graphs and plots that were produced in the first three analysis methods.

Table A1.6.i: Statistical Tests for Normality and Skewness – GCC and SIDC scores

Scale	All cases (N=81)		Cases where CCC-2 consistency check passed (N=50)	
	Skewness	Shapiro-Wilk	Skewness	Shapiro-Wilk
GCC	1.099	<0.001*	0.706	0.031*
SIDC	-0.464	0.111	-0.041	0.775

* Significant at the 0.05 level

The General Communication Composite (GCC) showed a significant positive skew with participants being clustered around the lower scores. This suggests that whereas the population is likely to follow a normal distribution, the current sample is skewed towards the lower end as a result of their difficulties.

SIDC scores showed a skewness of -0.464 which indicates a slight but not significant negative skew. In the sample, there are young people identified as having characteristics of specific language impairment, pragmatic language impairment, and no language impairment. Therefore taken together, these scores will produce the typical normal distribution bell curve. This is different to the GCC as both specific and pragmatic language impairments would cluster towards the lower scores on the GCC scale.

Table A1.6.ii: Skewness of CCC-2 scales

CCC-2 Scale	Cases where CCC-2 consistency check passed (N=50)	
	Skewness	Shapiro-Wilk
Speech	1.670	<0.001*
Syntax	1.642	<0.001*
Semantics	1.006	0.006*
Coherence	1.051	0.004*
Inappropriate Initiation	0.301	0.048*
Stereotyped	1.479	<0.001*
Context	-0.103	0.144
Nonverbal	0.528	0.019*
Social	0.064	0.032*
Interests	1.009	0.001*

* Significant at the 0.05 level

The above contribute to the General Communication Composite. All are significantly skewed except for the *Context* scores.

Table A1.6.iii: Skewness of Interpersonal Reactivity Index (IRI) scales

Scale	Shapiro-Wilk significance figure		
	All cases (N=74)	Males (N=63)	Females (N=11)
<i>Perspective Taking</i>	0.384	0.505	0.884
<i>Fantasy</i>	0.701	0.829	0.623
<i>Empathic Concern</i>	0.684	0.494	0.580
<i>Personal Distress</i>	0.366	0.476	0.747

The IRI scales do not show significant skews throughout the sample, and this trend continues when compared by gender. Therefore there is a spread of scores within the sample characteristic of the normal distribution.

Appendix 1.7
Descriptive Statistics

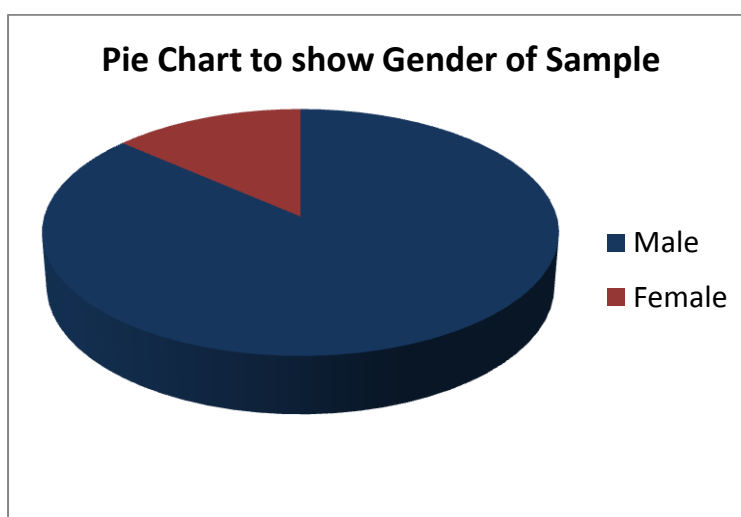
The tables and graphs in this section of the Appendix show the composition of the sample.

Gender

Table A1.7.i and **Graph A1.7.i** show the gender of the participants in the sample.

Gender	Number of Participants	Percentage of Sample
Male	70	86.4
Female	11	13.6

Graph A1.7.i

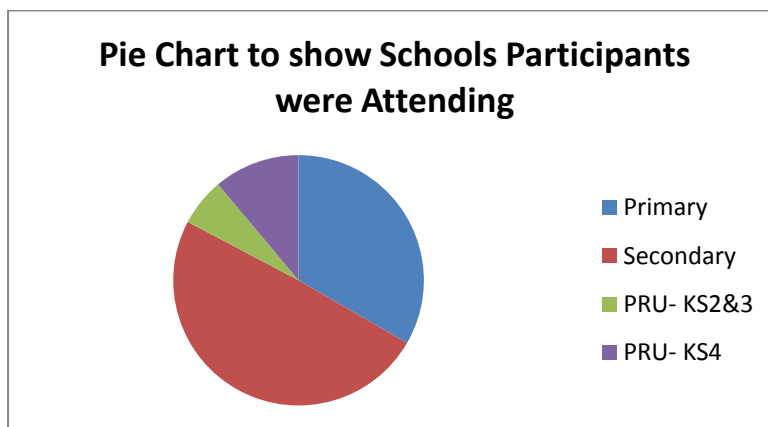


School Type

Table A1.7.ii and **Graph A1.7.ii** show the schools attended by participants in the sample.

	Number of Participants	Percentage of Sample
Primary	27	33.3
Secondary	40	49.4
PRU – KS2 & KS3	5	6.2
PRU – KS4	9	11.1

Graph A1.7.ii

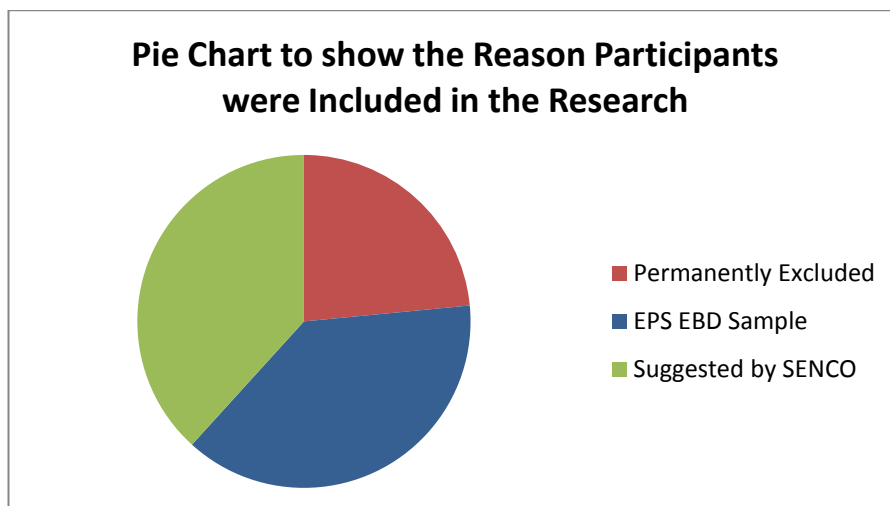


Reason for Inclusion in the Sample

Table A1.7.iii and **Graph A1.7.iii** show the reason participants were included in the sample. The Permanently Excluded row shows the number of participants in the sample who had been permanently excluded from a school during the previous academic year. The EPS EBD list shows the pupils for whom a request for involvement had been made to the Educational Psychology Service for reasons of the pupils’ behaviour. The SENCO sample were the pupils from schools in the central region of the borough whose SENCOs were known to the researcher and who provided a list of pupils they considered may be at risk of exclusion now or in the future.

Reason	Number of Participants	Percentage of Sample
Permanently Excluded	19	23.5
EPS EBD list	31	38.3
SENCO Sample	31	38.3

Graph A1.7.iii

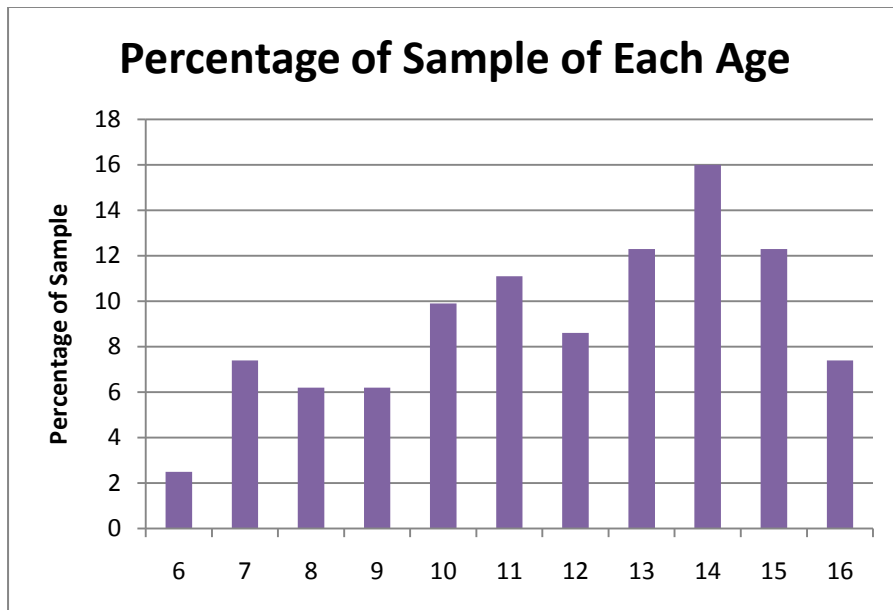


Age

Table A1.7.iv and Graph A1.7.iv show the number of participants in the sample of each age.

Age	Number of Participants	Percentage of Sample
6	2	2.5
7	6	7.4
8	5	6.2
9	5	6.2
10	8	9.9
11	9	11.1
12	7	8.6
13	10	12.3
14	13	16.0
15	10	12.3
16	6	7.4

Graph A1.7.iv



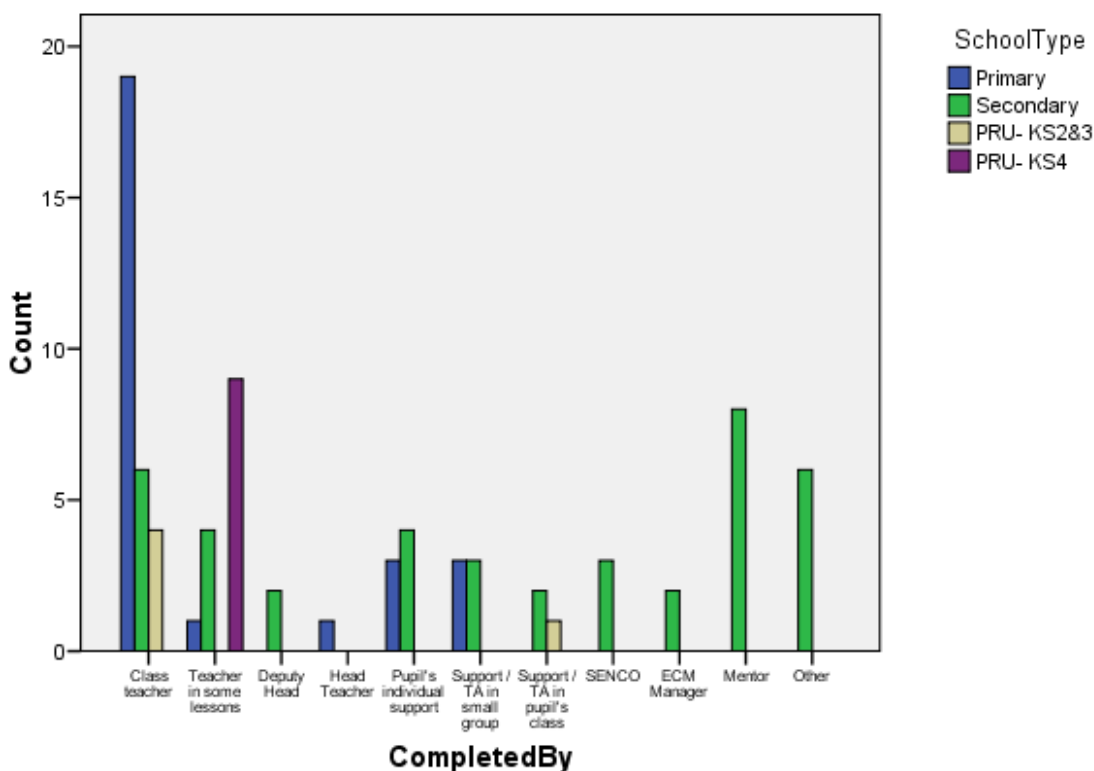
Children's Communication Checklist (CCC-2)

Table A1.7.v and **Graph A1.7.v** show the members of school staff who completed the Children's Communication Checklist, compared by the school they represented.

CompletedBy * SchoolType Crosstabulation

Count		SchoolType				Total
		Primary	Secondary	PRU- KS2&3	PRU- KS4	
CompletedBy	Class teacher	19	6	4	0	29
	Teacher in some lessons	1	4	0	9	14
	Deputy Head	0	2	0	0	2
	Head Teacher	1	0	0	0	1
	Pupil's individual support	3	4	0	0	7
	Support / TA in small group	3	3	0	0	6
	Support / TA in pupil's class	0	2	1	0	3
	SENCO	0	3	0	0	3
	ECM Manager	0	2	0	0	2
	Mentor	0	8	0	0	8
	Other	0	6	0	0	6
Total		27	40	5	9	81

Graph A1.7.v



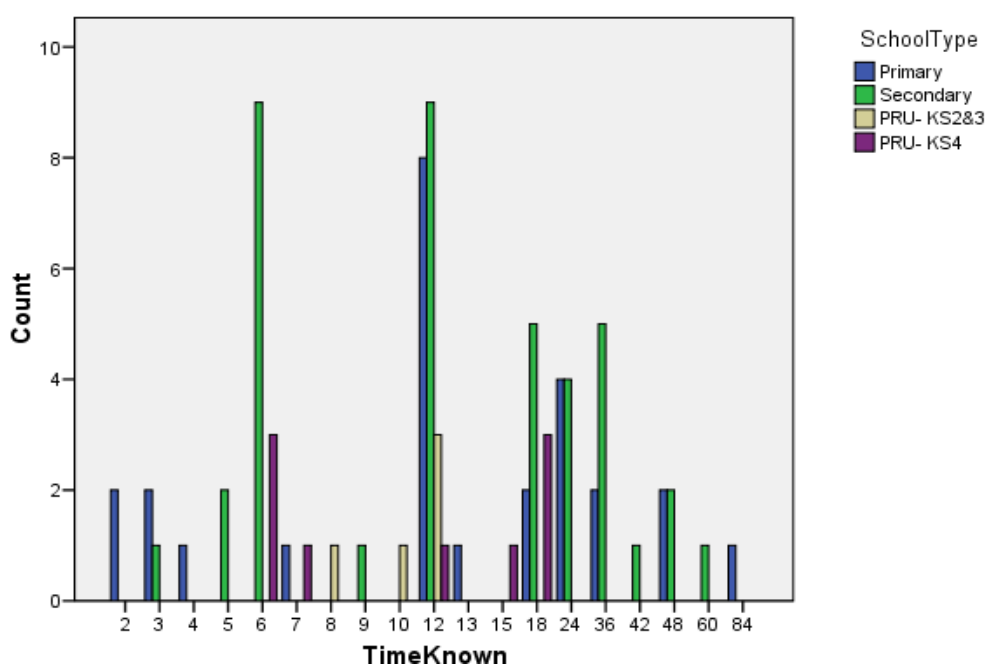
Length of time the respondent had known the participant

Table A1.7.vi and **Graph A1.7.vi** show how long the members of staff who completed the Children’s Communication Checklist had known the pupil. The ‘time known’ refers to the number of months the member of staff reported that they had known the pupil.

TimeKnown * SchoolType Crosstabulation

Count		SchoolType				Total
		Primary	Secondary	PRU- KS2&3	PRU- KS4	
TimeKnown	2	2	0	0	0	2
	3	2	1	0	0	3
	4	1	0	0	0	1
	5	0	2	0	0	2
	6	0	9	0	3	12
	7	1	0	0	1	2
	8	0	0	1	0	1
	9	0	1	0	0	1
	10	0	0	1	0	1
	12	8	9	3	1	21
	13	1	0	0	0	1
	15	0	0	0	1	1
	18	2	5	0	3	10
	24	4	4	0	0	8
	36	2	5	0	0	7
	42	0	1	0	0	1
	48	2	2	0	0	4
	60	0	1	0	0	1
	84	1	0	0	0	1
Total		26	40	5	9	80

Graph A1.7.vi



Appendix 1.8

Descriptive Statistics – Children’s Communication Checklist (CCC-2) scores

Tables A1.8.i and **A1.8.ii** show the means and standard deviations of the scaled scores on the CCC-2. Standard deviations are in the shaded rows and are given to three decimal places. The figures in parentheses in column one are the means and standard deviations taken from the control group in Bishop’s validation studies (2003, 2004). The figures for the percentage in the clinical sample relate to the percentage of each group with scores at least two standard deviations below the typically developing means found in Bishop (2004). Statistical tests (t-tests and ANOVAs) relate to analyses between groups.

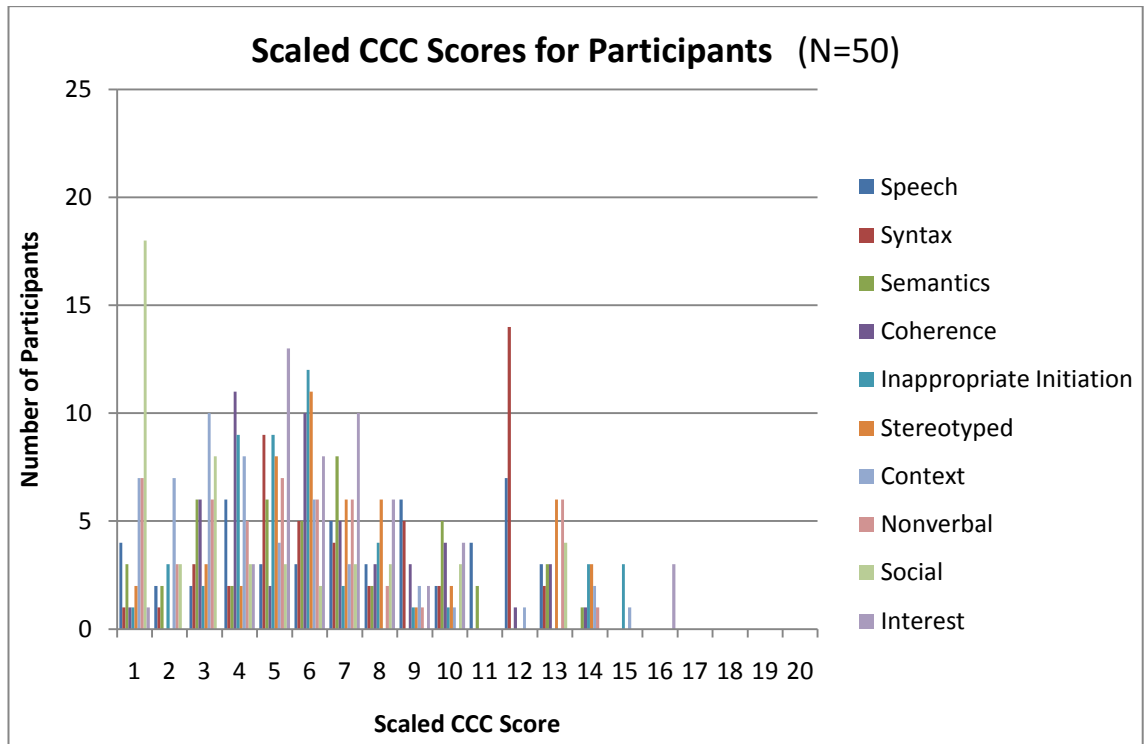
Table A1.8.i: Differences between means on the CCC-2 scaled scores

CCC-2 Scale	Gender			Age Groups				
	Male N=42	Female N=8	T-Test p<0.05	KS1 N=0	KS2 N=15	KS3 N=16	KS4 N=19	ANOVA p<0.05
Speech (10.75, 2.40)	6.62	5.38	n.s.		7.60	6.31	5.58	n.s.
	3.602	4.406			4.032	3.754	3.372	
% clinical range	40.5	37.5			20.0	43.8	52.6	
Syntax (11.20, 1.24)	6.93	7.13	n.s.		6.93	7.06	6.89	n.s.
	3.439	3.758			3.173	3.623	3.695	
% clinical range	64.3	62.5			66.7	62.5	63.2	
Semantics (11.50, 2.84)	5.24	5.00	n.s.		6.20	4.19	5.26	n.s.
	3.289	3.891			3.342	2.482	3.871	
% clinical range	57.1	62.5			40.0	75.0	57.9	
Coherence (11.65, 2.35)	5.55	5.13	n.s.		6.07	4.88	5.53	n.s.
	3.014	3.682			3.634	2.754	2.970	
% clinical range	69.0	75			60.0	81.3	68.4	
Inappropriate Initiation (9.85, 3.03)	5.40	5.13	n.s.		6.67	4.00	5.47	n.s.
	3.493	3.907			4.135	1.633	3.893	
% clinical range	26.2	50.0			33.3	25.0	31.5	
Stereotyped Language (10.90, 2.63)	6.38	5.75	n.s.		6.20	5.63	6.89	n.s.
	3.457	3.284			4.039	1.668	3.971	
% clinical range	50.0	62.5			60.0	50.0	47.4	
Use of Context (10.85, 2.39)	3.71	4.13	n.s.		5.53	2.81	3.21	n.s.
	3.417	3.944			4.257	1.870	3.457	
% clinical range	85.7	87.5			80.0	100.0	78.9	
Nonverbal Comm. (11.70, 2.18)	4.38	5.88	n.s.		5.27	3.63	4.95	n.s.
	3.793	3.227			4.301	2.986	3.808	
% clinical range	83.3	87.5			73.3	93.8	84.2	
Social Relations (11.20, 2.04)	2.83	5.63	n.s.		4.73	1.94	3.26	n.s.
	3.334	5.181			4.906	2.112	3.588	
% clinical range	90.5	62.5			66.7	100.0	89.5	
Interests (10.50, 3.32)	5.88	6.63	n.s.		7.73	5.06	5.42	0.018
	2.813	3.543			3.845	1.652	2.388	B>CD
% clinical range	9.5	0.0			0.0	6.25	15.8	
GCC percentile Expected = 50	11.31	13.19	n.s.		17.80	5.47	11.90	n.s.
	18.358	26.234			25.901	7.249	20.137	

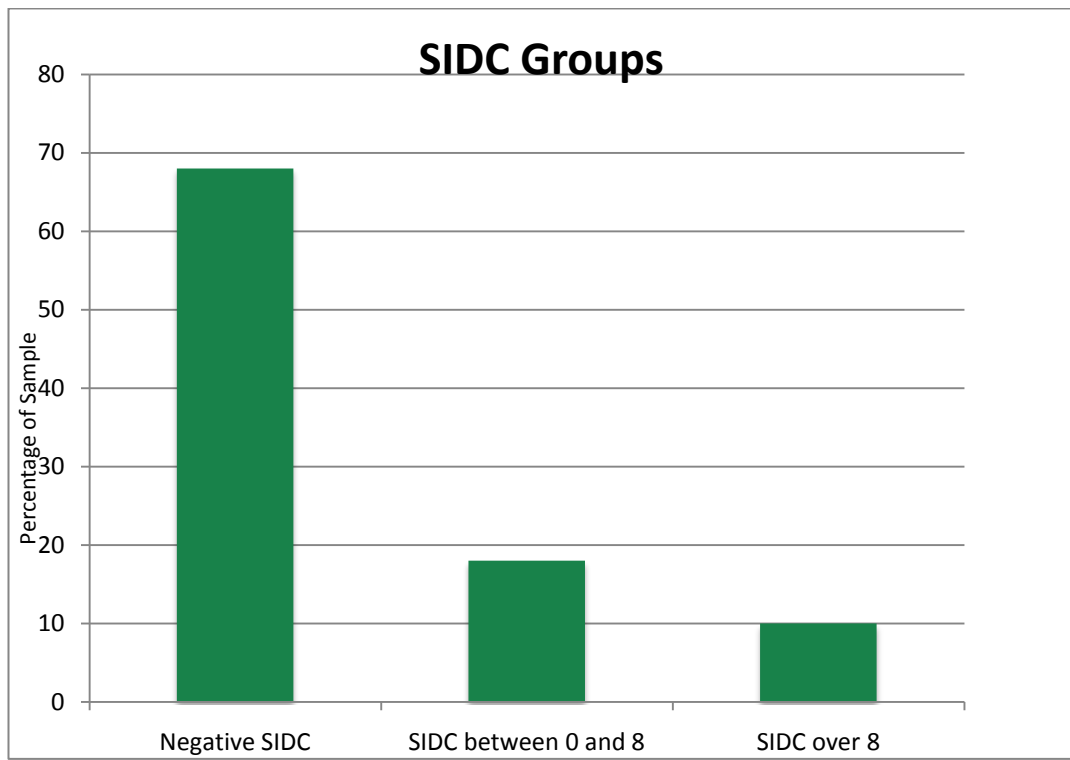
Table A1.8.ii: Differences between means on the CCC-2 scaled scores

CCC-2 Scale	School Type					Reason for Inclusion			
	Primary N=13	Secondary N=26	PRU KS2&3 N=4	PRU KS4 N=7	ANOVA p<0.05	Perm Ex N=15	EPS EBD N=17	SENCO N=18	ANOVA p<0.05
Speech (10.75, 2.40)	6.92	5.96	9.25	5.57	n.s.	6.33	6.47	6.44	n.s.
	3.904	3.671	3.202	3.690		3.773	3.243	4.273	
% clinical range	23.1	50.0	0.0	57.1		46.7	35.3	38.9	
Syntax (11.20, 1.24)	6.54	6.92	7.75	7.43	n.s.	6.87	7.29	6.72	n.s.
	3.072	3.566	2.872	4.504		3.563	3.255	3.707	
% clinical range	69.2	65.4	75.0	42.9		66.7	58.8	66.7	
Semantics (11.50, 2.84)	6.31	4.50	4.50	6.14	n.s.	5.33	5.71	4.61	n.s.
	3.591	3.191	2.380	3.805		3.619	2.953	3.567	
% clinical range	38.5	69.2	50.0	57.1		60.0	52.9	61.1	
Coherence (11.65, 2.35)	5.62	4.77	6.75	7.14	n.s.	6.47	4.71	5.39	n.s.
	3.618	2.717	3.304	3.024		2.997	1.896	5.39	
% clinical range	69.2	76.9	50.0	57.1		60.0	82.4	60.0	
Inappropriate Initiation (9.85, 3.03)	6.85	4.35	4.75	6.71	n.s.	6.13	4.53	5.50	n.s.
	4.318	2.682	2.363	4.424		4.155	1.375	4.301	
% clinical range	30.8	30.8	50.0	14.3		26.7	23.5	38.9	
Stereotyped Language (10.90, 2.63)	6.62	5.92	4.25	8.14	n.s.	6.67	6.88	5.39	n.s.
	4.194	2.925	0.957	3.976		3.559	2.998	3.632	
% clinical range	53.8	50.0	100.0	28.6		60.0	41.2	55.6	
Use of Context (10.85, 2.39)	5.62	2.73	3.75	4.29	n.s.	4.00	3.35	4.00	n.s.
	4.592	2.692	1.500	3.498		3.317	3.181	3.970	
% clinical range	76.9	92.3	100.0	71.4		80.0	94.1	83.3	
Nonverbal Comm. (11.70, 2.18)	5.15	3.65	4.75	7.14	n.s.	6.20	2.59	5.22	0.013 A>B
	4.562	3.224	2.500	3.579		3.610	1.906	4.360	
% clinical range	76.9	92.3	75.0	71.4		73.3	100.0	77.8	
Social Relations (11.20, 2.04)	5.15	2.08	2.25	4.86	n.s.	4.00	1.65	4.22	n.s.
	5.145	2.965	1.500	2.795		3.464	1.869	4.870	
% clinical range	61.5	96.2	100.0	85.7		86.7	100.0	72.2	
Interests (10.50, 3.32)	8.00	5.19	5.50	5.57	0.033 A>B	5.60	5.24	7.06	n.s.
	4.082	2.059	0.577	2.507		1.920	1.522	4.165	
% clinical range	0.0	11.5	0.0	14.3		6.7	5.9	11.1	
GCC percentile Expected = 50	18.69	6.52	7.25	19.86	n.s.	14.90	5.53	14.61	n.s.
	27.833	11.184	6.131	26.597		21.887	6.345	24.680	

Graph A1.8.i: CCC-2 scaled scores

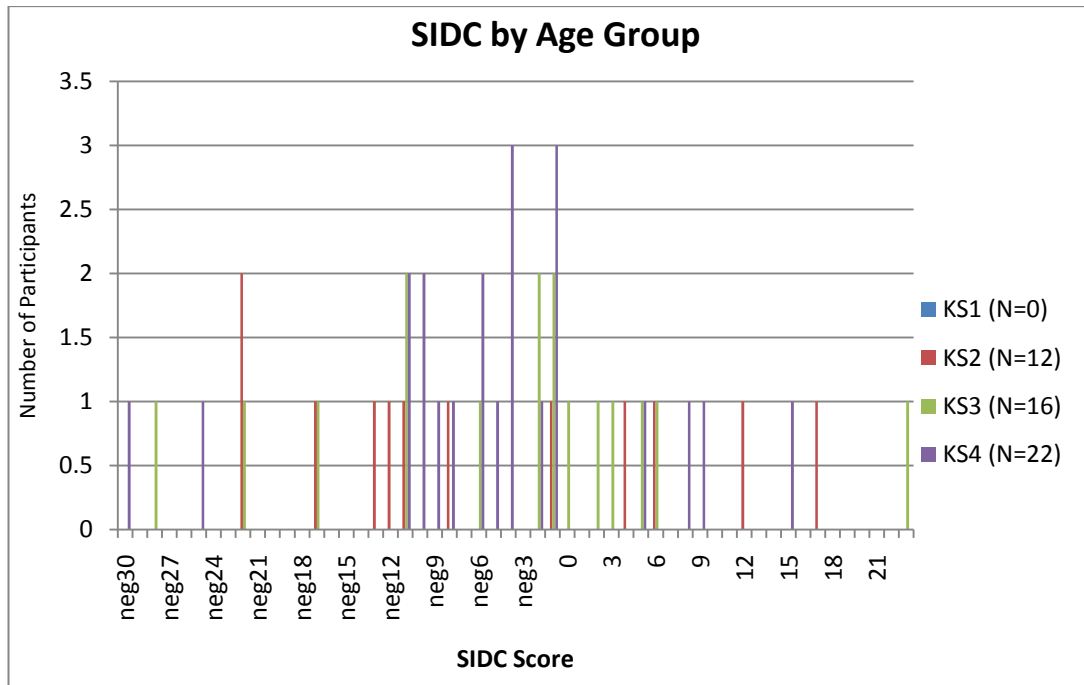


Graph A1.8.ii: Number of Participants in each SIDC group

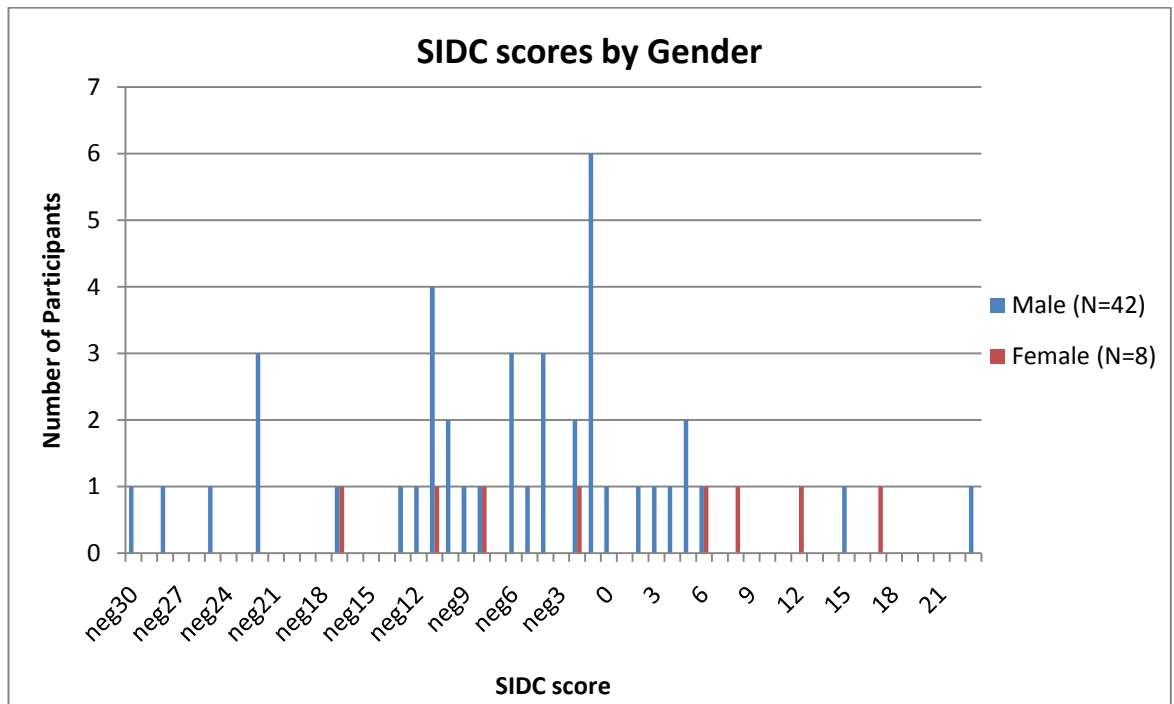


Graph A1.8.iii: Scores on the SIDC by Age Group

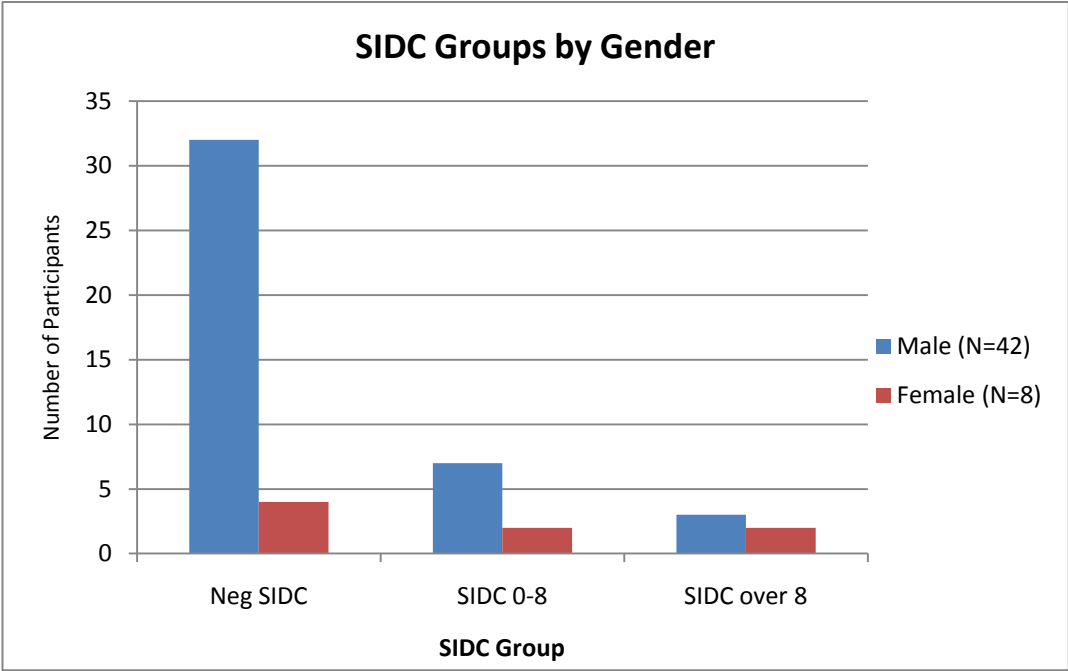
The SIDC measures the discrepancy between pragmatic and structural language skill. A negative score indicates disproportionate difficulties with pragmatic language. A score above 8 is taken to indicate difficulties with structural language such as in Specific Language Impairment.



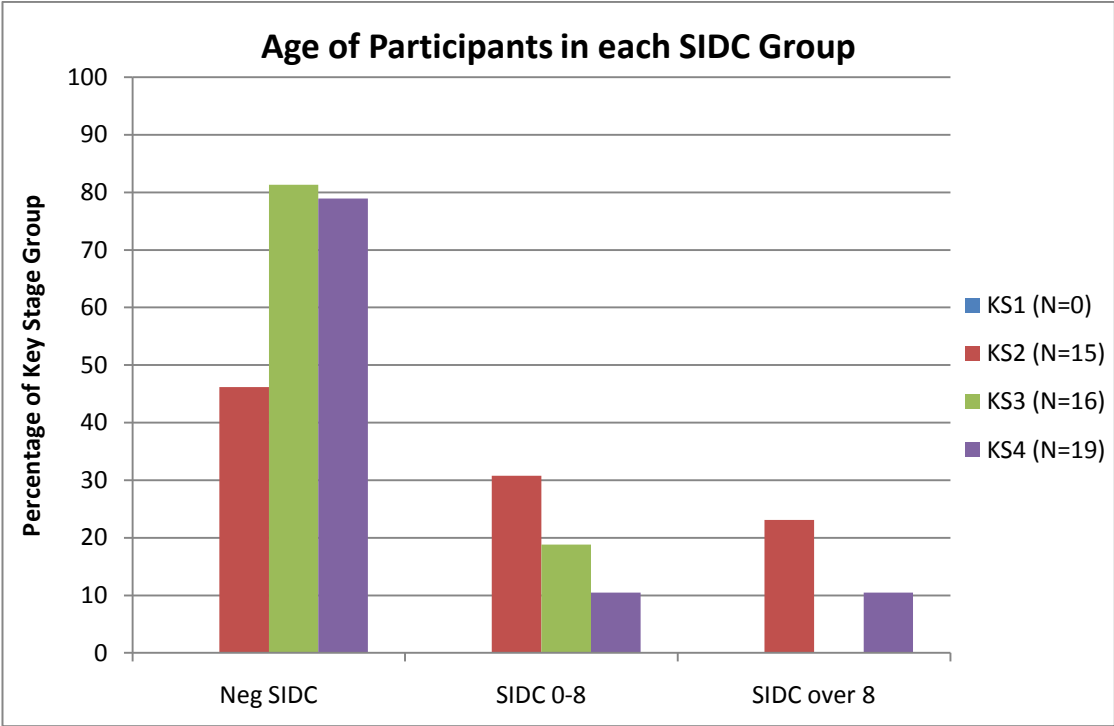
Graph A1.8.iv: Scores on the SIDC by Gender



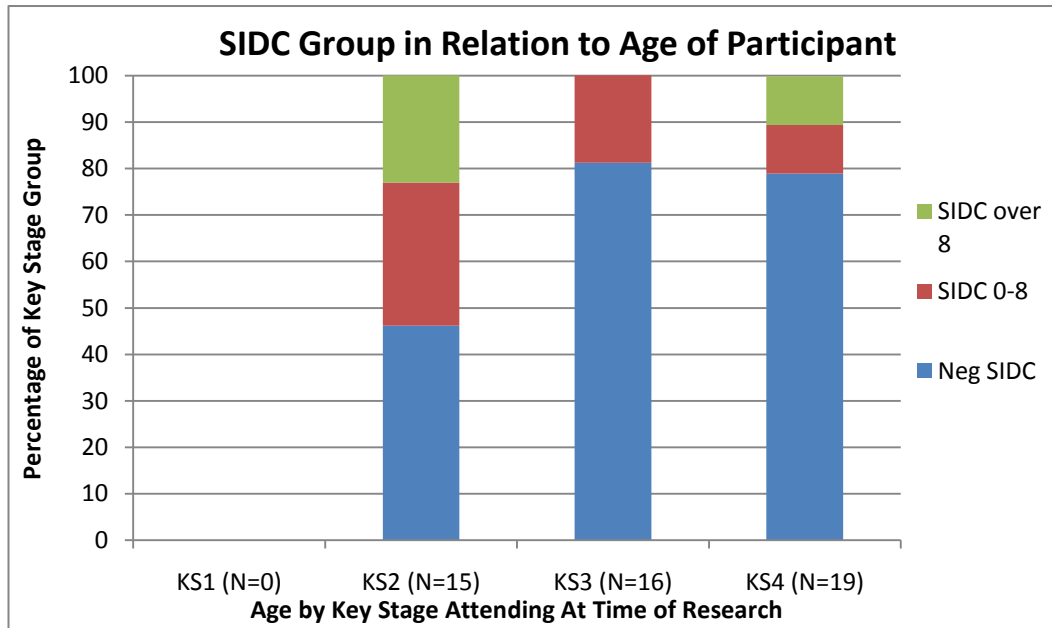
Graph A1.8.v: SIDC Groups by Gender



Graph A1.8.vi: Age of Participants within each SIDC Group



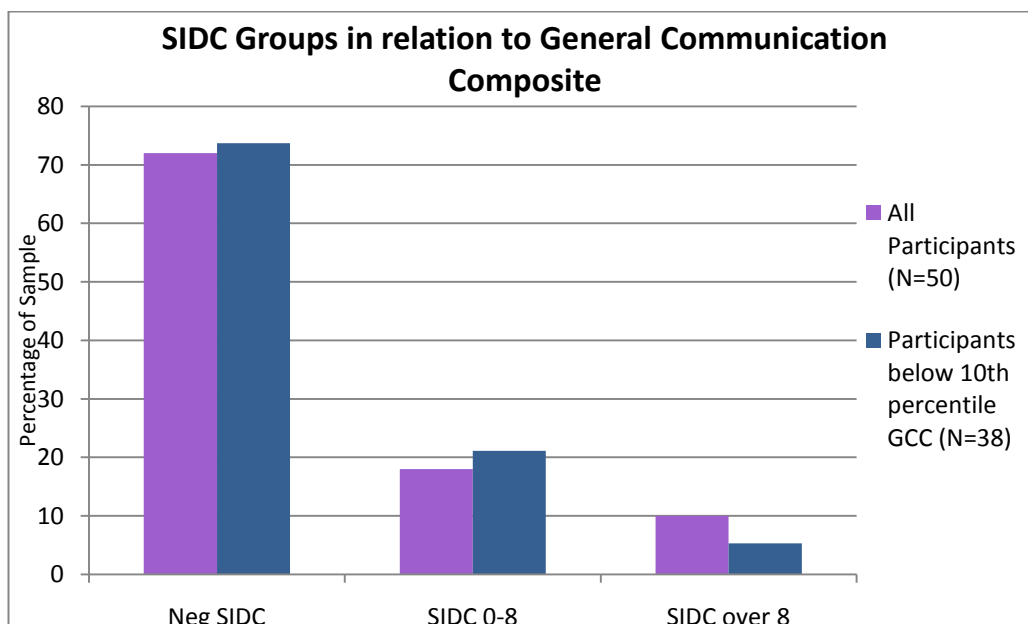
Graph A1.8.vii: SIDC Groups by Age



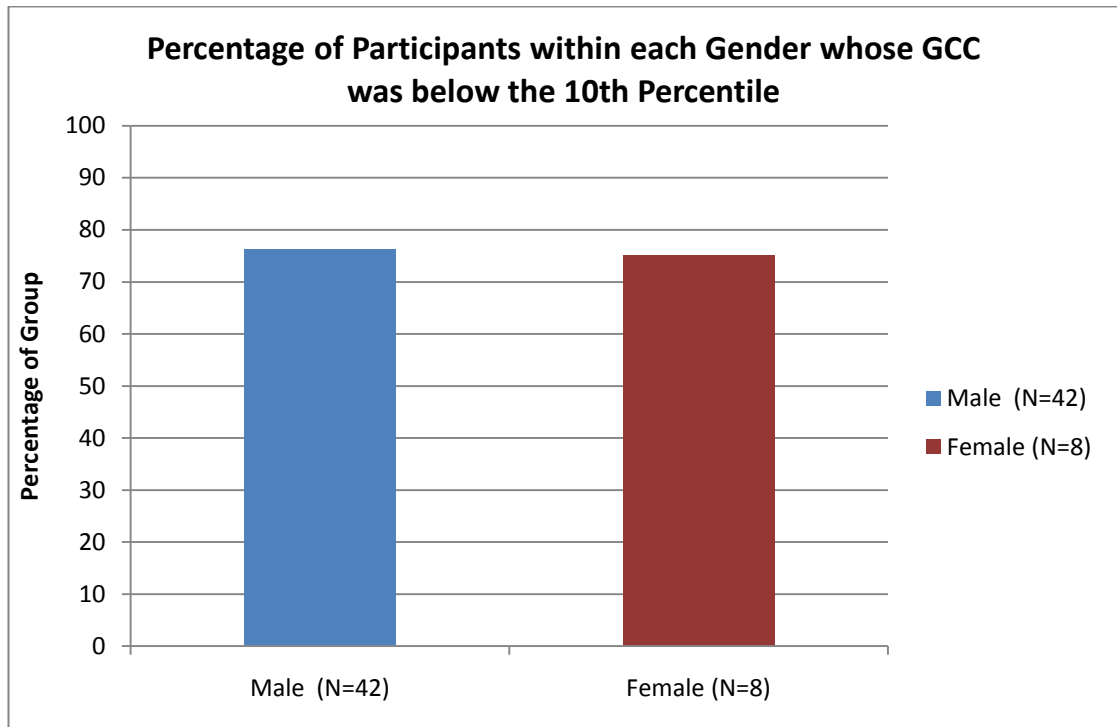
CCC-2 General Communication Composite below the 10th Percentile

Bishop (2003) argues that children with language impairments rarely score a GCC above the 10th percentile. The graph below compares the SIDC scores of all participants with those whose General Communication Composite was in the 10th percentile or below to explore whether there are any patterns of disproportionate language impairment within the low GCC scores.

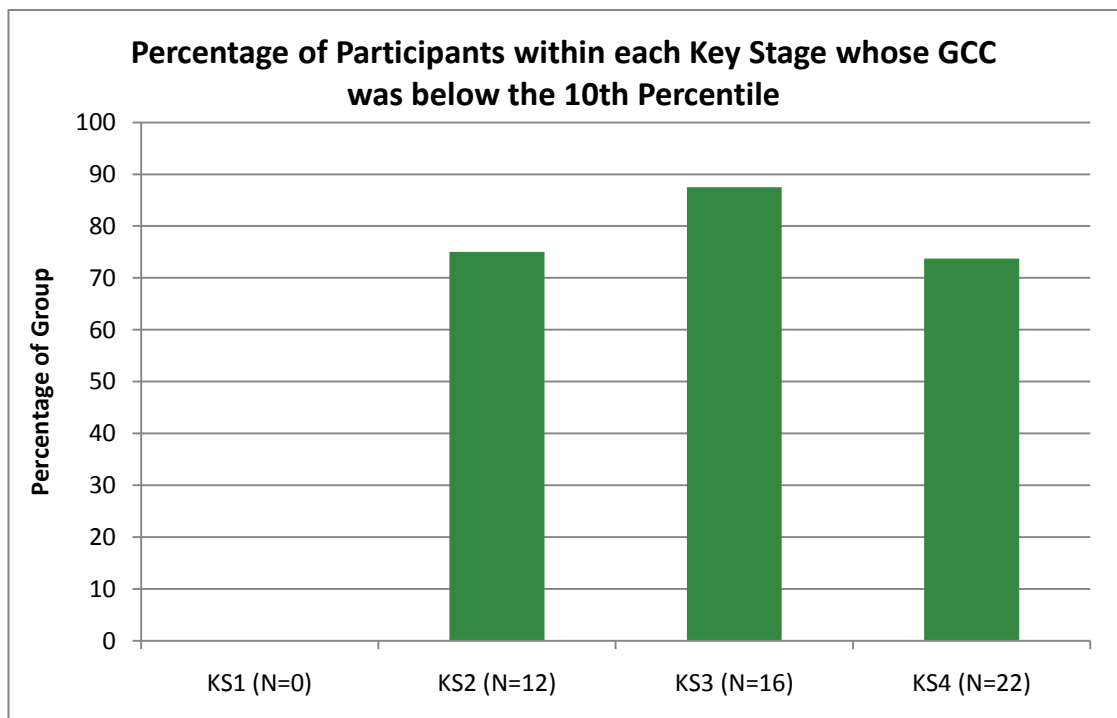
Graph A1.8.viii: SIDC groups of all participants in comparison to those whose GCC was below the 10th percentile



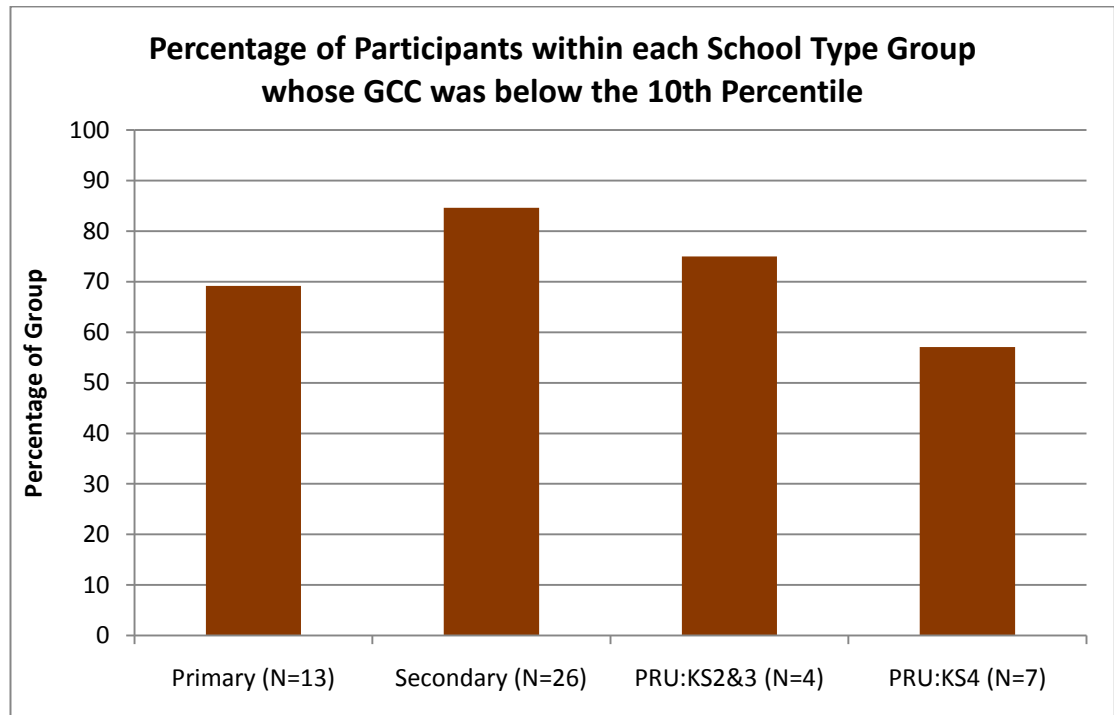
Graph A1.8.ix: GCC below 10th percentile by Gender



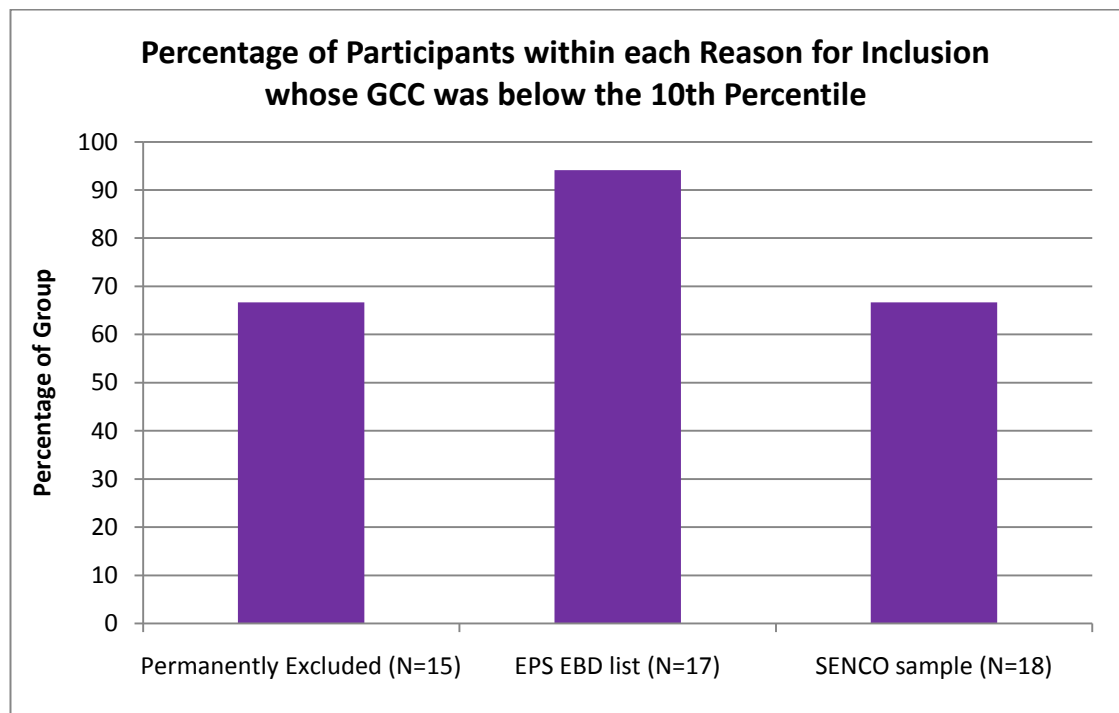
Graph A1.8.x: GCC below 10th percentile by Age Group



Graph A1.8.xi: GCC below 10th percentile by School Type



Graph A1.8.xii: GCC below 10th percentile by Reason for Inclusion in the Research



Negative SIDC with GCC above 10th percentile

According to Bishop (2004), this profile was characteristic of the Asperger group. The following table shows the participants whose scores produced this profile in the current sample.

Table A1.8.iii: Percentage of Participants with Asperger profile

Group	Percentage of Participants from that Group
Gender: Male (N=42)	16.7
Female (N=8)	12.5
Age Group: KS1 (N=0)	No participants
KS2 (N=15)	13.3
KS3 (N=16)	12.5
KS4 (N=19)	21.1
School Type: Primary (N=13)	7.7
Secondary (N=26)	11.5
PRU KS2&3 (N=4)	25.0
PRU KS4 (N=7)	42.9
Reason for Inclusion: Perm Ex'd (N=15)	26.7
EPS EBD list (N=17)	5.9
SENCO (N=18)	16.7

Analysis of Scales I and J

Scale I measures *Social Relationships* and Scale J measures *Interests*. The combination of the scaled scores on these measures is taken to indicate autistic-type behaviours (Bishop, 2003, 2004). The expected score on these two scales would be a total of 20, taken from a score of 10 on each scale. A one-sample t-test comparing the whole sample to the expected value of 20 on scales I+J was very significant ($t=-12.472$, $p<0.001$). The following t-test and ANOVA tests produced few differences between the sample groups.

Table A1.8.iv: Scores on Scales I+J and Differences from Expected Value

	Mean I+J score	Standard Deviation	T-/F-score	Sig
Gender: Male (N=42)	8.71	5.649	-1.528	0.133
Female (N=8)	12.25	7.723		
Age Group:				
KS1 (N=0)				
KS2 (N=15)	12.47	8.088	3.631	0.034*
KS3 (N=16)	7.00	3.055		
KS4 (N=19)	8.68	5.334		
School Type:				
Primary (N=13)	13.15	8.503	3.278	0.029**
Secondary (N=26)	7.27	4.323		
PRU: KS2&3 (N=4)	7.75	1.500		
PRU: KS4 (N=7)	10.43	4.995		
Reason:				
Permanently Ex'd (N=15)	9.60	4.911	2.453	0.097
EPS EBD list (N=17)	6.88	2.736		
SENCO sample (N=18)	11.28	8.337		

Post-hoc tests revealed the following differences:

* KS2 > KS3

** Primary > Secondary

Appendix 1.9

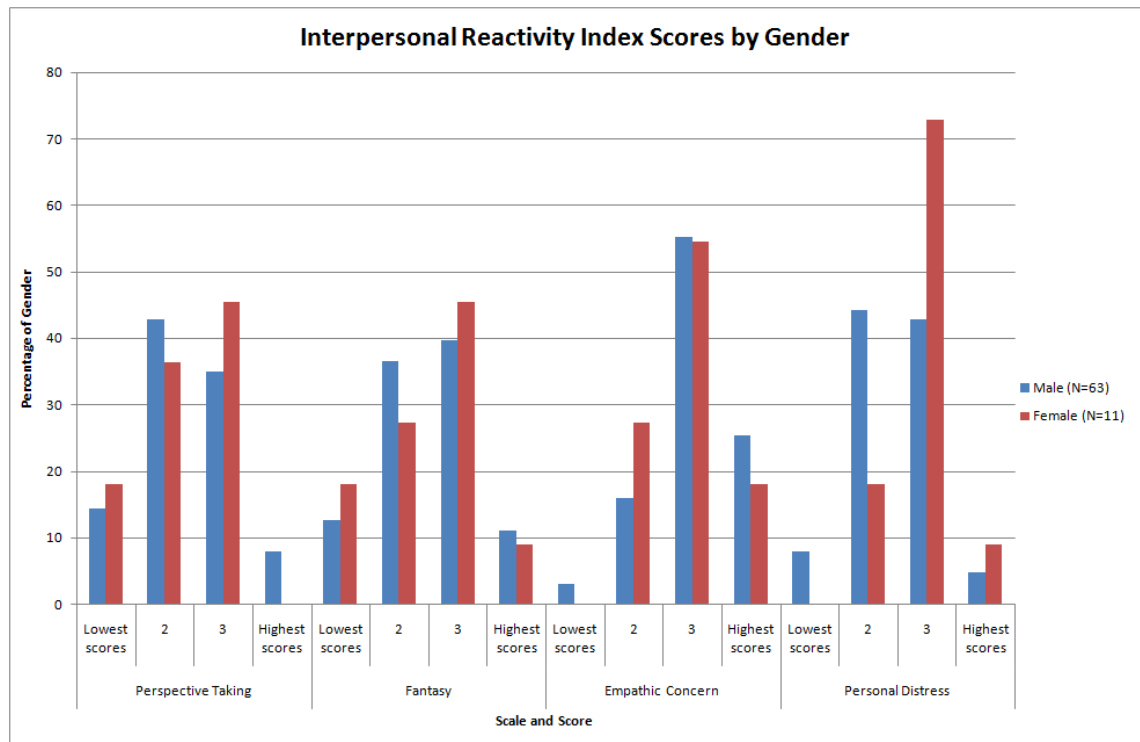
Descriptive Statistics – Interpersonal Reactivity Index scores

Tables 1.3 and 1.4 in the Results section give the mean scores for each of the IRI scales in relation to the participants' gender, school they were attending, and reason for inclusion in the sample. The following graphs analyse the spread of results in more detail.

Gender

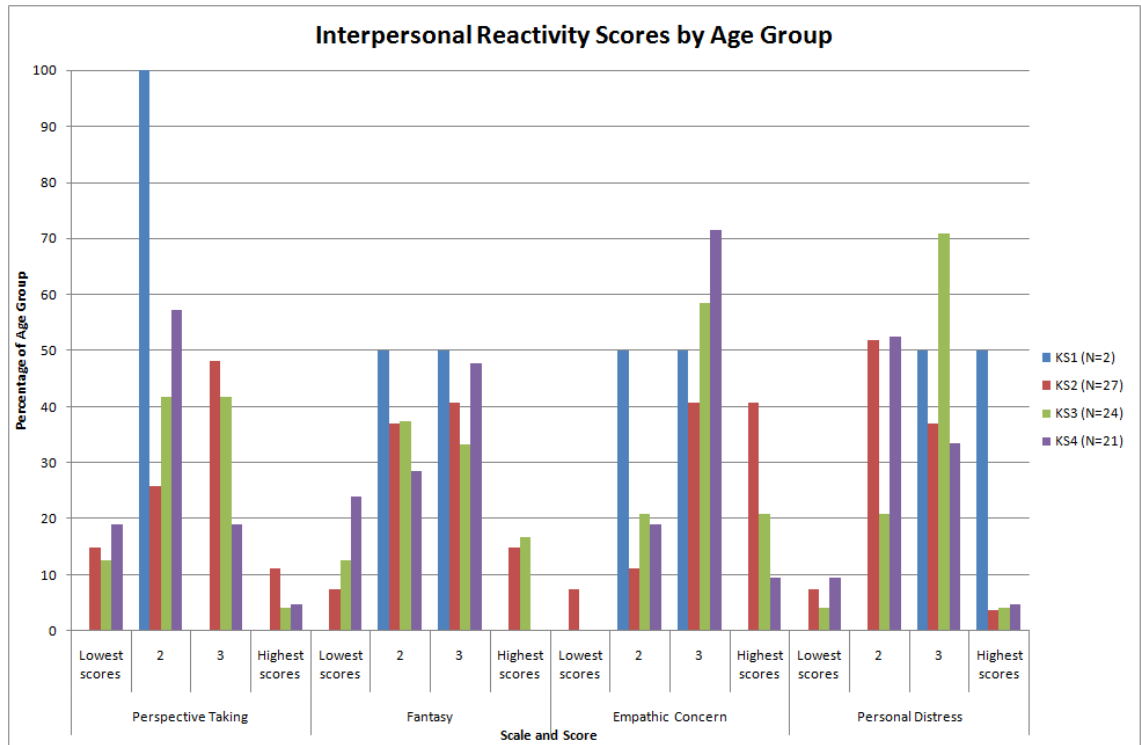
Graph A1.9.i: Interpersonal Reactivity Index scores by Gender

Since it is possible to obtain scores from 0 to 28 on each scale, a graph showing individual scores would have been too large to allow comparisons to be made. It was not possible to divide the 29 possible scores into 4 even groups. Instead the potential IRI scores were divided into the following groups: Group 1 – lowest scores, representing scores from 0 to 6; Group 2, scores from 7 to 13; Group 3, scores from 14 to 20; and Group 4 - highest scores, representing scores from 21 to 28. It was decided that Group 4 would contain 8 possible scores as few participants scored within this range, therefore allowing greater analysis by keeping the other three groups relatively smaller with 7 possible scores in each.



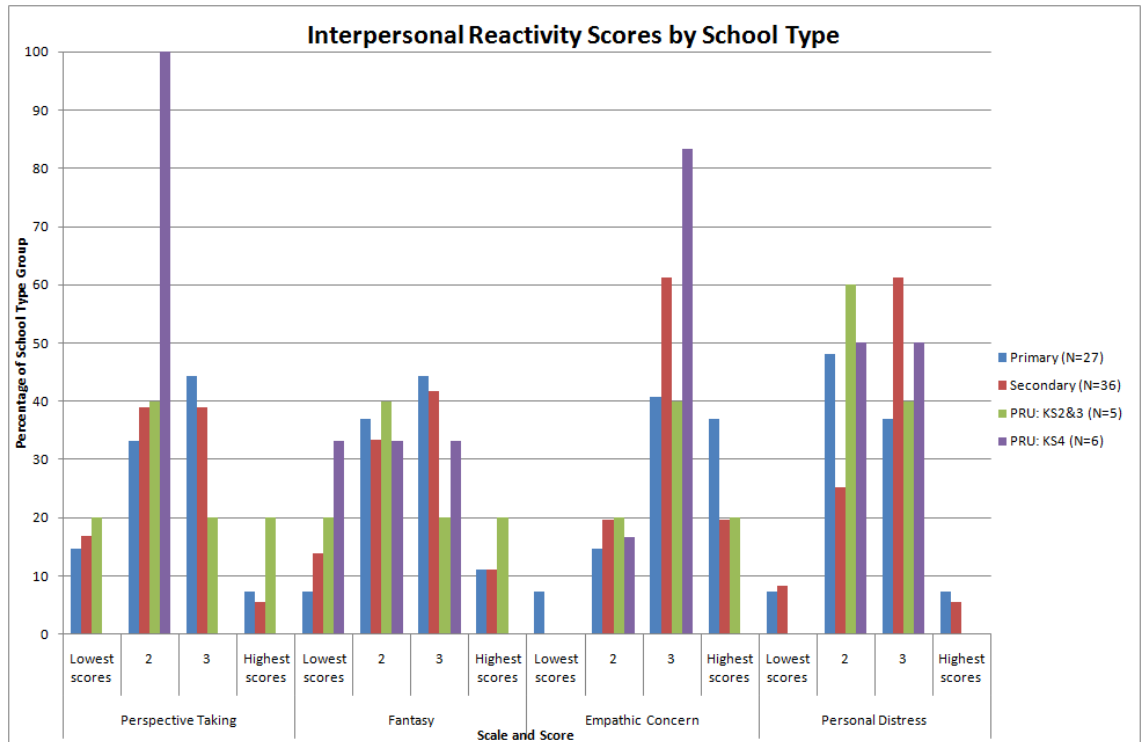
Age

Graph A1.9.ii: Interpersonal Reactivity Index scores by Age Group



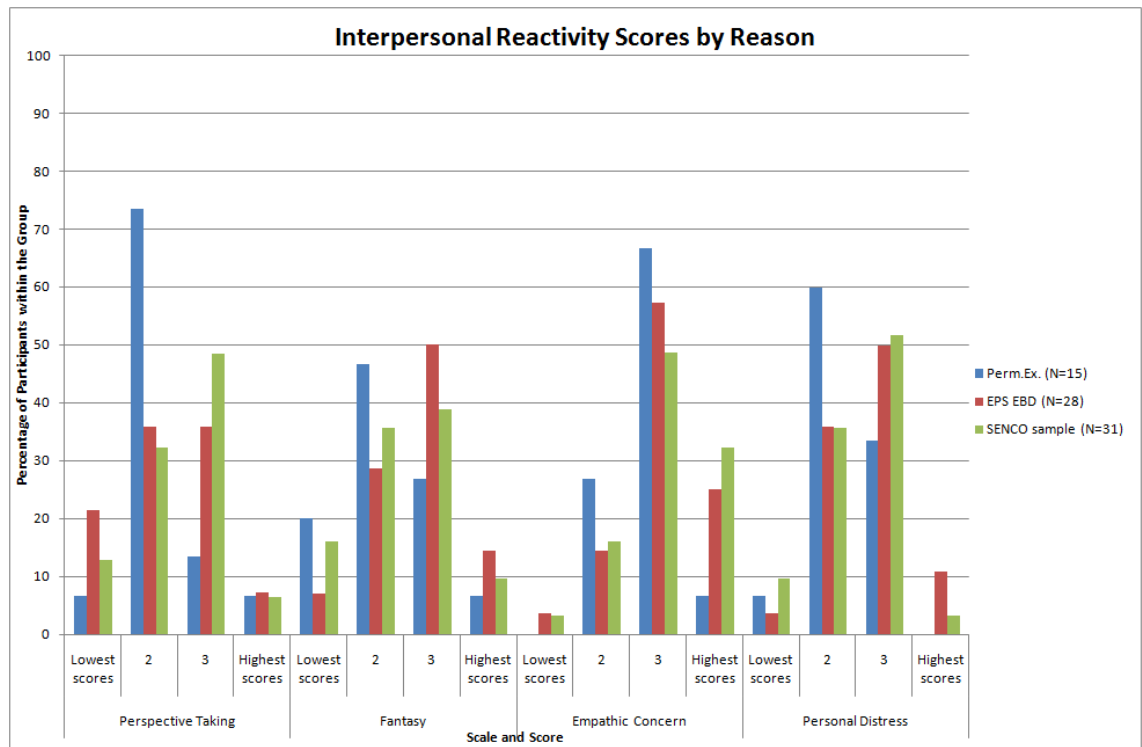
School Type

Graph A1.9.iii: Interpersonal Reactivity Scores by School Type



Reason for inclusion in the research

Graph A1.9.iv: Interpersonal Reactivity Scores by Reason



Appendix 1.10

Statistical Analysis – Children’s Communication Checklist (CCC-2) scores

Comparing the Current Sample to Expected Means

Table A1.10.i shows the t-tests which compare the current sample means with the expected scaled score of 10.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
ScSpeechScore	50	6.42	3.720	.526
ScSyntaxScore	50	6.96	3.452	.488
ScSemScore	50	5.20	3.350	.474
ScCoherScore	50	5.48	3.092	.437
ScInappInItScore	50	5.36	3.521	.498
ScStereoScore	50	6.28	3.405	.482
ScContextScore	50	3.78	3.466	.490
ScNonverScore	50	4.62	3.719	.526
ScSocScore	50	3.28	3.769	.533
ScInterestScore	50	6.00	2.914	.412

One-Sample Test

	Test Value = 10					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
ScSpeechScore	-6.804	49	.000	-3.580	-4.64	-2.52
ScSyntaxScore	-6.227	49	.000	-3.040	-4.02	-2.06
ScSemScore	-10.131	49	.000	-4.800	-5.75	-3.85
ScCoherScore	-10.337	49	.000	-4.520	-5.40	-3.64
ScInappInItScore	-9.318	49	.000	-4.640	-5.64	-3.64
ScStereoScore	-7.725	49	.000	-3.720	-4.69	-2.75
ScContextScore	-12.690	49	.000	-6.220	-7.20	-5.24
ScNonverScore	-10.229	49	.000	-5.380	-6.44	-4.32
ScSocScore	-12.607	49	.000	-6.720	-7.79	-5.65
ScInterestScore	-9.707	49	.000	-4.000	-4.83	-3.17

Statistical Analyses – Between Participant Groups

Gender Differences: T-tests

There were no significant differences between males and females on the CCC-2 scale scores, General Communication Composite, or Social Interaction Deviance Composite (SIDC) groups. The following t-tests and non-parametric tests all produced non-significant analyses.

Table A1.10.ii: T-tests for differences between Genders on CCC-2 Scales

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
ScSpeechScore	Male	42	6.62	3.602	.556
	Female	8	5.38	4.406	1.558
ScSyntaxScore	Male	42	6.93	3.439	.531
	Female	8	7.13	3.758	1.329
ScSemScore	Male	42	5.24	3.289	.508
	Female	8	5.00	3.891	1.376
ScCoherScore	Male	42	5.55	3.014	.465
	Female	8	5.13	3.682	1.302
ScInaplnitScore	Male	42	5.40	3.493	.539
	Female	8	5.13	3.907	1.381
ScStereoScore	Male	42	6.38	3.457	.533
	Female	8	5.75	3.284	1.161
ScContextScore	Male	42	3.71	3.417	.527
	Female	8	4.13	3.944	1.394
ScNonverScore	Male	42	4.38	3.793	.585
	Female	8	5.88	3.227	1.141
ScSocScore	Male	42	2.83	3.334	.515
	Female	8	5.63	5.181	1.832
ScInterestScore	Male	42	5.88	2.813	.434
	Female	8	6.63	3.543	1.253
GCCPercentile	Male	42	11.310	18.3579	2.8327
	Female	8	13.188	26.2338	9.2750

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ScSpeechScore	Equal variances assumed	1.005	.321	.865	48	.392	1.244	1.439	-1.649	4.137
	Equal variances not assumed			.752	8.871	.471	1.244	1.654	-2.506	4.994
ScSyntaxScore	Equal variances assumed	.027	.870	-.146	48	.885	-.196	1.345	-2.901	2.508
	Equal variances not assumed			-.137	9.370	.894	-.196	1.431	-3.414	3.021
ScSemScore	Equal variances assumed	.812	.372	.182	48	.856	.238	1.305	-2.386	2.863
	Equal variances not assumed			.162	9.007	.875	.238	1.466	-3.079	3.555
ScCoherScore	Equal variances assumed	.114	.737	.351	48	.727	.423	1.204	-1.997	2.843
	Equal variances not assumed			.306	8.876	.767	.423	1.382	-2.711	3.556
ScInaplnitScore	Equal variances assumed	.046	.830	.204	48	.839	.280	1.372	-2.478	3.038
	Equal variances not assumed			.189	9.256	.854	.280	1.483	-3.061	3.620
ScStereoScore	Equal variances assumed	.402	.529	.477	48	.636	.631	1.324	-2.031	3.293
	Equal variances not assumed			.494	10.188	.632	.631	1.278	-2.209	3.471
ScContextScore	Equal variances assumed	.019	.890	-.304	48	.762	-.411	1.350	-3.124	2.303
	Equal variances not assumed			-.276	9.112	.789	-.411	1.491	-3.777	2.955
ScNonverScore	Equal variances assumed	.785	.380	-1.042	48	.303	-1.494	1.433	-4.376	1.388
	Equal variances not assumed			-1.165	11.040	.268	-1.494	1.282	-4.315	1.327
ScSocScore	Equal variances assumed	3.885	.055	-1.976	48	.054	-2.792	1.413	-5.632	.049
	Equal variances not assumed			-1.467	8.140	.180	-2.792	1.903	-7.166	1.583
ScInterestScore	Equal variances assumed	.072	.790	-.658	48	.514	-.744	1.131	-3.017	1.529
	Equal variances not assumed			-.561	8.760	.589	-.744	1.326	-3.756	2.268
GCCPercentile	Equal variances assumed	.541	.466	-.247	48	.806	-1.8780	7.6008	-17.1604	13.4044
	Equal variances not assumed			-.194	8.354	.851	-1.8780	9.6980	-24.0775	20.3215

Table A1.10.iii: Non-parametric tests differences between Genders and SIDC Groups

Test Statistics(b)

	SIDCgroups
Mann-Whitney U	148.000
Wilcoxon W	968.000
Z	-.416
Asymp. Sig. (2-tailed)	.677
Exact Sig. [2*(1-tailed Sig.)]	.755(a)

b Grouping Variable: Gender

Age Groups

Table A1.10.iv: ANOVA for differences between Age Groups on CCC-2 Scales: Descriptives

The following ANOVA to compare age groups relating to the Key Stage of the participant shows one significant difference relating to the scaled CCC-2 scores, which was found in the *Interests* score. A post-hoc Tukey test indicates that the significant difference arose between KS2 pupils and KS3 pupils, and between KS2 pupils and KS4 pupils.

Descriptives									
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
ScSpeechScore	2	15	7.60	4.032	1.041	5.37	9.83	0	12
	3	16	6.31	3.754	.939	4.31	8.31	0	11
	4	19	5.58	3.372	.774	3.95	7.20	0	11
	Total	50	6.42	3.720	.526	5.36	7.48	0	12
ScSyntaxScore	2	15	6.93	3.173	.819	5.18	8.69	2	12
	3	16	7.06	3.623	.906	5.13	8.99	0	11
	4	19	6.89	3.695	.848	5.11	8.68	1	11
	Total	50	6.96	3.452	.488	5.98	7.94	0	12
ScSemScore	2	15	6.20	3.342	.863	4.35	8.05	0	13
	3	16	4.19	2.482	.621	2.86	5.51	0	9
	4	19	5.26	3.871	.888	3.40	7.13	0	12
	Total	50	5.20	3.350	.474	4.25	6.15	0	13
ScCoherScore	2	15	6.07	3.634	.938	4.05	8.08	2	13
	3	16	4.88	2.754	.688	3.41	6.34	0	12
	4	19	5.53	2.970	.681	4.09	6.96	2	12
	Total	50	5.48	3.092	.437	4.60	6.36	0	13
ScNappnitScore	2	15	6.67	4.135	1.068	4.38	8.96	3	14
	3	16	4.00	1.633	.408	3.13	4.87	1	7
	4	19	5.47	3.893	.893	3.60	7.35	0	13
	Total	50	5.36	3.521	.498	4.36	6.36	0	14
ScStereoScore	2	15	6.20	4.039	1.043	3.96	8.44	0	13
	3	16	5.63	1.668	.417	4.74	6.51	2	9
	4	19	6.89	3.971	.911	4.98	8.81	0	12
	Total	50	6.28	3.405	.482	5.31	7.25	0	13
ScContextScore	2	15	5.53	4.257	1.099	3.18	7.89	1	14
	3	16	2.81	1.870	.467	1.82	3.81	0	6
	4	19	3.21	3.457	.793	1.54	4.88	0	11
	Total	50	3.78	3.466	.490	2.80	4.76	0	14
ScNonverScore	2	15	5.27	4.301	1.110	2.89	7.65	0	13
	3	16	3.63	2.986	.747	2.03	5.22	0	12
	4	19	4.95	3.808	.874	3.11	6.78	0	12
	Total	50	4.62	3.719	.526	3.56	5.68	0	13
ScSocScore	2	15	4.73	4.906	1.267	2.02	7.45	0	12
	3	16	1.94	2.112	.528	.81	3.06	0	7
	4	19	3.26	3.588	.823	1.53	4.99	0	12
	Total	50	3.28	3.769	.533	2.21	4.35	0	12
ScInterestScore	2	15	7.73	3.845	.993	5.60	9.86	4	15
	3	16	5.06	1.652	.413	4.18	5.94	3	9
	4	19	5.42	2.388	.548	4.27	6.57	0	9
	Total	50	6.00	2.914	.412	5.17	6.83	0	15
GCCPercentile	2	15	17.800	25.9008	6.6876	3.457	32.143	.5	77.0
	3	16	5.469	7.2491	1.8123	1.606	9.332	.5	28.0
	4	19	11.895	20.1367	4.6197	2.189	21.600	.5	69.0
	Total	50	11.610	19.5138	2.7597	6.064	17.156	.5	77.0

Table A1.10.v: ANOVA for differences between Age Groups on CCC-2 Scales: ANOVA results

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
ScSpeechScore	Between Groups	34.511	2	17.255	1.260	.293
	Within Groups	643.669	47	13.695		
	Total	678.180	49			
ScSyntaxScore	Between Groups	.260	2	.130	.010	.990
	Within Groups	583.660	47	12.418		
	Total	583.920	49			
ScSemScore	Between Groups	31.478	2	15.739	1.427	.250
	Within Groups	518.522	47	11.032		
	Total	550.000	49			
ScCoherScore	Between Groups	11.060	2	5.530	.568	.570
	Within Groups	457.420	47	9.732		
	Total	468.480	49			
ScInaplnitScore	Between Groups	55.450	2	27.725	2.360	.105
	Within Groups	552.070	47	11.746		
	Total	607.520	49			
ScStereoScore	Between Groups	14.141	2	7.070	.600	.553
	Within Groups	553.939	47	11.786		
	Total	568.080	49			
ScContextScore	Between Groups	67.251	2	33.626	3.031	.058
	Within Groups	521.329	47	11.092		
	Total	588.580	49			
ScNonverScore	Between Groups	24.149	2	12.075	.868	.426
	Within Groups	653.631	47	13.907		
	Total	677.780	49			
ScSocScore	Between Groups	60.525	2	30.262	2.238	.118
	Within Groups	635.555	47	13.522		
	Total	696.080	49			
ScInterestScore	Between Groups	65.498	2	32.749	4.391	.018
	Within Groups	350.502	47	7.457		
	Total	416.000	49			
GCCPercentile	Between Groups	1179.721	2	589.861	1.586	.215
	Within Groups	17478.924	47	371.892		
	Total	18658.645	49			

Table A1.10.vi: Post-Hoc Tests for Significant results

Multiple Comparisons

Dependent Variable: ScInterestScore

Tukey HSD

(I) age in months to groups	(J) age in months to groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2	3	2.671*	.981	.024	.30	5.05
	4	2.312*	.943	.046	.03	4.59
3	2	-2.671*	.981	.024	-5.05	-.30
	4	-.359	.927	.921	-2.60	1.88
4	2	-2.312*	.943	.046	-4.59	-.03
	3	.359	.927	.921	-1.88	2.60

*. The mean difference is significant at the .05 level.

School Type

A significant difference was found on the Interests scale of the Children's Communication Checklist (CCC-2) scores relating to the type of school the participant attended. The post-hoc test indicates that this difference is between pupils at primary and secondary schools.

Table A1.10.vii: ANOVA for differences between School Type on CCC-2 Scales: Descriptives

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
ScSpeechScore	Primary	13	6.92	3.904	1.083	4.56	9.28	0	12
	Secondary	26	5.96	3.671	.720	4.48	7.44	0	11
	PRU- KS2&3	4	9.25	3.202	1.601	4.16	14.34	6	12
	PRU- KS4	7	5.57	3.690	1.395	2.16	8.98	0	10
	Total	50	6.42	3.720	.526	5.36	7.48	0	12
ScSyntaxScore	Primary	13	6.54	3.072	.852	4.68	8.39	2	12
	Secondary	26	6.92	3.566	.699	5.48	8.36	0	11
	PRU- KS2&3	4	7.75	2.872	1.436	3.18	12.32	6	12
	PRU- KS4	7	7.43	4.504	1.702	3.26	11.59	2	11
	Total	50	6.96	3.452	.488	5.98	7.94	0	12
ScSemScore	Primary	13	6.31	3.591	.996	4.14	8.48	0	13
	Secondary	26	4.50	3.191	.626	3.21	5.79	0	12
	PRU- KS2&3	4	4.50	2.380	1.190	.71	8.29	1	6
	PRU- KS4	7	6.14	3.805	1.438	2.62	9.66	2	12
	Total	50	5.20	3.350	.474	4.25	6.15	0	13
ScCoherScore	Primary	13	5.62	3.618	1.003	3.43	7.80	2	13
	Secondary	26	4.77	2.717	.533	3.67	5.87	0	12
	PRU- KS2&3	4	6.75	3.304	1.652	1.49	12.01	3	11
	PRU- KS4	7	7.14	3.024	1.143	4.35	9.94	3	12
	Total	50	5.48	3.092	.437	4.60	6.36	0	13
ScInappnitScore	Primary	13	6.85	4.318	1.197	4.24	9.46	3	14
	Secondary	26	4.35	2.682	.526	3.26	5.43	0	13
	PRU- KS2&3	4	4.75	2.363	1.181	.99	8.51	3	8
	PRU- KS4	7	6.71	4.424	1.672	2.62	10.81	2	13
	Total	50	5.36	3.521	.498	4.36	6.36	0	14
ScStereoScore	Primary	13	6.62	4.194	1.163	4.08	9.15	0	13
	Secondary	26	5.92	2.925	.574	4.74	7.10	0	12
	PRU- KS2&3	4	4.25	.957	.479	2.73	5.77	3	5
	PRU- KS4	7	8.14	3.976	1.503	4.47	11.82	2	12
	Total	50	6.28	3.405	.482	5.31	7.25	0	13
ScContextScore	Primary	13	5.62	4.592	1.274	2.84	8.39	1	14
	Secondary	26	2.73	2.692	.528	1.64	3.82	0	11
	PRU- KS2&3	4	3.75	1.500	.750	1.36	6.14	2	5
	PRU- KS4	7	4.29	3.498	1.322	1.05	7.52	0	9
	Total	50	3.78	3.466	.490	2.80	4.76	0	14
ScNonverScore	Primary	13	5.15	4.562	1.265	2.40	7.91	0	13
	Secondary	26	3.65	3.224	.632	2.35	4.96	0	12
	PRU- KS2&3	4	4.75	2.500	1.250	.77	8.73	2	8
	PRU- KS4	7	7.14	3.579	1.353	3.83	10.45	3	12
	Total	50	4.62	3.719	.526	3.56	5.68	0	13
ScSocScore	Primary	13	5.15	5.145	1.427	2.04	8.26	0	12
	Secondary	26	2.08	2.965	.582	.88	3.27	0	12
	PRU- KS2&3	4	2.25	1.500	.750	-.14	4.64	1	4
	PRU- KS4	7	4.86	2.795	1.056	2.27	7.44	1	9
	Total	50	3.28	3.769	.533	2.21	4.35	0	12
ScInterestScore	Primary	13	8.00	4.082	1.132	5.53	10.47	4	15
	Secondary	26	5.19	2.059	.404	4.36	6.02	0	9
	PRU- KS2&3	4	5.50	.577	.289	4.58	6.42	5	6
	PRU- KS4	7	5.57	2.507	.948	3.25	7.89	3	9
	Total	50	6.00	2.914	.412	5.17	6.83	0	15
GCCPercentile	Primary	13	18.692	27.8332	7.7196	1.873	35.512	.5	77.0
	Secondary	26	6.519	11.1843	2.1934	2.002	11.037	.5	52.0
	PRU- KS2&3	4	7.250	6.1305	3.0653	-2.505	17.005	1.0	15.0
	PRU- KS4	7	19.857	26.5969	10.0527	-4.741	44.455	.5	69.0
	Total	50	11.610	19.5138	2.7597	6.064	17.156	.5	77.0

Table A1.10.viii: ANOVA for differences between School Type on CCC-2 Scales: ANOVA results

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ScSpeechScore	Between Groups	45.831	3	15.277	1.111	.354
	Within Groups	632.349	46	13.747		
	Total	678.180	49			
ScSyntaxScore	Between Groups	6.379	3	2.126	.169	.917
	Within Groups	577.541	46	12.555		
	Total	583.920	49			
ScSemScore	Between Groups	36.874	3	12.291	1.102	.358
	Within Groups	513.126	46	11.155		
	Total	550.000	49			
ScCoherScore	Between Groups	39.181	3	13.060	1.399	.255
	Within Groups	429.299	46	9.333		
	Total	468.480	49			
ScInappInitScore	Between Groups	69.765	3	23.255	1.989	.129
	Within Groups	537.755	46	11.690		
	Total	607.520	49			
ScStereoScore	Between Groups	45.550	3	15.183	1.337	.274
	Within Groups	522.530	46	11.359		
	Total	568.080	49			
ScContextScore	Between Groups	74.209	3	24.736	2.212	.099
	Within Groups	514.371	46	11.182		
	Total	588.580	49			
ScNonverScore	Between Groups	72.596	3	24.199	1.839	.153
	Within Groups	605.184	46	13.156		
	Total	677.780	49			
ScSocScore	Between Groups	104.934	3	34.978	2.722	.055
	Within Groups	591.146	46	12.851		
	Total	696.080	49			
ScInterestScore	Between Groups	71.247	3	23.749	3.169	.033
	Within Groups	344.753	46	7.495		
	Total	416.000	49			
GCCPercentile	Between Groups	1878.028	3	626.009	1.716	.177
	Within Groups	16780.617	46	364.796		
	Total	18658.645	49			

Table A1.10.ix: Post-Hoc Tests for Significant results

Multiple Comparisons

Dependent Variable: ScInterestScore

Tukey HSD

(I) SchoolType	(J) SchoolType	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Primary	Secondary	2.808*	.930	.021	.33	5.29
	PRU- KS2&3	2.500	1.565	.390	-1.67	6.67
	PRU- KS4	2.429	1.283	.245	-.99	5.85
Secondary	Primary	-2.808*	.930	.021	-5.29	-.33
	PRU- KS2&3	-.308	1.470	.997	-4.23	3.61
	PRU- KS4	-.379	1.166	.988	-3.49	2.73
PRU- KS2&3	Primary	-2.500	1.565	.390	-6.67	1.67
	Secondary	.308	1.470	.997	-3.61	4.23
	PRU- KS4	-.071	1.716	1.000	-4.65	4.50
PRU- KS4	Primary	-2.429	1.283	.245	-5.85	.99
	Secondary	.379	1.166	.988	-2.73	3.49
	PRU- KS2&3	.071	1.716	1.000	-4.50	4.65

*. The mean difference is significant at the .05 level.

Table A1.10.x: Non-parametric tests differences between School Type and SIDC Groups

No significant differences were found between the SIDC groups relating to the participants' school type.

Test Statistics^{a,b}

	SIDCgroups
Chi-Square	.176
df	3
Asymp. Sig.	.981

a. Kruskal Wallis Test

b. Grouping Variable: SchoolType

Differences by reason for inclusion in the sample: ANOVAs

A significant difference was found on the CCC-2 scores on the Nonverbal scale in relation to the reason the participant was in the research sample.

Table A1.10.xi: ANOVA for differences between Reason on the CCC-2 Scales: Descriptives

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
ScSpeechScore	Permanently Excluded	15	6.33	3.773	.974	4.24	8.42	0	12
	EPS EBD list	17	6.47	3.243	.786	4.80	8.14	1	12
	SENCO sample	18	6.44	4.273	1.007	4.32	8.57	0	11
	Total	50	6.42	3.720	.526	5.36	7.48	0	12
ScSyntaxScore	Permanently Excluded	15	6.87	3.563	.920	4.89	8.84	2	12
	EPS EBD list	17	7.29	3.255	.789	5.62	8.97	3	12
	SENCO sample	18	6.72	3.707	.874	4.88	8.57	0	11
	Total	50	6.96	3.452	.488	5.98	7.94	0	12
ScSemScore	Permanently Excluded	15	5.33	3.619	.934	3.33	7.34	1	12
	EPS EBD list	17	5.71	2.953	.716	4.19	7.22	2	12
	SENCO sample	18	4.61	3.567	.841	2.84	6.38	0	13
	Total	50	5.20	3.350	.474	4.25	6.15	0	13
ScCoherScore	Permanently Excluded	15	6.47	2.997	.774	4.81	8.13	2	12
	EPS EBD list	17	4.71	1.896	.460	3.73	5.68	2	8
	SENCO sample	18	5.39	3.913	.922	3.44	7.33	0	13
	Total	50	5.48	3.092	.437	4.60	6.36	0	13
ScInaplnitScore	Permanently Excluded	15	6.13	4.155	1.073	3.83	8.43	0	13
	EPS EBD list	17	4.53	1.375	.333	3.82	5.24	2	7
	SENCO sample	18	5.50	4.301	1.014	3.36	7.64	1	14
	Total	50	5.36	3.521	.498	4.36	6.36	0	14
ScStereoScore	Permanently Excluded	15	6.67	3.559	.919	4.70	8.64	2	12
	EPS EBD list	17	6.88	2.998	.727	5.34	8.42	3	13
	SENCO sample	18	5.39	3.632	.856	3.58	7.20	0	13
	Total	50	6.28	3.405	.482	5.31	7.25	0	13
ScContextScore	Permanently Excluded	15	4.00	3.317	.856	2.16	5.84	0	11
	EPS EBD list	17	3.35	3.181	.771	1.72	4.99	0	14
	SENCO sample	18	4.00	3.970	.936	2.03	5.97	0	13
	Total	50	3.78	3.466	.490	2.80	4.76	0	14
ScNonverScore	Permanently Excluded	15	6.20	3.610	.932	4.20	8.20	0	12
	EPS EBD list	17	2.59	1.906	.462	1.61	3.57	0	6
	SENCO sample	18	5.22	4.360	1.028	3.05	7.39	0	13
	Total	50	4.62	3.719	.526	3.56	5.68	0	13
ScSocScore	Permanently Excluded	15	4.00	3.464	.894	2.08	5.92	0	12
	EPS EBD list	17	1.65	1.869	.453	.69	2.61	0	7
	SENCO sample	18	4.22	4.870	1.148	1.80	6.64	0	12
	Total	50	3.28	3.769	.533	2.21	4.35	0	12
ScInterestScore	Permanently Excluded	15	5.60	1.920	.496	4.54	6.66	3	9
	EPS EBD list	17	5.24	1.522	.369	4.45	6.02	3	9
	SENCO sample	18	7.06	4.165	.982	4.98	9.13	0	15
	Total	50	6.00	2.914	.412	5.17	6.83	0	15
GCCPercentile	Permanently Excluded	15	14.900	21.8870	5.6512	2.779	27.021	.5	69.0
	EPS EBD list	17	5.529	6.3454	1.5390	2.267	8.792	1.0	27.0
	SENCO sample	18	14.611	24.6800	5.8171	2.338	26.884	.5	77.0
	Total	50	11.610	19.5138	2.7597	6.064	17.156	.5	77.0

Table A1.10.xii: ANOVA for differences between Reason on the CCC-2 Scales: ANOVA results

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
ScSpeechScore	Between Groups	.167	2	.083	.006	.994
	Within Groups	678.013	47	14.426		
	Total	678.180	49			
ScSyntaxScore	Between Groups	3.046	2	1.523	.123	.884
	Within Groups	580.874	47	12.359		
	Total	583.920	49			
ScSemScore	Between Groups	10.859	2	5.430	.473	.626
	Within Groups	539.141	47	11.471		
	Total	550.000	49			
ScCoherScore	Between Groups	24.939	2	12.470	1.321	.276
	Within Groups	443.541	47	9.437		
	Total	468.480	49			
ScInaplnitScore	Between Groups	21.051	2	10.526	.844	.437
	Within Groups	586.469	47	12.478		
	Total	607.520	49			
ScStereoScore	Between Groups	22.704	2	11.352	.978	.383
	Within Groups	545.376	47	11.604		
	Total	568.080	49			
ScContextScore	Between Groups	4.698	2	2.349	.189	.828
	Within Groups	583.882	47	12.423		
	Total	588.580	49			
ScNonverScore	Between Groups	114.151	2	57.076	4.759	.013
	Within Groups	563.629	47	11.992		
	Total	677.780	49			
ScSocScore	Between Groups	69.087	2	34.543	2.589	.086
	Within Groups	626.993	47	13.340		
	Total	696.080	49			
ScInterestScore	Between Groups	32.397	2	16.198	1.985	.149
	Within Groups	383.603	47	8.162		
	Total	416.000	49			
GCCPercentile	Between Groups	953.032	2	476.516	1.265	.292
	Within Groups	17705.613	47	376.715		
	Total	18658.645	49			

Table A1.10.xiii: Post-Hoc Tests for Significant results

Multiple Comparisons

Dependent Variable: ScNonverScore
Tukey HSD

(I) Reason	(J) Reason	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Permanently Excluded	EPS EBD list	3.612*	1.227	.014	.64	6.58
	SENCO sample	.978	1.211	.700	-1.95	3.91
EPS EBD list	Permanently Excluded	-3.612*	1.227	.014	-6.58	-.64
	SENCO sample	-2.634	1.171	.073	-5.47	.20
SENCO sample	Permanently Excluded	-.978	1.211	.700	-3.91	1.95
	EPS EBD list	2.634	1.171	.073	-.20	5.47

*. The mean difference is significant at the .05 level.

SIDC

No significant differences were found relating to the participants' reason for being included in the research sample.

Significance tests for participants whose scores on the GCC fell below the 10th percentile

Table A1.10.xiv: One-sample t-test for differences between the Sample mean in comparison to the expected population mean of GCC percentile 50

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
GCCPercentile	50	11.610	19.5138	2.7597

One-Sample Test

	Test Value = 50					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
GCCPercentile	-13.911	49	.000	-38.3900	-43.936	-32.844

A comparison between groups showed there were no significant differences between the GCC percentiles that fell below the 10th percentile by Gender, Age Group, School Type or Reason for Inclusion in the research. Therefore all groups were comparatively evenly represented within the lowest 10 percentiles.

Appendix 1.11

Statistical Analysis – Interpersonal Reactivity Index (IRI) scores

All participants can be included in the analysis of the Interpersonal Reactivity Index as there was no requirement to pass a consistency check for this measure.

Gender

There were no significant differences between males and females on the IRI scales or total IRI score.

Table A1.11.i: T-test comparing scores on the IRI scales grouped by Gender

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
PerspectiveTaking	Male	63	12.84	5.249	.661
	Female	11	12.36	4.696	1.416
Fantasy Scale	Male	63	13.71	5.765	.726
	Female	11	13.73	5.781	1.743
EmpathicConcern	Male	63	17.03	4.964	.625
	Female	11	16.09	3.961	1.194
PersonalDistress	Male	63	13.13	4.689	.591
	Female	11	15.64	4.154	1.252

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PerspectiveTaking	Equal variances assumed	.206	.651	.282	72	.778	.478	1.691	-2.894	3.849
	Equal variances not assumed			.306	14.726	.764	.478	1.563	-2.859	3.814
Fantasy Scale	Equal variances assumed	.115	.735	-.007	72	.995	-.013	1.885	-3.770	3.744
	Equal variances not assumed			-.007	13.708	.995	-.013	1.888	-4.071	4.045
EmpathicConcern	Equal variances assumed	.563	.455	.595	72	.554	.941	1.581	-2.210	4.092
	Equal variances not assumed			.698	16.042	.495	.941	1.348	-1.917	3.798
PersonalDistress	Equal variances assumed	.558	.458	-1.663	72	.101	-2.509	1.509	-5.518	.499
	Equal variances not assumed			-1.812	14.826	.090	-2.509	1.385	-5.464	.445

Age Group

One significant difference was found on the IRI scale of Personal Distress in relation to the participants' age group.

Table A1.11.ii: ANOVA comparing scores on the IRI scales by Age Group: Descriptives

Descriptives									
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	
					Lower Bound	Upper Bound			
Perspective Taking	1	2	8.00	1.414	1.000	-4.71	20.71	7	9
	2	27	14.19	5.844	1.125	11.87	16.50	4	25
	3	24	12.79	4.443	.907	10.92	14.67	4	22
	4	21	11.38	4.727	1.032	9.23	13.53	3	21
	Total	74	12.77	5.143	.598	11.58	13.96	3	25
Fantasy Scale	1	2	13.00	1.414	1.000	.29	25.71	12	14
	2	27	14.63	5.739	1.104	12.36	16.90	2	25
	3	24	14.46	6.136	1.253	11.87	17.05	4	28
	4	21	11.76	5.262	1.148	9.37	14.16	3	20
	Total	74	13.72	5.728	.666	12.39	15.04	2	28
Empathic Concern	1	2	11.50	4.950	3.500	-32.97	55.97	8	15
	2	27	18.15	5.510	1.060	15.97	20.33	6	26
	3	24	16.50	4.836	.987	14.46	18.54	8	28
	4	21	16.24	3.375	.736	14.70	17.77	10	23
	Total	74	16.89	4.816	.560	15.78	18.01	6	28
Personal Distress	1	2	19.50	4.950	3.500	-24.97	63.97	16	23
	2	27	12.44	4.619	.889	10.62	14.27	0	22
	3	24	15.38	4.312	.880	13.55	17.20	6	23
	4	21	12.14	4.258	.929	10.20	14.08	4	22
	Total	74	13.50	4.674	.543	12.42	14.58	0	23

Table A1.11.iii: ANOVA comparing scores on the IRI scales by Age Group: ANOVA results

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Perspective Taking	Between Groups	140.110	3	46.703	1.825	.150
	Within Groups	1790.985	70	25.585		
	Total	1931.095	73			
Fantasy Scale	Between Groups	116.976	3	38.992	1.198	.317
	Within Groups	2278.064	70	32.544		
	Total	2395.041	73			
Empathic Concern	Between Groups	113.418	3	37.806	1.675	.180
	Within Groups	1579.717	70	22.567		
	Total	1693.135	73			
Personal Distress	Between Groups	225.137	3	75.046	3.836	.013
	Within Groups	1369.363	70	19.562		
	Total	1594.500	73			

Table A1.11.iv: Post-hoc tests for significant results

Unfortunately post-hoc tests failed to identify where the significant difference arose.

Multiple Comparisons

Dependent Variable: PersonalDistress

	(I) age in months to groups	(J) age in months to groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	1	2	7.056	3.241	.140	-1.47	15.59
		3	4.125	3.255	.587	-4.44	12.69
		4	7.357	3.273	.121	-1.26	15.97
	2	1	-7.056	3.241	.140	-15.59	1.47
		3	-2.931	1.241	.094	-6.20	.34
		4	.302	1.287	.995	-3.09	3.69
	3	1	-4.125	3.255	.587	-12.69	4.44
		2	2.931	1.241	.094	-.34	6.20
		4	3.232	1.322	.078	-.25	6.71
	4	1	-7.357	3.273	.121	-15.97	1.26
		2	-.302	1.287	.995	-3.69	3.09
		3	-3.232	1.322	.078	-6.71	.25
Scheffe	1	2	7.056	3.241	.202	-2.23	16.34
		3	4.125	3.255	.660	-5.20	13.45
		4	7.357	3.273	.178	-2.02	16.73
	2	1	-7.056	3.241	.202	-16.34	2.23
		3	-2.931	1.241	.144	-6.49	.62
		4	.302	1.287	.997	-3.38	3.99
	3	1	-4.125	3.255	.660	-13.45	5.20
		2	2.931	1.241	.144	-.62	6.49
		4	3.232	1.322	.123	-.55	7.02
	4	1	-7.357	3.273	.178	-16.73	2.02
		2	-.302	1.287	.997	-3.99	3.38
		3	-3.232	1.322	.123	-7.02	.55
Bonferroni	1	2	7.056	3.241	.197	-1.75	15.86
		3	4.125	3.255	1.000	-4.71	12.96
		4	7.357	3.273	.166	-1.53	16.24
	2	1	-7.056	3.241	.197	-15.86	1.75
		3	-2.931	1.241	.126	-6.30	.44
		4	.302	1.287	1.000	-3.19	3.80
	3	1	-4.125	3.255	1.000	-12.96	4.71
		2	2.931	1.241	.126	-.44	6.30
		4	3.232	1.322	.102	-.36	6.82
	4	1	-7.357	3.273	.166	-16.24	1.53
		2	-.302	1.287	1.000	-3.80	3.19
		3	-3.232	1.322	.102	-6.82	.36

However, independent samples t-tests identified the differences which are displayed in the Results section.

School Type

There were no significant differences on the IRI scales relating to the participants' school type.

Table A1.11.v: ANOVA comparing scores on the IRI scales by School Type: Descriptives

		Descriptives								
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	
						Lower Bound	Upper Bound			
PerspectiveTaking	Primary	27	13.26	5.722	1.101	11.00	15.52	4	25	
	Secondary	36	12.53	4.855	.809	10.89	14.17	3	22	
	PRU- KS2&3	5	12.60	7.733	3.458	3.00	22.20	4	23	
	PRU- KS4	6	12.17	.983	.401	11.13	13.20	11	13	
	Total	74	12.77	5.143	.598	11.58	13.96	3	25	
Fantasy Scale	Primary	27	14.26	5.425	1.044	12.11	16.41	2	25	
	Secondary	36	13.92	5.793	.966	11.96	15.88	4	28	
	PRU- KS2&3	5	12.80	7.855	3.513	3.05	22.55	3	24	
	PRU- KS4	6	10.83	5.382	2.197	5.19	16.48	5	18	
	Total	74	13.72	5.728	.666	12.39	15.04	2	28	
EmpathicConcern	Primary	27	17.59	5.833	1.122	15.29	19.90	6	26	
	Secondary	36	16.75	4.430	.738	15.25	18.25	8	28	
	PRU- KS2&3	5	15.80	4.087	1.828	10.73	20.87	10	21	
	PRU- KS4	6	15.50	2.168	.885	13.22	17.78	13	18	
	Total	74	16.89	4.816	.560	15.78	18.01	6	28	
PersonalDistress	Primary	27	12.85	4.951	.953	10.89	14.81	0	23	
	Secondary	36	14.17	4.919	.820	12.50	15.83	4	23	
	PRU- KS2&3	5	13.60	4.099	1.833	8.51	18.69	10	18	
	PRU- KS4	6	12.33	1.211	.494	11.06	13.60	11	14	
	Total	74	13.50	4.674	.543	12.42	14.58	0	23	

Table A1.11.vi: ANOVA comparing scores on the IRI scales by School Type: ANOVA results

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
PerspectiveTaking	Between Groups	10.904	3	3.635	.132	.940
	Within Groups	1920.191	70	27.431		
	Total	1931.095	73			
Fantasy Scale	Between Groups	63.472	3	21.157	.635	.595
	Within Groups	2331.569	70	33.308		
	Total	2395.041	73			
EmpathicConcern	Between Groups	31.567	3	10.522	.443	.723
	Within Groups	1661.569	70	23.737		
	Total	1693.135	73			
PersonalDistress	Between Groups	35.559	3	11.853	.532	.662
	Within Groups	1558.941	70	22.271		
	Total	1594.500	73			

Reason for Inclusion in the Sample

There were no significant differences on the IRI scales relating to the participants' reason for inclusion in the sample.

Table A1.11.vii: ANOVA comparing scores on the IRI scales by Reason: Descriptives

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
PerspectiveTaking	Permanently Excluded	15	12.20	4.539	1.172	9.69	14.71	4	23
	EPS EBD list	28	12.43	5.487	1.037	10.30	14.56	4	22
	SENCO sample	31	13.35	5.200	.934	11.45	15.26	3	25
	Total	74	12.77	5.143	.598	11.58	13.96	3	25
FantasyScale	Permanently Excluded	15	11.80	5.634	1.455	8.68	14.92	3	24
	EPS EBD list	28	14.96	5.433	1.027	12.86	17.07	4	28
	SENCO sample	31	13.52	5.927	1.064	11.34	15.69	2	25
	Total	74	13.72	5.728	.666	12.39	15.04	2	28
EmpathicConcern	Permanently Excluded	15	15.27	3.555	.918	13.30	17.24	8	21
	EPS EBD list	28	17.36	5.431	1.026	15.25	19.46	6	28
	SENCO sample	31	17.26	4.726	.849	15.52	18.99	6	24
	Total	74	16.89	4.816	.560	15.78	18.01	6	28
PersonalDistress	Permanently Excluded	15	12.53	4.086	1.055	10.27	14.80	4	18
	EPS EBD list	28	14.50	4.788	.905	12.64	16.36	5	23
	SENCO sample	31	13.06	4.809	.864	11.30	14.83	0	22
	Total	74	13.50	4.674	.543	12.42	14.58	0	23

Table A1.11.viii: ANOVA comparing scores on the IRI scales by Reason: ANOVA results

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
PerspectiveTaking	Between Groups	18.741	2	9.370	.348	.707
	Within Groups	1912.354	71	26.935		
	Total	1931.095	73			
FantasyScale	Between Groups	99.934	2	49.967	1.546	.220
	Within Groups	2295.106	71	32.325		
	Total	2395.041	73			
EmpathicConcern	Between Groups	49.838	2	24.919	1.077	.346
	Within Groups	1643.297	71	23.145		
	Total	1693.135	73			
PersonalDistress	Between Groups	47.896	2	23.948	1.099	.339
	Within Groups	1546.604	71	21.783		
	Total	1594.500	73			

Comparing sample scores on the IRI with means from previously published research

Differences from the Davis (1980) and Atkins & Steitz (2002) means

As studies containing published norms have separated their participants throughout into males and females and no combined norms are available, the comparisons in the following tables all consider males and females separately. The comparison studies are Davis (1980) and Atkins & Steitz (2002).

Males

Table A1.11.ix: One-sample t-test to compare Sample Means with Published Means

Using a 1-sample t-test, very significant differences were found between males in the sample and the mean scores found by Davis (1980) and Atkins & Steitz (2002). The table shows the scores on each of the IRI scales and the significant t-test results.

Males	Perspective Taking	Fantasy	Empathic Concern	Personal Distress
Sample mean (N=63)	12.84	13.71	17.03	13.13
Davis mean (N>500)	16.78	15.73	19.04	9.46
T score	-5.956	-2.775	-3.211	6.208
Significance	<0.001	0.007	0.002	<0.001
Atkins & Steitz mean (N>500)	16.23	16.41	19.74	10.42
T score	-5.124	-3.711	-4.330	4.583
Significance	<0.001	<0.001	<0.001	<0.001

In order to determine if there were any groups in particular where the scores were more significantly different from the means found by Davis (1980), t-tests were carried out for each of the school types, reason for inclusion in the study, and age groups. Although ANOVAs produced no significant differences between the groups, it was possible to see which of these groups differed to a greater extent from the published means.

Table A1.11.x: One-sample t-test to compare Sample Means (Davis, 1980) with Published Means by School Type and Age Group

	Perspective Taking	Fantasy	Empathic Concern	Personal Distress
Primary (N=24)	12.71 t=-3.432, p=0.002	13.88 t=-1.722, p=0.099	17.17 t=-1.530, p=0.140	13.00 t=3.448, p=0.002
Secondary (N=29)	13.07 t=-4.038, p<0.001	14.41 t=-1.207, p=0.237	17.48 t=-1.837, p=0.077	13.34 t=4.182, p<0.001
PRU KS2&3 (N=5)	12.60 t=-1.209, p=0.293	12.80 t=-0.834, p=0.451	15.80 t=-1.773, p=0.151	13.60 t=2.259, p=0.087
PRU KS4 (N=5)	12.40 t=-10.950, p<0.001	9.80 t=-2.497, p=0.067	15.00 t=-4.517, p=0.011	12.00 t=5.680, p=0.005
Perm. Ex'd (N=14)	12.29 t=-3.580, p=0.003	11.50 t=-2.766, p=0.016	15.07 t=-4.119, p=0.001	12.43 t=2.633, p=0.021
EPS EBD (N=28)	12.43 t=-4.196, p<0.001	14.96 t=-0.746, p=0.462	17.36 t=-1.640, p=0.113	14.50 t=5.570, p<0.001
SENCO (N=21)	13.76 t=-2.564, p=0.018	13.52 t=-1.679, p=0.109	17.90 t=-1.051, p=0.306	11.76 t=2.319, p=0.031
KS1 (N=2)	8.00 t=8.780, p=0.072	13.00 t=-2.730, p=0.224	11.50 t=-2.154, p=0.277	19.50 t=2.869, p=0.214
KS2 (N=24)	13.75 t=-2.458, p=0.022	14.29 t=-1.243, p=0.226	17.79 t=-1.075, p=0.293	12.54 t=3.232, p=0.004
KS3 (N=19)	13.42 t=-3.219, p=0.005	14.95 t=-0.542, p=0.594	17.26 t=-1.526, p=0.144	15.00 t=5.175, p<0.001
KS4 (N=18)	11.56 t=-4.613, p<0.001	11.72 t=-3.143, p=0.006	16.39 t=-3.183, p=0.005	11.22 t=2.064, p=0.055

Shaded red is a very large t-score difference from the norm.

Females

Table A1.11.xi: One-sample t-test to compare Sample Means with Published Means

Similarly significant differences were found between females in the sample and the mean scores found by Davis (1980) and Atkins & Steitz (2002). The table below shows the scores on each of the IRI scales and the significant t-test results.

Females	Perspective Taking	Fantasy	Empathic Concern	Personal Distress
Sample mean (N=63)	12.36	13.73	16.09	15.64
Davis mean (N>500)	17.96	18.75	21.67	12.28
T score	-3.952	-2.882	-4.671	2.680
Significance	0.003	0.016	0.001	0.023
Atkins & Steitz mean (N>500)	17.01	18.85	22.28	12.22
T score	-3.281	-2.939	-5.182	2.728
Significance	0.008	0.015	<0.001	0.021

In order to determine if there were any groups in particular where the scores were more significantly different from the means found by Davis (1980), t-tests were carried out for each of the school types, reason for inclusion in the study, and age groups. Although ANOVAs produced no significant differences between the groups, it was possible to see which of these groups differed to a greater extent from the published means.

Table A1.11.xii: One-sample t-test to compare Sample Means (Davis, 1980) with Published Means by School Type and Age Group

	Perspective Taking	Fantasy	Empathic Concern	Personal Distress
Primary (N=3)	17.67 t=-0.244, p=0.830	17.33 t=-0.360, p=0.753	21.00 t=-03.87, p=0.736	11.67 t=-0.211, p=0.852
Secondary (N=7)	10.29 t=-5.091, p=0.002	11.86 t=-3.398, p=0.015	13.71 t=-10.652, p<0.001	17.57 t=5.072, p=0.002
SENCO (N=10)	12.50 t=-3.504, p=0.007	13.50 t=-2.748, p=0.023	15.90 t=-4.427, p=0.002	15.80 t=2.564, p=0.030
KS2 (N=3)	17.67 t=-0.244, p=0.830	17.33 t=-0.360, p=0.753	21.00 t=-0.387, p=0.736	11.67 t=0.211, p=0.852
KS3 (N=5)	10.40 t=-5.029, p=0.007	12.60 t=-2.401, p=0.074	13.60 t=-7.838, p=0.001	16.80 t=4.233, p=0.013
KS4 (N=3)	10.33 t=-2.625, p=0.120	12.00 t=-2.209, p=0.158	15.33 t=-4.631, p=0.049	17.67 t=2.309, p=0.147

Shaded red is a very large t-score difference from the norm.

Appendix 1.12

Correlation Matrices

All correlations given are Pearson's product-moment correlation coefficients. Participants were only included where the CCC-2 consistency check was passed.

Table A1.12.i: Age with CCC-2 Raw Scores

		Correlations										
	AgeY ears	RawSpeech Score	RawSyntax Score	RawSem Score	RawCoher Score	RawInapp IntiScore	RawStereo Score	RawContext Score	RawNonver Score	RawSocScore	RawInterest Score	
AgeY ears	1											
Pearson Correlation		-.138	-.098	-.240	-.285*	-.278	-.340*	-.229	-.224	-.045	-.166	
Sig. (2-tailed)		.339	.498	.094	.045	.051	.016	.109	.118	.757	.250	
N		50	50	50	50	50	50	50	50	50	50	
RawSpeechScore	-.138	1										
Pearson Correlation			.593**	.641**	.559**	.299*	.336*	.452**	.332*	.196	.240	
Sig. (2-tailed)			.000	.000	.000	.035	.017	.001	.018	.172	.093	
N			50	50	50	50	50	50	50	50	50	
RawSyntaxScore	-.098	.593**	1									
Pearson Correlation				.551**	.134	.436**	.507**	.164	.245	.164	.197	
Sig. (2-tailed)				.000	.355	.002	.000	.086	.086	.254	.170	
N				50	50	50	50	50	50	50	50	
RawSemScore	-.240	.641**	.683**	1								
Pearson Correlation					.760**	.606**	.653**	.365**	.365**	.383**	.336*	
Sig. (2-tailed)					.000	.000	.000	.009	.009	.006	.017	
N					50	50	50	50	50	50	50	
RawCoherScore	-.285*	.559**	.551**	.760**	1							
Pearson Correlation						.636**	.582**	.743**	.660**	.590**	.499**	
Sig. (2-tailed)						.000	.000	.000	.000	.000	.000	
N						50	50	50	50	50	50	
RawInappIntiScore	-.278	.299*	.436**	.606**	.636**	1						
Pearson Correlation							.583**	.559**	.585**	.543**	.634**	
Sig. (2-tailed)							.000	.000	.000	.000	.000	
N							50	50	50	50	50	
RawStereoScore	-.340*	.336*	.436**	.606**	.582**	.583**	1					
Pearson Correlation								.678**	.494**	.440**	.659**	
Sig. (2-tailed)								.000	.000	.001	.000	
N								50	50	50	50	
RawContextScore	-.229	.452**	.507**	.653**	.743**	.559**	.678**	1				
Pearson Correlation									.727**	.612**	.632**	
Sig. (2-tailed)									.000	.000	.000	
N									50	50	50	
RawNonverScore	-.224	.332*	.452**	.365**	.660**	.585**	.494**	.727**	1			
Pearson Correlation										.738**	.634**	
Sig. (2-tailed)										.000	.000	
N										50	50	
RawSocScore	-.045	.196	.164	.383**	.590**	.543**	.440**	.612**	.738**	1		
Pearson Correlation											.575**	
Sig. (2-tailed)											.000	
N											50	
RawInterestScore	-.166	.250	.093	.336*	.499**	.634**	.659**	.632**	.634**	.575**	1	
Pearson Correlation												.575**
Sig. (2-tailed)												.000
N												50

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Comparing age with the scaled scores no significant differences were found. This suggests that the current sample's language skill does not change in relation to increasing age.

Table A1.12.ii: Age with CCC-2 Scaled Scores

		Correlations											
		AgeMonths	ScSpeech Score	ScSyntax Score	ScSemScore	ScCoher Score	Schnappint Score	ScStereo Score	ScContext Score	ScNonver Score	ScSocScore	ScInterest Score	GCC
Pearson Correlation		1											
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	AgeMonths												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	ScSpeech Score												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	ScSyntax Score												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	ScSemScore												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	ScCoher Score												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	Schnappint Score												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	ScStereo Score												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	ScContext Score												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	ScNonver Score												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	ScSocScore												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	ScInterest Score												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50
Pearson Correlation	GCC												
Sig. (2-tailed)													
N		50	50	50	50	50	50	50	50	50	50	50	50

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Correlations between the Language and Empathy Scales

Table A1.12.iii: Significant Correlations between CCC-2 scaled scores and IRI scales

		ScSpeech Score	ScSyntax Score	ScSemScore	ScCoher Score	ScInappint Score	ScStereo Score	ScContext Score	ScNonver Score	ScSocScore	SchInterest Score	GCC	SIDC	Perspective Taking	Fantasy Scale	Empathic Concern	Personal Distress
ScSpeechScore	Pearson Correlation Sig. (2-tailed)	1	.546**	.545**	.573**	.334**	.287**	.501**	.406**	.274	.361**	.693**	.394**	.116	.062	.068	.061
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
ScSyntaxScore	Pearson Correlation Sig. (2-tailed)	.546**	1	.539**	.392**	.043	.012	.351**	.159	.093	.128	.554**	-.625**	.120	.216	.128	.190
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
ScSemScore	Pearson Correlation Sig. (2-tailed)	.545**	.539**	1	.686**	.579**	.612**	.670**	.421**	.492**	.376**	.825**	-.250	.149	-.022	-.016	-.083
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
ScCoherScore	Pearson Correlation Sig. (2-tailed)	.573**	.392**	.686**	1	.649**	.609**	.757**	.778**	.599**	.573**	.890**	.021	.190	-.154	.086	-.087
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
ScInappintScore	Pearson Correlation Sig. (2-tailed)	.334**	.043	.579**	.649**	1	.606**	.655**	.687**	.690**	.760**	.748**	-.494**	.261	-.252	.085	-.179
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
ScStereoScore	Pearson Correlation Sig. (2-tailed)	.287**	.334**	.612**	.609**	.606**	1	.629**	.547**	.452**	.560**	.758**	-.114	.131	-.174	.043	-.039
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
ScContextScore	Pearson Correlation Sig. (2-tailed)	.501**	.351**	.670**	.757**	.655**	.626**	1	.681**	.661**	.661**	.859**	.142	.308*	-.046	.110	-.028
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
ScNonverScore	Pearson Correlation Sig. (2-tailed)	.406**	.159	.421**	.778**	.687**	.547**	.681**	1	.723**	.672**	.771**	.440**	.299*	-.171	.237	-.085
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
ScSocScore	Pearson Correlation Sig. (2-tailed)	.274	.093	.492**	.599**	.690**	.452**	.661**	.723**	1	.649**	.655**	.528**	.256	-.106	.188	-.195
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
SchInterestScore	Pearson Correlation Sig. (2-tailed)	.361**	.128	.376**	.573**	.760**	.560**	.661**	.672**	.649**	1	.674**	.508**	.302*	-.223	.306*	-.050
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
GCC	Pearson Correlation Sig. (2-tailed)	.693**	.554**	.825**	.890**	.748**	.758**	.859**	.771**	.655**	.674**	1	-.007	.253	-.085	.122	-.039
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
SIDC	Pearson Correlation Sig. (2-tailed)	-.394**	-.625**	-.250	.021	-.494**	-.114	-.142	.440**	.528**	.508**	-.007	1	.181	-.279	.174	-.202
	N	50	50	50	50	50	50	50	50	50	50	50	50	47	47	47	47
PerspectiveTaking	Pearson Correlation Sig. (2-tailed)	.116	.120	.149	.190	.261	.131	.308*	.299*	.256	.302*	.253	.181	1	.272	.571**	-.088
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Fantasy Scale	Pearson Correlation Sig. (2-tailed)	.062	.216	.145	.154	-.252	-.174	-.046	-.171	-.106	-.223	-.085	-.279	.272	1	.216	.236
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
EmpathicConcern	Pearson Correlation Sig. (2-tailed)	.068	.128	.086	.096	.085	.043	.110	.237	.188	.306*	.122	.174	.571**	.216	1	-.300*
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
PersonalDistress	Pearson Correlation Sig. (2-tailed)	.686	.652	.393	.523	.570	.773	.461	.109	.183	.037	.414	.243	.000	.145	.145	-.040
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Table A1.12.iv: Significant Correlations: CCC-2 scaled scores and IRI scales (Males)

		ScSpeech Score	ScSyntax Score	ScSemScore	ScCoher Score	Schnpphnt Score	ScStereo Score	ScContext Score	ScNonver Score	ScSocScore	ScInterest Score	Perspective Taking	FantasyScale	Empathic Concern	Personal Distress
ScSpeechScore	Pearson Correlation Sig. (2-tailed)	1	.602**	.599**	.584**	.280	.249	.510**	.402**	.391**	.340*	.059	.116	.051	.085
	N	42	42	42	42	42	42	42	42	42	42	39	39	39	39
ScSyntaxScore	Pearson Correlation Sig. (2-tailed)	.602**	1	.485**	.364*	.025	.335*	.341**	.131	.118	.191	.148	.193	.145	.242
	N	42	42	42	42	42	42	42	42	42	42	39	39	39	39
ScSemScore	Pearson Correlation Sig. (2-tailed)	.699**	.485**	1	.641**	.584**	.575**	.642**	.382**	.540**	.396**	.156	-.077	-.081	-.034
	N	42	42	42	42	42	42	42	42	42	42	39	39	39	39
ScCoherScore	Pearson Correlation Sig. (2-tailed)	.584**	.641**	.641**	1	.602**	.541**	.707**	.781**	.689**	.546**	.163	-.179	.019	-.023
	N	42	42	42	42	42	42	42	42	42	42	39	39	39	39
SchnpphntScore	Pearson Correlation Sig. (2-tailed)	.280	.025	.584**	.602**	1	.563**	.599**	.684**	.787**	.737**	.228	-.294	.014	-.138
	N	42	42	42	42	42	42	42	42	42	42	39	39	39	39
ScStereoScore	Pearson Correlation Sig. (2-tailed)	.249	.335*	.575**	.541**	.563**	1	.571**	.517**	.475**	.534**	.062	-.211	-.053	.069
	N	42	42	42	42	42	42	42	42	42	42	39	39	39	39
ScContextScore	Pearson Correlation Sig. (2-tailed)	.510**	.341**	.642**	.707**	.599**	.571**	1	.647**	.709**	.626**	.292	-.060	.033	.045
	N	42	42	42	42	42	42	42	42	42	42	39	39	39	39
ScNonverScore	Pearson Correlation Sig. (2-tailed)	.402**	.131	.382**	.781**	.684**	.517**	.647**	1	.759**	.647**	.266	-.202	.189	-.091
	N	42	42	42	42	42	42	42	42	42	42	39	39	39	39
ScSocScore	Pearson Correlation Sig. (2-tailed)	.391**	.118	.540**	.689**	.787**	.475**	.709**	.759**	1	.687**	.187	-.295	.103	-.135
	N	42	42	42	42	42	42	42	42	42	42	39	39	39	39
ScInterestScore	Pearson Correlation Sig. (2-tailed)	.340*	.191	.396**	.546**	.737**	.534**	.626**	.647**	.687**	1	.237	-.223	.249	.001
	N	42	42	42	42	42	42	42	42	42	42	39	39	39	39
PerspectiveTaking	Pearson Correlation Sig. (2-tailed)	.059	.148	.156	.163	.228	.062	.292	.266	.187	.237	1	.285	.533**	.035
	N	723	368	343	322	163	706	071	101	254	147	254	079	.000	.834
FantasyScale	Pearson Correlation Sig. (2-tailed)	.116	.193	-.077	-.179	-.294	-.211	-.060	-.202	-.295	-.223	.285	1	.220	-.378*
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39
EmpathicConcern	Pearson Correlation Sig. (2-tailed)	.051	.145	-.081	.019	.014	-.053	.033	.189	.103	.249	.533**	.220	1	-.215
	N	760	378	.625	.908	.932	.751	.842	.249	.532	.126	.000	.178	.178	.188
PersonalDistress	Pearson Correlation Sig. (2-tailed)	.085	.242	-.034	-.023	-.138	.069	.045	-.091	-.135	.001	.035	.378*	-.215	1
	N	608	137	.839	.888	.402	.677	.785	.834	.413	.995	.834	.018	.188	.188
	N	39	39	39	39	39	39	39	39	39	39	39	39	39	39

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table A1.12.v: Significant Correlations: CCC-2 scaled scores and IRI scales (Females)

		ScSpeech Score	ScSyntax Score	ScSemScore	ScCoher Score	ScSnappint Score	ScStereo Score	ScContext Score	ScNonver Score	ScSocScore	ScInterest Score	Perspectiv e Taking	Fantasy Scale	Empathic Concern	Personal Distress
ScSpeechScore	Pearson Correlation Sig. (2-tailed)	1	.342	.333	.525	.561	.452	.515	.627	-.120	.523	.391	-.125	.156	.148
	N	8	.407	.420	.181	.148	.261	.192	.096	.778	.184	.338	.767	.712	.726
ScSyntaxScore	Pearson Correlation Sig. (2-tailed)	.342	1	.791*	.525	.135	.466	.394	.331	.003	-.146	-.027	.339	.026	-.036
	N	8	.407	.019	.181	.750	.245	.334	.423	.995	.730	.949	.412	.951	.932
ScSemScore	Pearson Correlation Sig. (2-tailed)	.342	.791*	1	.868**	.554	.816*	.801*	.728*	.468	.321	.118	.251	.340	-.266
	N	8	.407	.019	.005	.154	.014	.017	.041	.243	.438	.781	.549	.409	.525
ScCoherScore	Pearson Correlation Sig. (2-tailed)	.525	.525	.868**	1	.853**	.960**	.983**	.916**	.497	.716*	.325	-.024	.532	-.310
	N	8	.181	.005	.007	.008	.000	.000	.001	.210	.046	.432	.954	.174	.465
ScSnappintScore	Pearson Correlation Sig. (2-tailed)	.561	.135	.554	.853**	1	.849**	.928**	.817*	.553	.891**	.438	-.023	.529	-.360
	N	8	.148	.750	.007	.008	.008	.001	.013	.155	.003	.278	.957	.178	.381
ScStereoScore	Pearson Correlation Sig. (2-tailed)	.452	.466	.816*	.960**	.849**	1	.962**	.913**	.598	.764*	.531	.063	.703	-.519
	N	8	.261	.014	.000	.008	8	.000	.002	.117	.027	.176	.883	.052	.187
ScContextScore	Pearson Correlation Sig. (2-tailed)	.515	.394	.801*	.983**	.926**	.962**	1	.922**	.590	.801*	.392	.010	.588	-.386
	N	8	.192	.017	.000	.001	.000	8	.001	.124	.017	.336	.982	.126	.344
ScNonverScore	Pearson Correlation Sig. (2-tailed)	.627	.331	.728*	.916**	.817*	.913**	.922**	1	.638	.833*	.551	-.092	.668	-.351
	N	8	.096	.423	.001	.013	.002	.001	8	.089	.010	.157	.829	.070	.394
ScSocScore	Pearson Correlation Sig. (2-tailed)	.120	.003	.468	.487	.553	.588	.590	.638	1	.552	.591	.484	.731**	-.742**
	N	8	.778	.995	.210	.155	.117	.124	.089	8	.156	.123	.224	.040	.035
ScInterestScore	Pearson Correlation Sig. (2-tailed)	.523	-.146	.321	.716*	.891**	.764*	.801*	.833*	.552	1	.620	-.279	.664	-.368
	N	8	.184	.438	.046	.003	.027	.017	.010	.156	8	.101	.503	.072	.370
Perspectiv eTaking	Pearson Correlation Sig. (2-tailed)	.391	-.027	.118	.325	.438	.531	.392	.551	.591	.620	1	.204	.857**	-.725*
	N	8	.338	.781	.432	.278	.176	.336	.157	.123	.101	8	.627	.007	.042
Fantasy Scale	Pearson Correlation Sig. (2-tailed)	-.125	.339	.251	-.024	-.023	.063	.010	-.092	.484	-.279	.204	1	.206	-.582
	N	8	.767	.412	.954	.957	.863	.982	.829	.224	.503	.627	8	.624	.130
EmpathicConcern	Pearson Correlation Sig. (2-tailed)	.156	.026	.340	.532	.529	.703	.588	.688	.731*	.664	.857**	.206	1	-.867**
	N	8	.712	.951	.174	.178	.052	.126	.070	.040	.072	.007	.624	8	.005
PersonalDistress	Pearson Correlation Sig. (2-tailed)	.148	-.036	-.266	-.310	-.360	-.519	-.386	-.351	-.742*	-.368	-.725*	-.582	-.867**	1
	N	8	.726	.932	.455	.381	.187	.344	.394	.035	.370	.042	.130	.005	.005

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Appendix 1.13

Limitations of and Extensions to the Research: Further comments

Sample Size

The sample size was unfortunately reduced by the lack of consistency in 31 of the 81 participants' CCC-2 forms. This proportion, over 38%, is higher than Geurts and Embrechts (2008) who calculated that between 9.3 and 22.8% of parents were inconsistent in their answers. This is despite the checklist's instructions highlighting the change in question type when it moves from assessing communicative difficulties to strengths. There were also many checklists not returned which reduced the possible 138 participants to 50 that passed the CCC-2 consistency check.

The intention for the current study was also to include young people known to the Youth Offending Team, the Youth Inclusion Project, and young people at college who had experienced exclusion from school. Unfortunately participants from these groups were not obtained, despite having made contact with professionals from each service, and attending a YIP team development day where the staff expressed great interest in the research area and recognised many of their young people as possibly having the difficulties explained. The YIP workers were keen to be involved but were not able to obtain consent from young people or parents. With more time, future research could develop closer working relationships with the relevant services, young people, and their parents in order to obtain samples for comparison.

The Children's Communication Checklist, CCC-2

In a practical context, more than one procedure would be used so that scores from the CCC-2 could be supplemented by other measures of communication, for example observations, interviews and other elicitation procedures (Adams, 2002). An interview schedule, The Pragmatics Profile of Everyday Communication Skills in Children (Dewart & Summers, 1995), provides additional detailed information but was not appropriate to the current study as it is only for children up to age 10. As this explores children's communication in everyday interactions at home and in school it could be used in a future study for more detailed qualitative information.

The role of language is implicated in Theory of Mind (ToM) development. Children with SLI were found to have intact ToM compared to children with autism (Ziatos, Durkin and Pratt, 1998) yet adults who were diagnosed with Developmental Language Disorder as children had very limited ToM compared to comparison groups (Clegg, Hollis, Mawhood & Rutter, 2005). The deficit could not be entirely accounted for by impaired language skills, as all the adults had a language level at least the equivalent to age 10 or 11 years which is considered more than adequate to pass ToM tasks (Happé, 1994; Hughes, Adlam, Happé, Jackson, Taylor & Caspi, 2000). Since there are also some children with pragmatic difficulties with impaired ToM functioning (Serra, Loth, Van Geert, Hurkens & Minderaa, 2002), future research could explore further the ToM performance in language-impaired young people.

The Interpersonal Reactivity Index, IRI

Since the Davis (1980) IRI means relate to adults, it is possible that they cannot be extrapolated to young people. However, the participants' responses were extremely significantly different to the Davis (1980) means to such an extent that it is possible this would be maintained even if norms for children were slightly different from those obtained by Davis, but this would be an interesting point for a future study to ascertain. Furthermore, the children's responses were not significantly different on perspective taking to Beven et al's (2004) study with prisoners, many of whom are also likely to have difficulties with language and communication, given the research into literacy difficulties of this population. De Wied et al (2005) found that boys were not unresponsive to emotions of other people; they showed impairments in sharing the emotions of sadness and anger, but not in sharing happiness. This could not be assessed in the current study as there were no norms relating to the individual IRI questions, so no comparisons could be made between the current sample's responses to happy or sad questions in relation to what would be expected; this could be done in a future study either by developing norms for individual IRI questions or by using an alternative measure.

Appendices to Paper Two

Appendix 2.1

Details about Procedures Undertaken to Conduct the Data Collection

The research took place in a north-west metropolitan borough. The participants involved in the research were school pupils, with no age minimum or maximum stipulated. The participant list was produced from three groups:

1. Pupils on a local authority database who had been permanently excluded from school in the academic year 2007-2008;
2. Pupils on the Educational Psychology Service (EPS) database who had been referred to the service for reasons of emotional or behavioural difficulties (EBD);
3. Special Educational Needs Co-ordinators (SENCOs) identified pupils with behavioural difficulties who were at risk of exclusion from school currently or may be in the future.

Participants from groups 1 and 2 were from across the borough. Participants in Group 3 were from schools clustered in the central area of the borough. It was hoped that a group of young people known to the Youth Inclusion Project would be involved in the research, however the YIP staff were unable to locate any young people willing to take part or parents willing to give consent.

Consent

Consent from the young people and their parents/carers had been obtained prior to the first research stage.

Procedures: further details

Distribution of the Questionnaires

Questionnaires were sent to the schools with a list of the young people who had been identified by the sampling procedures and for whom parental consent had not been withdrawn. The contact person was asked to distribute the questionnaire to a member of staff who knew the young person well. A return date for the paperwork was suggested, and all correspondence could be sent via the local authority courier system which enabled schools to return paperwork free of charge.

Organisation of the Interviews

Participants were sampled purposively in line with techniques for exploring perspectives on the experience of exclusion through case studies using content and thematic analysis. Thus the homogeneous sample of permanently excluded participants is one for whom the research question would be significant and would allow in-depth exploration of their perceptions and experiences.

Interviews were arranged through schools to take place at a convenient time. Pupils were collected by staff members and taken to where the school had arranged for the interviews to take place. At the beginning of the interview, the participants were reminded about the research, its purpose, and their right to withdraw.

Staff were interviewed by telephone. Calls were made to the schools asking them to identify a member of staff who knew details of the circumstances around the participants' exclusion(s). These members of staff then returned the call at a convenient time for the interview to take place. Two calls were not returned, and were followed up once and also by email.

Appendix 2.2

Staff Questionnaire

The following page shows a copy of the staff questionnaire distributed to respondents. Due to the narrower margins of this Appendix section, the version contained here is in a smaller font size than the actual version that respondents completed.

Semi-Structured Interview Schedule

Following the staff questionnaire is the interview schedule used with pupils and staff.

Supporting Pupils within [Area]

..... has been selected to be involved in a research study in [area]. Please answer the following questions prior to completing the Children's Communication Checklist (CCC). **This questionnaire and the CCC need to be completed by somebody in school who knows the child / young person well.**

Which of the following closely describes your role in relation to the pupil? *Please tick*

Pupil's class teacher	<input type="checkbox"/>	Pupil's individual support (eg. teaching assistant)	<input type="checkbox"/>
Teacher of pupil in some lessons (but not class teacher)	<input type="checkbox"/>	Support / teaching assistant for the pupil in a small group	<input type="checkbox"/>
Deputy Headteacher at the pupil's school	<input type="checkbox"/>	Support / teaching assistant in pupil's class	<input type="checkbox"/>
Headteacher at the pupil's school	<input type="checkbox"/>	Special Educational Needs Co-Ordinator at the pupil's school	<input type="checkbox"/>
Other	<input type="checkbox"/>		

If 'other,' please describe: _____

1. On a scale of 1 to 10, how **concerned are you regarding the pupil?** *Please circle your answer*

1	2	3	4	5	6	7	8	9	10
Not at all concerned									Extremely concerned

2. On a scale of 1 to 10, how would you rate his/her **overall language skill?**

1	2	3	4	5	6	7	8	9	10
Very poor language									Extremely good language

3. On a scale of 1 to 10, how would you rate his/her **social language skill?**

1	2	3	4	5	6	7	8	9	10
Very poor social language									Extremely good social language

4. On a scale of 1 to 10, how concerned are you regarding his/her **behaviour in school?**

1	2	3	4	5	6	7	8	9	10
Not at all concerned									Extremely concerned

5. On a scale of 1 to 10, how likely do you think it is that he/she may be **excluded from school one day as a result of his/her behaviour?**

1	2	3	4	5	6	7	8	9	10
Not at all likely									Extremely likely

6. If you think the pupil may be excluded from school, when do you think this is likely?

Please tick one.

Within the next week	<input type="checkbox"/>	Within the next month	<input type="checkbox"/>
Within this term	<input type="checkbox"/>	Within this school year	<input type="checkbox"/>
During the next school year	<input type="checkbox"/>	Within the next 2 – 3 years	<input type="checkbox"/>

Thank you for your time. Please also complete the Children's Communication Checklist.

Semi- Structured Interview schedule

This section shows the interview questions that were posed to the pupils who had experienced permanent exclusion from school.

The interview format was semi-structured as it was important to have some commonality between the interviews for comparison purposes, but the research also wanted to explore further the issues that arose during the discussion with the young people, particularly around their exclusions, antisocial behaviour, and experience of support.

The interviews were not tape recorded as it was felt important that the young people were able to discuss sensitive issues around criminal behaviour and the support they felt they were given, or not given, without the concerns about it being recorded. Many of the young people interviewed were quite reluctant to be involved, therefore it was felt that the interviews being tape recorded may result in some withdrawing from the study.

The interviewer asked the questions to each young person in the same order and then asked further questions on issues that arose. The questions were posed to each young person in an open way first, and then additional questions were asked if clarification or further explorations were deemed useful. If the young person could not think of an answer or could not remember their experience fully, prompts were given that they could either agree or disagree with and which could help them consider alternatives. The interviews were recorded in written format in order to enable analyses to be undertaken in both quantitative and qualitative ways and to enable comparisons to be made. Answers were recorded as fully as possible, often verbatim.

Participants were asked the following questions. Staff were asked the same questions about the participants.

Literacy

- ♦ What is the highest level of literacy you have passed an exam in?
- ♦ If you have not passed exams, estimate your level of literacy skills (eg. A-Level, GCSE grade, SATs Level, basic functional literacy, below functional literacy).
- ♦ Will you be doing GCSE English Language? English Literature?

- ♦ What grade do you and your teachers think you will achieve?

Literacy Difficulties

- ♦ Do you have any difficulties with literacy? (eg. reading words, sentences, books; understand what you have read; understanding spoken language sufficiently; understanding language on forms to fill in; spelling; writing down what you are thinking; expressing yourself clearly)

Exclusion from School and Future Plans

- ♦ What were the reasons for your permanent exclusion? (eg. Disruptive in class, behaviour in class / around school; physically/verbally aggressive towards peers and/or teachers, difficulties with work)
- ♦ Did you receive any fixed-term exclusions? How many?
- ♦ What would have helped to prevent you from being permanently excluded? (eg. more support from teachers; more support from parents/carers; more support from other professionals – and if so, which?)
- ♦ What are your plans for the future with regard to education, employment or training (eg. stay at school, go to college, go to university, do vocational training)

Offending / Antisocial behaviour

- ♦ Have you been involved in offending and/or antisocial behaviour?
- ♦ Have you received community and/or custodial sentences?
- ♦ What may have contributed to the offence(s)? (eg. drugs/alcohol, difficulties with basic skills, peers, financial difficulties)
- ♦ How will you try to avoid future offending? (eg. help with basic skills, help with drug/alcohol misuse)

Appendix 2.3

Details of the development of data collection techniques

Development of the staff questionnaire

This questionnaire was developed for the purposes of the current research. Its purpose was to elicit information from a member of staff in the young person's school who knows them well. The questions asked about the young person's language abilities, social language abilities, concerns around the young person's behaviour, and their risk of exclusion. These 10-point scale answers enabled information to be used regarding those most at risk of exclusion and which young people were demonstrating behaviour of particular concern to the school. The staff assessment of their language abilities enabled statistical analyses to be undertaken to explore correlations and comparisons between the participants' language skill as measured by the Children's Communication Checklist (CCC-2), and whether school staff make accurate judgements about young people's language skill, especially where pragmatic language impairments may be involved. By asking the members of staff to state their role (or job title), analyses could also be undertaken relating to which staff are more accurate with their assessments.

As the questionnaire was developed for this research, there is no available information on reliability and validity. The questionnaire was worded carefully and formatted so that it was easy to understand, and no questionnaires were returned with empty spaces or comments suggesting that respondents had not understood what was being asked. Therefore the content validity would be expected to be sufficient, particularly as it was requested that the respondent should be someone who knows the young person well and would be able to make judgements on their language and social language abilities. Issues around different respondents' perceptions of language difficulty and concerns around behaviour could affect the reliability, as scores may alter if a different member of staff had completed the questionnaire. However, although there may be differences in perceptions, the 10-point scale should be adequate enough to make initial judgements which could be followed up, and with a large enough sample size any larger differences should be reduced.

Development and analysis of the semi-structured interview

The interviews were developed with the intention of emphasising the meaning of the participants' experiences of events through the process of case study analyses using content and thematic analysis techniques. The interviews were designed to be facilitative, flexible and open-ended.

In semi-structured interviews, investigators have a set of questions but the interview is guided by them rather than dictated by it (Smith and Osborn, 2003). In developing the interview schedule for the current research, it was important to allow for additional information to be raised by participants but also to have some common questions so that their own psychological and social world could be explored. For instance, each participant was asked about their exclusion from school, how it felt, and what support they felt could have been offered at the time. They were asked what they believed may have been contributing factors, and how they will try to avoid the situation recurring. Whilst these were structured questions, their answers were able to be varied and of any length. Arranging and piloting the structure in advance enabled themes to be covered, topics to be arranged in the most appropriate sequence, and possible probes and prompts to be included.

Case studies are regularly analysed in organisational and social science research (Kohlbacher, 2006) and the approach is increasing in its usage as a research strategy (Hartley, 1994, 2004). Stake (2000) believed that case studies have become "one of the most common ways to do qualitative inquiry" (p. 435). Yin (1981) found case studies to be a preferred strategy when research focuses on a contemporary phenomenon within a real-life context, and its questions include 'how' or 'why.' Later, Yin (2003) argued that case studies arise from "the desire to understand complex social phenomena" (p.2) and they allow researchers to "retain the holistic and meaningful characteristics of real-life events" (ibid.). Case studies utilise multiple sources, with data often used to triangulate information, and "benefit from the prior development of theoretical propositions to guide data collection and analysis" (p. 14). Hartley (2004) added that case study data is collected within its context with the aim to "provide an analysis of the context and processes which illuminate the theoretical processes being studied" (p.323).

The case study information was analysed by a description of the data, a search for patterns and the development of categories and themes. The patterns and themes identified were explored in relation to theory and the setting of the research, moving from a description of the context to a more general interpretation of its meaning (see Neuman, 1997) and a discussion regarding the impact upon interventions and future directions for services. Content analysis originated with quantitative approaches incorporating a system of categories (Kohlbacher, 2006) and frequency analyses. However, a qualitative approach to content analysis has developed which incorporates the meaning of and within texts, allowing categories to emerge, and recognising the significance of understanding meaning and context (Bryman, 2004). Qualitative content analysis can include a category system which is developed using a theory-guided procedure from the material obtained (Mayring, 2000, 2002). Kohlbacher (2006) gives a summary of Mayring's (2003) approach to qualitative content analysis.

In the development of themes and categories, both inductive and deductive approaches were used. In the former, the categories are developed as closely as possible to the material using a step-by-step approach and feedback loop to revise and reduce the categories. The latter approach uses previously formulated, theoretically-derived themes based on the research questions to which aspects of the material are assigned. For example, in the current research the analysis of interview questions relating to reasons for exclusion used deductive approaches and the suggestions for what may help maintain young people in mainstream settings used inductive approaches.

An advantage of the qualitative information obtained in this study is that the participants were interviewed in a familiar setting which, it was hoped, would assist them to feel comfortable and able to share their experiences openly. The interview data was intended to be an inquiry into the experience of exclusion and the participants' interpretation of this, and utilised a combination of inductive and deductive themes. The analysis aimed to balance the case study descriptions with detail of insightful interpretation regarding the participants' individual perceptions and understandings.

Appendix 2.4

Examples of Numerical Raw Data

Numerical codes used:

School Type		Reason for Inclusion in the research	
1	Primary	1	Permanently Excluded
2	Secondary	2	EPS Emotional & Behavioural Difficulties
3	PRU – KS2 & KS3	3	Suggested by SENCO
4	PRU – KS4		

Respondent

1	Class teacher	7	Teaching assistant in classroom
2	Teacher in some lessons	8	SENCO
3	Deputy Head Teacher	9	Every Child Matters Manager
4	Head Teacher	10	Mentor
5	Pupil's individual support	11	Other
6	Support for pupil in small group		

Table A2.1.i: Sample of scores from the Staff Questionnaire

	Participant									
	1	2	3	4	5	6	7	8	9	10
Gender	M	M	M	M	M	M	M	M	M	F
Age (months)	134	114	157	197	141	163	119	172	174	157
School Type	1	1	2	2	2	2	3	3	3	2
Reason	2	2	2	1	2	2	1	1	1	3
Respondent	1	1	5	9	6	9	1	7	1	10
Question 1	9	5	8	4	5	9	9	8	7	9
Question 2	2	9	9	9	5	7	8	8	8	10
Question 3	1	8	5	9	4	7	9	9	8	7
Question 4	8	5	8	8	2	9	9	5	6	10
Question 5	10	7	7	3	1	8	N/A	N/A	N/A	10
Question 6	5	6	-	-	-	5	N/A	N/A	N/A	3

Interview

Name _____ Age 14 Year gp 10

Literacy

What is the highest level of literacy you have passed an exam in? *key stage 3 English SATS - didn't get results*

If you have not passed exams, estimate your level of literacy skills (eg. A-Level, GCSE grade, SATs Level, basic functional literacy, below functional literacy).

Will you be doing GCSE English Language? English Literature? *Yes*

What grade do you and your teachers think you will achieve? *I'd like to pass*

Literacy Difficulties

Do you have any difficulties with literacy? (eg. reading words, sentences, books; understand what you have read; understanding spoken language sufficiently; understanding language on forms to fill in; spelling; writing down what you are thinking; expressing yourself clearly)

Reading words, sentences, books

Understanding what I've read

Exclusion from School and Future Plans

What were the reasons for your permanent exclusion? (eg. Disruptive in class, behaviour in class / around school; physically/verbally aggressive towards peers and/or teachers, difficulties with work)

Disruptive in class - throwing chairs and tables at other people + TS
They made me angry and work was stressing me out.
I didn't get enough help with my work because there were 30 people in the class.

Did you receive any fixed-term exclusions? How many? 2 or 3

What would have helped to prevent you from being permanently excluded? (eg. more support from teachers; more support from parents/carers; more support from other professionals - and if so, which?) → Mum & Headteacher

Would have liked lots of professionals attending a meeting with me to work out how they could help. There was a meeting after the exclusion.

Also: subjects/options more suitable to abilities - "more art, less maths"
help with lit & num so I could do better in other subjects
teaching in small groups to boost basic skills
more friends not doing the same kind of behaviour in class

What are your plans for the future with regard to education, employment or training (eg. stay at school, go to college, go to university, do vocational training)

I want to go to college and then be a plumber or joiner.

Offending / Antisocial behaviour

Have you been involved in offending and/or antisocial behaviour?

Yes - theft of an iPod from a person, and other thefts.

Criminal damage - breaking house windows, messing about in an empty house.

I got caught in the empty house and charged with burglary. I was given a warning.

Have you received community and/or custodial sentences?

I got a YOT Action Plan for the theft.

What may have contributed to the offence(s)? (eg. drugs/alcohol, difficulties with basic skills, peers, financial difficulties)

friends were doing the same thing. We were bored, didn't have anything to do.

How will you try to avoid future offending? (eg. help with basic skills, help with drug/alcohol misuse)

I've found new mates ~~at~~ near home that don't get me into trouble.

Appendix 2.5

Interview Case Studies

The following case studies highlight the needs of the participants who were interviewed and give examples of their suggestions for what support they believe would have helped them at the time of their exclusion. Where participants had been involved in offending behaviour, they were also asked whether this was related to their exclusions and what they believe may help them avoid offending in the future. The case studies were developed by producing a description of the discussion held with each participant, taken from the notes written during the interviews based upon the semi-structured interview outlined in Appendix 2.2.

Example 1: Reintegrated into mainstream school

When interviewed, A was aged 12 and in Year 8. He had been excluded from a mainstream school during Year 7 and attended the Pupil Referral Unit for Key Stage 3 pupils. He spent a few months there before moving to another mainstream school. He said he liked it at the PRU because there were not “loads of people.” He preferred the smaller school and made friends there. He didn’t want to come to the current mainstream school because of the big classes.

A said he had not done SATs. He thought he would be taking English GCSEs and his teacher had told him he could achieve a C or D. When asked if he had any difficulties with literacy, he said he found understanding language on forms a “bit hard.”

A said he was excluded from school as a result of his behaviour around school. He had a fight with a pupil in the yard. He had already received 4 or 5 fixed-term exclusions. Since starting at his current school, A has had two 3-day exclusions for “losing [his] temper towards teachers.” He said one occurred in technology when he had been messing around.

A thought that more support from teachers and other professionals would have helped him. He would have liked teaching in small groups to boost his basic skills, and teaching in life and social skills. He said he does social skills groups in his current school. A had never heard of the Educational Psychology Service.

When he finished school, A said he wants to be in the Army, but is not sure what he wants to do in the Army. He has a cousin in the Army.

A was not sure what was happening in school to prevent further exclusions. A has been involved in antisocial behaviour outside school, saying he had been “getting into chases.” The events happened with friends and included throwing stones. He said local people had called

the Police but he had not been caught. He thinks he would get an ASBO. He said he would rather not be doing the antisocial behaviour. He prefers boxing and riding motorbikes. A has a worker from a local authority service that works with young people at risk of exclusion. This worker had done some work with A on temper and antisocial behaviour. A said this person is trying to prevent him from getting an ASBO.

Comparisons with A's quantitative scores

A had an overall General Communication Composite less than the 1st percentile. His Social Interaction Deviance Composite (SIDC) was -2, suggesting he has disproportionate difficulties with pragmatic language. The staff member completing the questionnaire placed him at 7/10 risk of being excluded again (where 10 is highest risk). They rated his language and social language at 6/10, where 10 is high language skills.

A's communication during the interview

A appeared to have difficulties with language, particularly expression and detailed explanations. He gave many "don't know" answers. He had limited awareness of the services in the authority who could work with him regarding preventing exclusion. He had not thought about triggers or consequences of his offending behaviour or exclusions from school.

Example 2: Attending Pupil Referral Unit (Key Stage 3)

When interviewed, B was aged 14 and attending Year 9. He could not remember if he had done any SATs tests, but would like a Level 5 in his KS3 SATs. He intends to take English GCSEs. When asked if he has any literacy difficulties, he said he sometimes has difficulties expressing himself clearly.

B was excluded from mainstream school and gave many reasons for this: disruption during lessons, behaviour in class, behaviour around school, aggression towards pupils and staff. He said he got into a couple of fights, and was often in trouble for messing about in class. He had received around 10 fixed-term exclusions, and then his permanent exclusion arose due to an assault on a teacher. He was asked to stay behind in class and refused. He said the teacher then tried to drag him back into class so he hit the teacher. He said he usually did not get on with that particular teacher. The lesson was a foreign language and B said he didn't like the lesson because he couldn't do it.

B said he got a lot of support from teachers at the mainstream school. He said it would have helped if there had been a meeting with lots of professionals and himself invited to discuss how to help him maintain his place. He said it would have been good if teachers that he got along with were also invited to the meeting. B had never heard of the Educational Psychology Service.

B's plans for the future were to carry on with school and then attend college and university. He would like to study English and then become a teacher of sport/PE in a secondary school.

B had received a Community Order supervised by the Youth Offending Team. This was a 12-month order which finished approximately two weeks prior to the interview. He said this was for a couple of assaults, not during school time. He had to attend twice a week and undertake acts of reparation such as clearing gardens. He said the YOT order helped, and that this was a one-off and he won't be committing any more offences.

B said he likes the PRU and it is better than his previous mainstream school. He said the smaller classes are better, but sometimes boring as there aren't as many friends to make. He didn't know if he would be going to another mainstream school, but he said he would probably rather go back to mainstream than go on to the PRU for KS4 pupils as he said he didn't want a "bad education" there.

Comparisons with B's quantitative scores

B had an overall General Communication Composite in the 4th percentile. His Social Interaction Deviance Composite (SIDC) was -6, suggesting he has disproportionate difficulties with pragmatic language. The staff member completing the questionnaire rated his language and social language at 8/10, where 10 is high language skills.

Qualitative information from staff

According to his teacher, B is ok the majority of the time but changes very quickly. He can understand other people's perspectives when he is calm but has "tunnel vision" when he gets angry until he has calmed down again. B was adopted when he was a young child and has been assessed by mental health staff as having Attachment Disorder. His mum has told school staff that when B is in one of his moods he will threaten her. School staff intend that B will go back to a mainstream school where they hope he will achieve C grades in his GCSEs.

B's communication during the interview

B was talkative but, as he recognised, did have some difficulties with explanations and detail. He had thought about his offending behaviour and said he was not going to commit further offences, but had not linked the consequences that any future offending would have on his wish to be a teacher.

Example 3: Attending Pupil Referral Unit (Key Stage 4)

When interviewed, C was aged 15 and attending Year 11. He couldn't remember if he had taken any SAT tests but said he would be taking GCSE English Language. He said he didn't really have any difficulties understanding spoken language but sometimes had difficulties with spelling. Following around 20 fixed-term exclusions from a mainstream school for "being naughty" and for being caught smoking at break times, C was permanently excluded for "messing around with a computer" which "blew up." C said he had been at the PRU for around 3 months and was finding it very good ("mint") because they finish earlier. He said he is doing the same lessons as he did in mainstream school, and that he will be taking GCSEs this year but is not sure which subjects. C said nothing would have helped to maintain his place at his mainstream school because he didn't want to be there.

C's plans for the future were "anything – get a job." He hadn't decided which area of work he would like to pursue but suggested "diggers."

C was on a 2-year Community Order through the Youth Offending Team for fighting and taking cars. He had previously had a 2-month custodial sentence for taking cars. He said he did not find the YOT input useful and had no suggestions for how he would prevent further offending.

Comparisons with C's quantitative scores

C had an overall General Communication Composite less than the 1st percentile. His Social Interaction Deviance Composite (SIDC) was 2, suggesting similar difficulties with structural and pragmatic language. The staff member completing the questionnaire rated his language and social language at 4/10, where 10 is high language skills.

C's communication during the interview

C answered many questions with "don't know" and was not keen to be interviewed; when seeing the paper with the semi-structured interview questions on it, he asked "how long's that paper?" C gave no strategies for staying away from further offending or for what he could do after the end of Year 11, which was only 3 months after the interview. C gave little eye contact during the interview and his body language was turned away, often picking up items from the ledge next to him to manipulate whilst talking.

Example 4: Attending Pupil Referral Unit (Key Stage 4), exclusions from two mainstream schools

When interviewed, D was aged 15 and attending Year 10. He said he had achieved all Level 4s in his KS3 SATs, but had an 'N' in English. He thought he would take GCSE English Language and his teachers think he will achieve a C grade. When asked about literacy difficulties, D said he sometimes has difficulties understanding language on forms.

D was excluded from a mainstream school during Year 9, and then began to attend the PRU for KS3 pupils. He was integrated into a different mainstream school where he attended for a week and three days. After exclusion from there, he was moved to the current setting.

D gave many suggestions for maintaining his place in mainstream school, including more support from teachers, professionals and himself attending a meeting to discuss options, teaching in small groups to boost his skills, teaching in life and social skills, and having more friends that were not involved in similar behaviour. He had not heard of the Educational Psychology Service, but after it was explained to him he thought the involvement of an EP would have been useful.

D's preferred place of education was his current setting because there were fewer pupils in the classes and "better lessons." He said he didn't like the second mainstream school he was placed in because he didn't know anyone, and the teachers were "on my back, checking up on me." He said he "kept kicking off" and was excluded for arguing with a teacher. He said he was stressed because he didn't know anyone. At his first school, he said the "teachers were on my back since day one because of my brothers" who had also received exclusions. D was permanently excluded for hitting a teacher who took his phone from him. Before that, he had been caught smoking, and excluded over drugs, alcohol and fighting.

D's intentions for the future were to attend college to train to be a chef. D had been involved in some offending behaviour but had not received any Orders. He had received a warning over an assault, which he said was low-level fighting with his friends but an observer called the Police. D had some suggestions for preventing further offending, saying he sometimes doesn't hang around with the same peers.

Comparisons with D's quantitative scores

D had an overall General Communication Composite in the 45th percentile. His Social Interaction Deviance Composite (SIDC) was -1, suggesting some disproportionate difficulties with pragmatic language. The staff member completing the questionnaire rated his language and social language at 9/10, where 10 is high language skills.

D's communication during the interview

D's communication was adequate and he could explain what had happened at each of his

schools, and gave suggestions for what would have helped him. However, D demonstrated little understanding of victim empathy relating to the fights he had, especially with teachers, always seeing himself as the victim. D comes across as communicating effectively, as also shown by the teacher ratings of his language, yet he does demonstrate some limited social understandings. D had ideas for the future, to be a chef, but described limited strategies for staying away from alcohol and certain peers.

Example 5: Attending Pupil Referral Unit for third consecutive year

When interviewed, E was aged 14 and attending Year 10 at the PRU for KS4 pupils. He had taken his KS3 SATs but had not received the results. He said he would take GCSE English Language and that he would like to pass. When asked about literacy difficulties, E said he has difficulties with reading words, sentences and books, and understanding what he has read. E received 2 or 3 fixed-term exclusions from mainstream school for “silly things, truanting and that” and was then permanently excluded from mainstream school during Year 8 for “being naughty and that.” He said he only truanted once but got caught. E said he was disruptive in class, including throwing chairs and tables. He said other people and the teachers made him angry and the work stressed him out. He said he didn’t get enough help because there were 30 people in the class.

E said it would have helped if he’d had more support from teachers and other professionals. He said he would have liked to attend a meeting with professionals to discuss options, whereas in actual fact a meeting only took place after he had been excluded. He said he would have preferred doing subjects/options more linked to his abilities “more art, less maths.” He thinks higher skills in literacy and numeracy would have helped him, and he would have liked teaching in small groups to boost these skills. He also thought more friends not involved in similar behaviour would have helped. E said a request for Educational Psychologist involvement was not made. At the end of the discussion he added that it would have been better if the professionals had tried to keep him in mainstream school by starting with him attending 2 days per week and gradually increasing to full-time. E’s plans for the future were to go to college to train to be either a plumber or a joiner.

E said he liked his current setting because “they treat you better.” He thought the PRU for KS3 was the worst because of the way pupils are treated, “locked in classrooms” and they had to stay in the classrooms at break times. He didn’t like his mainstream school because it was “dead strict” and because if pupils didn’t bring their homework they got an hour’s detention.

E had an Action Plan Order through the Youth Offending Team, following the theft of an iPod from a person and some offences of criminal damage including breaking the windows of a house and “messing about in an empty house.” He said he got caught in the empty house, was accused of burglary and was given a warning. E said he has found new friends near home that don’t get him into trouble.

Comparisons with E’s quantitative scores

E had an overall General Communication Composite in the 12th percentile. His Social Interaction Deviance Composite (SIDC) was -1, suggesting some disproportionate difficulties with pragmatic language. The staff member completing the questionnaire rated his language

skill at 6/10 and social language at 3/10, where 10 is high language skills.

E's communication during the interview

E was generally more talkative than many of the other interviewees, and was willing to give a further idea at the end of the main discussion for what might have helped him stay in mainstream education. He did demonstrate some difficulties with expression and explanations, tending to finish sentences with "... and that."

Appendix 2.6

Descriptive Statistics: Questionnaire Scores

Table A2.6.i: Respondents to the Staff Questionnaire

	Primary	Secondary	PRU KS2&3	PRU KS4	Total
Class Teacher	20	6	4	0	30
Teacher in some lessons	1	5	0	9	15
Deputy Head Teacher	0	1	0	0	1
Head Teacher	0	0	0	0	0
Pupil's individual support	3	3	0	0	6
Support / TA in small group	3	3	0	0	6
Support / TA in pupil's class	0	2	1	0	3
SENCO	0	3	0	0	3
ECM Manager	0	2	0	0	2
Mentor	0	9	0	0	9
Other	0	6	0	0	6
Total	27	40	5	9	81

Questionnaire scores

Table A2.6.ii: Questionnaire scores – all participants and by gender

	All Participants		Male		Female	
	Mean	S.d.	Mean	S.d.	Mean	S.d.
Question 1 N=81	7.10	2.432	7.11	2.338	7.00	3.098
Question 2 N=81	6.20	2.457	6.23	2.421	6.00	2.793
Question 3 N=81	5.06	2.405	5.09	2.424	4.91	2.386
Question 4 N=81	7.07	2.469	7.09	21.322	7.00	3.066
Question 5 N=67	6.58	3.110	6.70	2.952	5.90	4.012

Table A2.6.iii: Questionnaire scores – Age

	Key Stage 1 N=2		Key Stage 2 N=27		Key Stage 3 N=26		Key Stage 4 N=26	
	Mean	S.d.	Mean	S.d.	Mean	S.d.	Mean	S.d.
Question 1 N=81	8.00	2.828	6.89	2.860	7.69	1.955	6.65	2.365
Question 2 N=81	8.00	0.000	6.30	2.493	6.04	2.793	6.12	2.179
Question 3 N=81	5.00	1.414	5.22	2.470	4.73	2.601	5.23	2.268
Question 4 N=81	9.50	0.707	6.74	2.640	7.81	2.333	6.50	2.302
Question 5 N=67	8.50	2.121	5.60	3.329	7.62	2.758	6.14	2.983

Table A2.6.iv: Questionnaire scores – School Type

	Primary N=27		Secondary N=40		PRU – KS2&3 N=5		PRU – KS4 N=9	
	Mean	S.d.	Mean	S.d.	Mean	S.d.	Mean	S.d.
Question 1 N=81	6.78	2.833	7.43	2.171	8.20	1.304	6.00	2.500
Question 2 N=81	6.22	2.407	6.05	2.531	7.40	2.608	6.11	2.421
Question 3 N=81	4.93	2.235	4.83	2.406	7.80	2.168	5.00	2.449
Question 4 N=81	6.85	2.713	7.63	2.295	6.40	1.673	5.67	2.398
Question 5 N=67	5.81	3.317	7.10	2.889				

Table A2.6.v: Questionnaire scores – Reason for Inclusion in the Research

	Permanently Excluded N=19		EPS EBD sample N=31		Suggested by SENCO N=31	
	Mean	S.d.	Mean	S.d.	Mean	S.d.
Question 1 N=81	6.79	2.200	7.77	1.875	6.61	2.929
Question 2 N=81	6.42	2.341	6.16	2.544	6.10	2.508
Question 3 N=81	6.00	2.560	4.16	2.131	5.39	2.333
Question 4 N=81	6.37	2.087	7.74	2.113	6.84	2.888
Question 5 N=67	6.80*	2.490	6.97	3.146	6.16	3.195

*Scores are from participants permanently excluded and reintegrated into mainstream school settings

Interview Themes

Some of the answers to the interview questions were scored by themes and the counts and a selection of quotes are given in the Results section. The material was analysed using techniques from content and thematic analyses of case studies, to describe opinions of the participants.

Appendix 2.7

Statistical Analysis of the Questionnaire Scores

Differences from Expected Values – Questions 1 and 4

As a response of 1 would mean no concerns, the following tables show t-tests of the difference in the sample scores from a value of 1.

Table A2.7.i: All Participants and Participants grouped by Gender

	All Participants			Gender		
	N=81	T-test	Male N=70	T-test	Female N=11	T-test
Question 1	7.10	22.568	7.11	21.883	7.00	6.423
	2.432	<0.001	2.338	<0.001	3.098	<0.001
Question 4	7.07	22.144	7.09	21.322	7.00	6.491
	2.469	<0.001	2.388	<0.001	3.066	<0.001

Table A2.7.ii: Participants grouped by Age

	Age groups							
	KS1 N=2	T-test	KS2 N=27	T-test	KS3 N=26	T-test	KS4 N=26	T-test
Question 1	8.00	3.500	6.89	10.699	7.69	17.476	6.65	12.188
	2.828	0.177	2.860	<0.001	1.955	<0.001	2.365	<0.001
Question 4	9.50	17.000	6.74	11.300	7.81	14.881	6.50	12.182
	0.707	0.037	2.640	<0.001	2.333	<0.001	2.302	<0.001

Table A2.7.iii: Participants grouped by School Type

	School Type							
	Primary N=27	T-test	Sec. N=40	T-test	PRU KS2&3 N=5	T-test	PRU KS4 N=9	T-test
Question 1	6.78	10.597	7.43	18.719	8.20	12.348	6.00	6.000
	2.833	<0.001	2.171	<0.001	1.304	<0.001	2.500	<0.001
Question 4	6.85	11.207	7.63	18.259	6.40	7.216	5.67	5.838
	2.713	<0.001	2.295	<0.001	1.673	0.002	2.398	<0.001

Table A2.7.iv: Participants grouped by Reason for inclusion in the research

	Reason for Inclusion					
	Perm Ex N=19	T-test	EPS EBD N=31	T-test	SENCO N=31	T-test
Question 1	6.79	11.468	7.77	20.121	6.61	10.670
	2.200	<0.001	1.875	<0.001	2.929	<0.001
Question 4	6.37	11.211	7.74	17.766	6.84	11.257
	2.087	<0.001	2.113	<0.001	2.888	<0.001

Differences from Expected Values – Questions 2 and 3

As a response of 10 would mean no concerns around language, the following tables show t-tests of the difference in the sample scores from a value of 10.

Table A2.7.v: All Participants and Participants grouped by Gender

	All Participants			Gender		
	N=81	T-test	Male N=70	T-test	Female N=11	T-test
Question 2	6.20	-13.930	6.23	-13.035	6.00	-4.750
	2.457	<0.001	2.421	<0.001	2.793	0.002
Question 3	5.06	-18.481	5.09	-16.961	4.91	-7.078
	2.405	<0.001	2.424	<0.001	2.386	<0.001

Table A2.7.vi: Participants grouped by Age

	Age groups							
	KS1 N=2	T-test	KS2 N=27	T-test	KS3 N=26	T-test	KS4 N=26	T-test
Question 2	8.00	*	6.30	-7.719	6.04	-7.233	6.12	-9.092
	0.000		2.493	<0.001	2.793	<0.001	2.179	<0.001
Question 3	5.00	-5.000	5.22	-10.050	4.73	-10.330	5.23	-10.722
	1.414	0.126	2.470	<0.001	2.601	<0.001	2.268	<0.001

*T-test could not be computed due to standard deviation being Zero.

Table A2.7.vii: Participants grouped by School Type

	School Type							
	Primary N=27	T-test	Sec. N=40	T-test	PRU KS2&3 N=5	T-test	PRU KS4 N=9	T-test
Question 2	6.22	-8.154	6.05	-9.869	7.40	-2.229	6.11	-4.819
	2.407	<0.001	2.531	<0.001	2.608	0.090	2.421	0.001
Question 3	4.93	-11.798	4.83	-13.603	7.80	-2.269	5.00	-6.124
	2.235	<0.001	2.406	<0.001	2.168	0.086	2.449	<0.001

Table A2.7.viii: Participants grouped by Reason for inclusion in the research

	Reason for Inclusion					
	Perm Ex N=19	T-test	EPS EBD N=31	T-test	SENCO N=31	T-test
Question 2	6.42	-6.664	6.16	-8.401	6.10	-8.665
	2.341	<0.001	2.544	<0.001	2.508	<0.001
Question 3	6.00	-6.810	4.16	-15.257	5.39	-11.007
	2.560	<0.001	2.131	<0.001	2.333	<0.001

Differences from Expected Values – Question 5

These answers relate to participants attending primary and secondary schools only, as PRU pupils were already excluded.

As a response of 1 for Question 5 would mean no likelihood of exclusion, the following tables show t-tests of the difference in the sample scores from a value of 1.

No t-tests are performed for Question 6 as this is time-related and is only answered when Question 5 gives a likelihood of exclusion.

Table A2.7.ix: All Participants and Participants grouped by Gender

	All Participants			Gender		
	N=67	T-test	Male N=57	T-test	Female N=10	T-test
Question 5	6.58	14.692	6.70	14.583	5.90	3.862
	3.110	<0.001	2.952	<0.001	4.012	0.004

Table A2.7.x: Participants grouped by Age

	Age groups							
	KS1 N=2	T-test	KS2 N=25	T-test	KS3 N=26	T-test	KS4 N=14	T-test
Question 5	8.50	5.000	5.60	6.909	7.62	12.231	6.14	6.450
	2.121	0.126	3.329	<0.001	2.758	<0.001	2.983	<0.001

Table A2.7.xi: Participants grouped by School Type and Reason for inclusion in the research

	School Type				Reason for Inclusion					
	Prim- ary N=27	T-test	Secon- -dary N=40	T-test	Perm Ex N=5	T-test	EPS EBD N=31	T-test	SENC O N=31	T-test
Qn 5	5.81	7.542	7.10	13.352	6.80	5.209	6.97	10.561	6.16	8.995
	3.317	<0.001	2.889	<0.001	2.490	0.006	3.146	<0.001	3.195	<0.001

Appendix 2.8

Questionnaire Scores: Differences Between Groups

Differences between Groups – Questions 1 to 4

As the participants who were attending the Pupil Referral Unit had already been excluded, the following table refers to questions 1 to 4 of the questionnaire relating to behaviour, level of concern, and language skill.

Table A2.8.i: Participants grouped by Gender and Age

	Gender			Age groups				
	Male N=70	Female N=11	T-Test p<0.05	KS1 N=2	KS2 N=27	KS3 N=26	KS4 N=26	ANOVA p<0.05
Question 1	7.11	7.00	n.s.	8.00	6.89	7.69	6.65	n.s.
	2.338	3.098		2.828	2.860	1.955	2.365	
Question 2	6.23	6.00	n.s.	8.00	6.30	6.04	6.12	n.s.
	2.421	2.793		0.000	2.493	2.793	2.179	
Question 3	5.09	4.91	n.s.	5.00	5.22	4.73	5.23	n.s.
	2.424	2.386		1.414	2.470	2.601	2.268	
Question 4	7.09	7.00	n.s.	9.50	6.74	7.81	6.50	n.s.
	2.388	3.066		0.707	2.640	2.333	2.302	

Table A2.8.ii: Participants grouped by School Type and Reason

	School Type					Reason for Inclusion			
	Pri- mary N=27	Secon- dary N=40	PRU KS2&3 N=5	PRU KS4 N=9	ANOVA p<0.05	Perm Ex N=19	EPS EBD N=31	SENCO N=31	ANOVA p<0.05
Question 1	6.78	7.43	8.20	6.00	n.s.	6.79	7.77	6.61	n.s.
	2.833	2.171	1.304	2.500		2.200	1.875	2.929	
Question 2	6.22	6.05	7.40	6.11	n.s.	6.42	6.16	6.10	n.s.
	2.407	2.531	2.608	2.421		2.341	2.544	2.508	
Question 3	4.93	4.83	7.80	5.00	0.070*	6.00	4.16	5.39	0.021
	2.235	2.406	2.168	2.449	B<C	2.560	2.131	2.333	B<A
Question 4	6.85	7.63	6.40	5.67	n.s.	6.37	7.74	6.84	n.s.
	2.713	2.295	1.673	2.398		2.087	2.113	2.888	

**Although the overall ANOVA did not produce a significant figure, the Tukey post-hoc test identified the difference, p=0.044.*

Differences between Groups – Questions 5 and 6

These answers relate to participants attending primary and secondary schools only, as PRU pupils were already excluded.

Table A2.8.iii: Participants grouped by Gender and Age

	Gender			Age groups				
	Male N=57	Female N=10	T-Test p<0.05	KS1 N=2	KS2 N=25	KS3 N=26	KS4 N=14	ANOVA p<0.05
Question 5	6.70	5.90	n.s.	8.50	5.60	7.62	6.14	n.s.
	2.952	4.012		2.121	3.329	2.758	2.983	
Question 6	4.39	3.57	n.s.	5.00	5.35	3.70	3.56	0.001
	1.482	1.272		1.414	0.702	1.636	0.882	2>3,4

Table A2.8.iv: Participants grouped by School Type and Reason

	School Type			Reason for Inclusion			
	Primary N=27	Secondary N=40	T-Test p<0.05	Perm Ex N=5	EPS EBD N=31	SENCO N=31	ANOVA p<0.05
Question 5	5.81	7.10	n.s.	6.80	6.97	6.16	n.s.
	3.317	2.889		2.490	3.146	3.195	
Question 6	5.32	3.66	t=5.376	3.00	4.46	4.30	n.s.
	0.749	1.450	<0.001	2.160	1.382	1.396	

Appendix 2.9

Correlation Matrices

All correlations are Pearson's product-moment correlation coefficients, and are given in the unshaded rows. Significance figures are within the shaded rows.

All participants are where the CCC-2 consistency check was passed (N=50).

Table A2.9.i: Correlations between Respondents' questionnaire answers and CCC-2 language scores. Questions 5 and 6 include primary and secondary school pupils only.

	Qn. 1 N=50	Qn. 2 N=50	Qn. 3 N=50	Qn. 4 N=50	Qn. 5 N=39	Qn. 6 N=39
Speech	-0.189	0.613**	0.555**	-0.46	0.122	0.399*
	0.188	<0.001	<0.001	0.753	0.460	0.044
Syntax	-0.127	0.590**	0.490**	0.034	0.212	0.115
	0.378	<0.001	<0.001	0.815	0.195	0.575
Semantics	-0.357*	0.702**	0.524**	-0.189	-0.093	0.570**
	0.011	<0.001	<0.001	0.189	0.575	0.002
Coherence	-0.487**	0.599*	0.671**	-0.397**	-0.220	0.420**
	<0.001	<0.001	<0.001	0.004	0.178	0.032
Inappropriate Initiation	-0.684**	0.386**	0.466**	-0.597**	-0.430**	0.406*
	<0.001	0.006	0.001	<0.001	0.006	0.039
Stereotyped	-0.467**	0.434**	0.443**	-0.278	-0.185	0.453*
	0.001	0.002	0.001	0.050	0.259	0.020
Context	-0.535**	0.506**	0.577**	-0.381**	-0.224	0.335
	<0.001	<0.001	<0.001	0.006	0.170	0.094
Nonverbal	-0.569**	0.295*	0.462**	-0.450**	-0.355*	0.154
	<0.001	0.038	0.001	0.001	0.027	0.453
Social Relations	-0.637**	0.268	0.415**	-0.542**	-0.541**	0.333
	<0.001	0.060	0.003	<0.001	<0.001	0.096
Interests	-0.586**	0.283*	0.449**	-0.508**	-0.339*	0.311
	<0.001	0.046	0.001	<0.001	0.035	0.122
GCC	-0.561**	0.675**	0.686**	-0.378**	-0.194	0.496*
	<0.001	<0.001	<0.001	0.007	0.236	0.010
GCC percentile	-0.704**	0.517**	0.613**	-0.540**	-0.356*	0.472*
	<0.001	<0.001	<0.001	<0.001	0.026	0.015

Table A2.9.ii: Correlations between Respondents' questionnaire answers to the language questions (2 and 3) and CCC-2 language scores grouped by Social Interaction Deviance Composite (SIDC)

	Question 2 (overall language)			Question 3 (social language)		
	NegSIDC N=36	SIDC 0-8 N=9	SIDC >8 N=5	NegSIDC N=36	SIDC 0-8 N=9	SIDC >8 N=5
Speech	0.531**	0.530	0.914*	0.503**	0.451	0.869
	0.001	0.142	0.030	0.002	0.223	0.056
Syntax	0.450**	0.806**	0.679	0.425**	0.761*	0.554
	0.006	0.009	0.207	0.010	0.017	0.333
Semantics	0.665**	0.640	0.950*	0.362*	0.640	0.955*
	<0.001	0.063	0.013	0.030	0.063	0.011
Coherence	0.458**	0.786*	0.947*	0.569**	0.804**	0.874
	0.005	0.012	0.014	<0.001	0.009	0.053
Inappropriate Initiation	0.376*	0.713*	0.772	0.383*	0.761*	0.731
	0.024	0.031	0.126	0.021	0.017	0.161
Stereotyped	0.216	0.721*	0.883*	0.249	0.639	0.891*
	0.206	0.028	0.047	0.143	0.064	0.043
Context	0.368*	0.677*	0.991**	0.434**	0.742*	0.949*
	0.027	0.045	0.001	0.008	0.022	0.014
Nonverbal	0.194	0.643	0.885*	0.386*	0.624	0.861
	0.257	0.062	0.046	0.020	0.072	0.061
Social Relations	0.369*	0.594	0.668	0.491**	0.527	0.747
	0.027	0.092	0.218	0.002	0.145	0.147
Interests	0.209	0.697*	0.508	0.430**	0.746*	0.441
	0.221	0.037	0.382	0.009	0.021	0.458
GCC	0.607**	0.723*	0.957*	0.620**	0.714*	0.919*
	<0.001	0.028	0.011	<0.001	0.031	0.028
GCC percentile	0.475**	0.669*	0.979**	0.542**	0.785*	0.919*
	0.003	0.049	0.004	0.001	0.012	0.027

Table A2.9.iii: Correlations between Respondents' questionnaire answers (Questions 1 and 4) and CCC-2 language scores grouped by Social Interaction Deviance Composite (SIDC)

	Question 1 (concerns)			Question 4 (behaviour)		
	NegSIDC N=36	SIDC 0-8 N=9	SIDC >8 N=5	NegSIDC N=36	SIDC 0-8 N=9	SIDC >8 N=5
Speech	-0.061	-0.455	-0.802	0.041	-0.351	-0.436
	0.726	0.218	0.102	0.811	0.354	0.463
Syntax	-0.144	-0.767*	-0.756	0.080	-0.613	-0.891*
	0.401	0.016	0.139	0.643	0.079	0.042
Semantics	-0.162	-0.682*	-0.697	-0.091	-0.516	-0.178
	0.345	0.043	0.191	0.599	0.155	0.775
Coherence	-0.277	-0.830**	-0.874	-0.281	-0.682*	-0.637
	0.102	0.006	0.053	0.097	0.043	0.248
Inappropriate Initiation	-0.505**	-0.795*	-0.776	-0.562**	-0.635	-0.479
	0.002	0.011	0.123	<0.001	0.066	0.414
Stereotyped	-0.322	-0.615	-0.923**	-0.236	-0.440	-0.549
	0.056	0.078	0.025	0.166	0.236	0.038
Context	-0.341*	-0.695*	-0.792	-0.304	-0.486	-0.425
	0.042	0.038	0.110	0.071	0.184	0.476
Nonverbal	-0.379	-0.597	-0.861	-0.348	-0.469	-0.502
	0.023	0.089	0.061	0.038	0.202	0.389
Social Relations	-0.553**	-0.545	-0.567	-0.556**	-0.432	-0.223
	<0.001	0.130	0.319	<0.001	0.245	0.719
Interests	-0.325	-0.638	-0.810	-0.303	-0.441	-0.908*
	0.053	0.065	0.096	0.072	0.234	0.033
GCC	-0.401*	-0.716*	-0.867	-0.304	-0.552	-0.510
	0.015	0.030	0.057	0.071	0.123	0.380
GCC percentile	-0.581**	-0.743*	-0.853	-0.503**	-0.535	-0.557
	<0.001	0.022	0.066	0.002	0.138	0.329

Table A2.9.iv: Correlations between Respondents' questionnaire answers (Questions 5 and 6, primary and secondary school participants only) and CCC-2 language scores grouped by Social Interaction Deviance Composite (SIDC)

There were insufficient responses on Question 6 for the SIDC>8 group to compute correlations.

	Question 5 (likelihood of exclusion)			Question 6 (timescale of exclusion)		
	NegSIDC N=26	SIDC 0–8 N=8	SIDC >8 N=5	NegSIDC N=20	SIDC 0–8 N=4	SIDC >8 N=2
Speech	0.394*	-0.407	-0.138	0.113	0.877	---
	0.046	0.317	0.825	0.636	0.123	
Syntax	0.374	-0.564	-0.443	-0.265	0.909	---
	0.060	0.146	0.455	0.259	0.091	
Semantics	0.165	-0.334	-0.425	0.403	0.875	---
	0.422	0.419	0.476	0.078	0.125	
Coherence	0.094	-0.486	-0.351	0.213	0.956*	---
	0.647	0.222	0.562	0.367	0.044	
Inappropriate Initiation	-0.283	-0.362	0.097	0.475*	0.975*	---
	0.161	0.379	0.876	0.034	0.025	
Stereotyped	-0.029	-0.350	-0.209	0.270	0.781	---
	0.887	0.396	0.736	0.249	0.219	
Context	0.103	-0.358	-0.514	0.167	0.943	---
	0.615	0.384	0.375	0.482	0.057	
Nonverbal	0.000	-0.458	-0.112	-0.068	0.923	---
	1.000	0.253	0.857	0.775	0.077	
Social Relations	-0.180	-0.485	-0.933*	0.258	0.853	---
	0.379	0.223	0.021	0.271	0.147	
Interests	-0.003	-0.427	-0.009	0.188	0.886	---
	0.990	0.291	0.989	0.427	0.114	
GCC	0.213	-0.434	-0.272	0.214	0.952*	---
	0.297	0.283	0.658	0.365	0.048	
GCC percentile	0.090	-0.385	-0.429	0.344	0.729	---
	0.663	0.346	0.472	0.137	0.271	

Table A2.9.v: Correlations between Respondents' language ratings and CCC-2 language scores according to Role of Respondent

	Class Teacher (N=14)		Teacher in some lessons (N=11)		Pupil's individual support (N=4)		Support assistant in classroom (N=3)		Mentor (N=3)		Other (N=9)	
	Overall Language	Social Language	Overall Language	Social Language	Overall Language	Social Language	Overall Language	Social Language	Overall Language	Social Language	Overall Language	Social Language
Speech	0.498	0.422	0.353	0.487	0.890	0.597	-0.500	0.115	0.240	0.240	0.640	0.864**
Syntax	0.070	0.133	0.287	0.129	0.110	0.403	0.667	0.927	0.846	0.846	0.063	0.003
	0.581*	0.454	0.718*	0.603*	0.477	-0.034	0.866	0.993	0.596	0.596	0.735*	0.939*
	0.029	0.103	0.013	0.050	0.523	0.966	0.333	0.073	0.593	0.593	0.024	<0.001
Semantics	0.562*	0.440	0.786**	0.657*	0.933	0.609	0.189	-0.434	0.866	0.866	0.648	0.543
	0.036	0.115	0.004	0.028	0.067	0.391	0.879	0.715	0.333	0.333	0.059	0.131
Coherence	0.596*	0.811**	0.505	0.533	0.771	0.704	-0.500	-0.918	0.000	0.000	0.356	0.628
	0.025	<0.001	0.113	0.092	0.229	0.296	0.667	0.260	1.000	1.000	0.346	0.070
Inappropriate Initiation	0.364	0.507	0.404	0.662*	-0.586	-0.076	0.189	-0.434	0.327	0.327	-0.374	-0.258
	0.201	0.064	0.218	0.026	0.414	0.924	0.879	0.715	0.788	0.788	0.321	0.503
Stereotyped	0.419	0.453	0.512	0.548	0.771	0.704	0.866	0.397	0.982	0.982	0.270	0.418
	0.135	0.103	0.107	0.081	0.229	0.296	0.333	0.740	0.121	0.121	0.483	0.262
Context	0.555*	0.651*	0.455	0.529	0.089	0.204	-1.000**	-0.803	-0.500	-0.500	0.637	0.819**
	0.039	0.012	0.160	0.094	0.911	0.796	<0.001	0.407	0.667	0.667	0.065	0.007
Nonverbal	0.340	0.602*	-0.011	0.010	-0.613	-0.254	-0.866	-0.993	-0.866	-0.866	0.457	0.799**
	0.235	0.023	0.976	0.976	0.387	0.746	0.333	0.073	0.333	0.333	0.216	0.010
Social Relations	0.173	0.390	0.102	0.364	0.120	0.582	0.000	-0.596	---	---	0.135	0.446
	0.553	0.168	0.765	0.271	0.880	0.418	1.000	0.593	---	---	0.729	0.229
Interests	0.268	0.489	0.434	0.635*	0.357	0.692	---	---	-0.866	-0.866	-0.131	0.344
	0.354	0.076	0.182	0.036	0.643	0.308	---	---	0.333	0.333	0.642	0.909**
GCC	0.611*	0.696**	0.638*	0.693*	0.774	0.568	-0.189	-0.737	0.596	0.596	0.062	0.001
	0.020	0.006	0.035	0.018	0.226	0.432	0.879	0.472	0.593	0.593	0.605	0.821**
GCC percentile	0.524	0.651	0.496	0.647*	0.762	0.679	---	---	---	---	0.084	0.007
	0.054	0.012	0.121	0.031	0.238	0.321	---	---	---	---	---	---

Ratings of 'overall language' from class teachers and teachers of the pupils in some lessons correlated significantly with two structural language scales (*Syntax* and *Semantics*), but none of the other respondent groups produced significant correlations with these scales.

Class teachers' ratings of 'overall language' also correlated significantly with the pragmatic scale *Use of Context*, and their ratings for both 'overall' and 'social' language correlated significantly with participants' GCC. Ratings of 'social language' from class teachers correlated significantly with three pragmatic scales (*Coherence*, *Context*, and *Nonverbal Communication*). Ratings of 'social language' from teachers in some lessons correlated significantly with the structural language scales *Syntax* and *Semantics* and the pragmatic scales *Inappropriate Initiation* and *Interests*. Class teachers and teachers in some lessons also gave scores in the expected direction: higher scores from them correlated with higher scores on the CCC-2. From a further analysis, 19 of the 'class teacher' group were from primary schools, six from secondary schools, and four from the PRU-KS2&3. From the 'teacher in some lessons' group, one was from a primary school, four from secondary schools, and nine from the PRU-KS4. Ratings from staff who gave their role as "other" produced many highly significant ratings between their perception of 'social language' and the participants' scores on *Speech* and *Syntax* and in the pragmatic language scales of *Use of Context* and *Nonverbal Communication*.

However, many of the scores from individual support workers and support assistants in the classroom were negatively correlated with higher scores on the CCC-2 scales, although most were insignificant. Only one significant correlation was produced and this was a highly significant $p < 0.001$ from a -1.000 correlation where higher ratings of 'overall language' correlated negatively with the pragmatic scale *Use of Context*.

Table A2.9.vi: Correlations between Respondents' language ratings and CCC-2 language scores according to setting of Respondent

Responses relating to 'overall language' skill are taken from Question 2, and responses for 'social language' are taken from Question 3.

	Primary Staff (N=13)		Secondary Staff (N=26)		PRU (KS2 & KS3) (N=4)		PRU (KS4) (N=7)	
	Overall Lang	Social Lang	Overall Lang	Social Lang	Overall Lang	Social Lang	Overall Lang	Social Lang
Speech	0.392	0.222	0.711**	0.654**	0.573	0.649	0.538	0.751
	0.185	0.466	<0.001	<0.001	0.427	0.531	0.212	0.051
Syntax	0.618*	0.408	0.573**	0.505**	-0.174	0.406	0.844*	0.683
	0.024	0.166	0.002	0.008	0.826	0.594	0.017	0.091
Semantics	0.612*	0.568*	0.767**	0.617**	0.420	-0.420	0.933**	0.741
	0.026	0.043	<0.001	0.001	0.580	0.580	0.002	0.057
Coherence	0.542	0.819**	0.599**	0.680**	0.858	0.151	0.824*	0.647
	0.056	0.001	0.001	<0.001	0.142	0.849	0.023	0.116
Inappropriate Initiation	0.415	0.711**	0.289	0.325	0.917	-0.071	0.693	0.919**
	0.158	0.006	0.152	0.105	0.083	0.929	0.084	0.003
Stereotyped	0.522	0.722**	0.429*	0.475*	-0.870	-0.522	0.769*	0.542
	0.067	0.005	0.029	0.014	0.130	0.478	0.043	0.209
Context	0.590*	0.826**	0.371	0.517**	0.556	0.333	-0.940**	0.833*
	0.034	0.001	0.062	0.007	0.444	0.667	0.002	0.020
Nonverbal	0.291	0.673**	0.211	0.473*	0.867	-0.067	0.617	0.305
	0.335	0.012	0.302	0.015	0.133	0.933	0.140	0.506
Social Relations	0.056	0.504	0.369	0.496*	0.333	-0.778	0.776*	0.846*
	0.856	0.079	0.064	0.010	0.667	0.222	0.040	0.016
Interests	0.366	0.740**	0.095	0.315	0.577	0.577	0.821*	0.973**
	0.219	0.004	0.645	0.117	0.423	0.423	0.024	<0.001
GCC	0.595*	0.766**	0.723**	0.768**	0.692	0.134	0.920**	0.818*
	0.032	0.002	<0.001	<0.001	0.308	0.866	0.003	0.024
GCC percentile	0.566*	0.844**	0.506**	0.645**	0.843	0.353	0.849*	0.884**
	0.044	<0.001	0.008	<0.001	0.157	0.647	0.016	0.008

Staff from the PRU–KS2&3 produced no significant correlations between their perceptions of pupils and the participants' scores on the CCC-2 scales. However, staff from all other settings produced many significant correlations.

Teacher Perceptions of Difficulties – analysed by SIDC groups

SIDC Groups

Table A2.9.vii: ANOVAs to compare staff perceptions on language, behaviour and risk of exclusion in relation to the Social Interaction Deviance Composite (SIDC) groups

Unshaded rows are Pearson's correlations (r scores). Shaded rows are standard deviations and, in the last column, significance differences.

	Neg SIDC N=36	SIDC 0-8 N=9	SIDC >8 N=5	ANOVA p<0.05
Question 1	7.50	6.78	4.20	F=4.237 0.020
	2.210	2.863	2.864	A>C
Question 2	7.25	4.89	7.00	F=3.571 0.036
	2.247	2.804	2.550	A>B
Question 3	5.75	4.22	6.60	n.s.
	2.489	2.682	2.608	
Question 4	7.33	5.78	5.00	n.s.
	2.165	3.270	2.915	
	Neg SIDC N=26	SIDC 0-8 N=8	SIDC >8 N=5	
Question 5	7.27	5.25	3.40	F=3.981 0.027
	2.721	4.268	2.608	A>C
Question 6	4.25	3.25	4.00	n.s.
	1.293	1.708	2.828	

Table A2.9.viii: Post-Hoc tests

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) SIDCgroups	(J) SIDCgroups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Q1Concerned	SIDC between 0 and 8	Neg SIDC	-.722	.892	.699	-2.88	1.44
		SIDC over 8	2.578	1.335	.141	-.65	5.81
	Neg SIDC	SIDC between 0 and 8	.722	.892	.699	-1.44	2.88
		SIDC over 8	3.300*	1.143	.016	.53	6.07
Q2OverallLang	SIDC between 0 and 8	Neg SIDC	-2.361*	.886	.028	-4.51	-.22
		SIDC over 8	-2.111	1.326	.259	-5.32	1.10
	Neg SIDC	SIDC between 0 and 8	2.361*	.886	.028	.22	4.51
		SIDC over 8	.250	1.135	.974	-2.50	3.00
Q3SocialLang	SIDC between 0 and 8	Neg SIDC	-1.528	.944	.248	-3.81	.76
		SIDC over 8	-2.378	1.413	.222	-5.80	1.04
	Neg SIDC	SIDC between 0 and 8	1.528	.944	.248	-.76	3.81
		SIDC over 8	-.850	1.209	.763	-3.78	2.08
Q4Behaviour	SIDC between 0 and 8	Neg SIDC	-1.556	.915	.216	-3.77	.66
		SIDC over 8	.778	1.370	.838	-2.54	4.09
	Neg SIDC	SIDC between 0 and 8	1.556	.915	.216	-.66	3.77
		SIDC over 8	2.333	1.172	.126	-.50	5.17
Q5Exclusion	SIDC between 0 and 8	Neg SIDC	-2.019	1.242	.248	-5.06	1.02
		SIDC over 8	1.850	1.752	.547	-2.43	6.13
	Neg SIDC	SIDC between 0 and 8	2.019	1.242	.248	-1.02	5.06
		SIDC over 8	3.869*	1.500	.037	.20	7.54
Q6Imminence	SIDC between 0 and 8	Neg SIDC	-1.000	.795	.433	-2.99	.99
		SIDC over 8	-.750	1.258	.823	-3.90	2.40
	Neg SIDC	SIDC between 0 and 8	1.000	.795	.433	-.99	2.99
		SIDC over 8	.250	1.077	.971	-2.45	2.95
Q6Imminence	SIDC between 0 and 8	Neg SIDC	-.750	1.258	.823	-2.40	3.90
		SIDC over 8	-.250	1.077	.971	-2.95	2.45

*. The mean difference is significant at the .05 level.

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) SIDCgroups	(J) SIDCgroups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Q5Exclusion	SIDC between 0 and 8	Neg SIDC	-2.019	1.242	.248	-5.06	1.02
		SIDC over 8	1.850	1.752	.547	-2.43	6.13
	Neg SIDC	SIDC between 0 and 8	2.019	1.242	.248	-1.02	5.06
		SIDC over 8	3.869*	1.500	.037	.20	7.54
Q6Imminence	SIDC between 0 and 8	Neg SIDC	-1.000	.795	.433	-2.99	.99
		SIDC over 8	-.750	1.258	.823	-3.90	2.40
	Neg SIDC	SIDC between 0 and 8	1.000	.795	.433	-.99	2.99
		SIDC over 8	.250	1.077	.971	-2.45	2.95
Q6Imminence	SIDC between 0 and 8	Neg SIDC	-.750	1.258	.823	-2.40	3.90
		SIDC over 8	-.250	1.077	.971	-2.95	2.45

*. The mean difference is significant at the .05 level.

Staff gave higher levels of concern regarding the Negative SIDC group (F=4.237, p=0.020) and higher risk of exclusion (F=3.981, p=0.027). On question 2 staff rated the Negative SIDC group as having significantly better language skill than the SIDC 0–8 group (F=3.571, p=0.036).

Correlations: Staff Questionnaire with Interpersonal Reactivity Index (IRI)

Table A2.9.ix: Correlations between the IRI Scales and the Staff Questionnaire

	Perspective Taking	Fantasy	Empathic Concern	Personal Distress
Question 1 N=74	-0.371**	-0.120	-0.133	0.069
	0.001	0.308	0.259	0.558
Question 2 N=74	0.099	0.188	0.039	-0.002
	0.402	0.108	0.743	0.984
Question 3 N=74	0.137	0.087	-0.031	-0.005
	0.244	0.462	0.791	0.967
Question 4 N=74	-0.317**	0.003	-0.155	0.176
	0.006	0.981	0.187	0.133
Question 5 N=63	-0.353**	-0.116	-0.214	0.176
	0.005	0.364	0.093	0.168
Question 6 N=51	-0.160	0.017	-0.119	-0.146
	0.276	0.906	0.420	0.322

Most correlations, though insignificant, were in the direction expected. For example, questions 1, 4 and 5 were negatively correlated with *Perspective Taking* and *Empathic Concern*, and questions 2 and 3 were positively correlated as a higher score meant higher language ability. *Personal Distress* was the opposite as it is scored in reverse compared to the other three scales. The correlations between the *Fantasy* scale and the questionnaire were all around 0.

Appendix 2.10

Intervention in Pragmatic Language Impairments

Interventions

When choosing interventions and programmes to assist young people to develop their language skill, Geurts and Embrechts (2008) warn against giving treatment goals that are too narrowly defined. They state that pragmatic ability is most likely to be affected by structural language skills, impulsivity, and sometimes autistic behaviour. Therefore to focus solely on one aspect would be too narrow, and instead a multi-disciplinary assessment and evaluations of the child's communicative profile are recommended to be undertaken on a regular basis in order to design an adequate and individually-tailored programme.

There are many interventions and strategies that can be used in schools, through small group work or individual targets, to assist children to develop their language skills. For example, children can be helped to gradually understand instructions, they can be given visual cues along with their work and also visual cues for helping them understand their own and others' emotions, and they can be helped to understand the temporal order of what they are expected to do so that they don't feel overwhelmed or confused by the daily routine of the classroom. Interventions could include social skills groups tailored to those with impairments in pragmatic language. Other options are peer tutoring, and pivotal response training (Koegel, Koegel, Hurley & Frea, 1992; Pierce & Schriebman, 1997) which increases socially appropriate behaviour and produces positive gains in competence and adjustment (Gilmour et al, 2004).

It is important that children with difficulties that cannot be addressed in school attend programmes such as speech and language therapy or, whilst still attending a mainstream school, may be able to access additional support through a language unit. Classrooms should have rules and routines that are understood by all and where possible phrased in a positive rather than negative way to aid understanding and positive behaviour. Denham et al (2002) suggest that boosting social information processing and the ability to understand emotional situations, particularly before school entry, is important to prevent problems occurring as children grow older. They argue that it is important to teach preschool

children about emotion, rather than implement programmes only once children reach school age (see also Weissberg & Greenberg, 1998).

Gardner, Burton and Klimes (2006) concluded that a group-based cognitive-behavioural parenting programme was also beneficial in reducing conduct problems and enhancing parental skills. They found this was most effective when delivered by well-trained and supervised staff, and could possibly be delivered in community settings where costs could be lower and facilities could be more accessible to families. However, they did acknowledge challenges to locally based services and in particular the use of voluntary agencies as these can be most vulnerable to insecure funding and employment, reliance on volunteers, and premises not being properly equipped. It is important that staff have relevant qualifications and experience when carrying out complex interventions. Gardner et al stressed the need for interventions to begin early, and to find ways to be accessible since families most at risk could find it difficult to access conventional services.

Multi-agency approaches

The complex nature of language impairments, empathy development and behaviour described by this and previous research, and the nature of the various interventions described above, suggests that multi-agency approaches would be highly beneficial. However, the costs involved in staffing, adequate resources, and appropriate community locations indicates that such approaches would need to be well supported by policy. Multi-agency working underpinned by policy would also enable services to address their main objectives, outcomes and evaluation procedures in order to reduce such issues compromising the effectiveness of the services offered. Miller, Gulliford and Stringer (2004) outline methods for promoting successful multi-agency working, including clear planning of the initiation and maintenance of the service and strategic approaches to maintaining effective teams.

Policy

With the recognition that many behavioural difficulties could in fact be a consequence of language difficulties, it is likely that a change in policy would be important in order for funding and access to interventions to be straightforward and uncomplicated. In the UK legislation has been implemented with the intention of improving the health and

educational outcomes young people, including the Every Child Matters (ECM) Child for Children Agenda (DfES, 2004). Goals within this include enhancing evidence-based identification of children at-risk and using appropriate interventions to help those children obtain positive outcomes in school and in life. With the clear consequences of language difficulties noted in past research and the current study, changes to national and local policy would enable schools to identify children with difficulties, for example by enabling more staff to attend awareness raising training events, and there should be a sufficient number of suitably qualified professionals to advise on appropriate interventions and to undertake those interventions in conjunction with parents and school staff.

Whilst it would be hoped that interventions would prevent young people from being excluded and requiring a place at a Pupil Referral Unit, if this does occur it would be beneficial for the PRUs to also offer language and social interventions. Whilst PRUs may sometimes be used inappropriately to cater for children with special educational needs, some pupils thrive in the smaller less stressful environment and the PRU can offer a 'second chance' where they can increase self-confidence and self-esteem and gain access to additional intervention and programmes.

Appendix 3.1

Certificate of Ethical Research Approval



School of Education and Lifelong Learning

Certificate of ethical research approval

STUDENT RESEARCH/FIELDWORK/CASEWORK AND DISSERTATION/THESIS

You will need to complete this certificate when you undertake a piece of higher-level research (e.g. Masters, PhD, EdD level).

To activate this certificate you need to first sign it yourself, then have it signed by your supervisor and by the Chair of the School's Ethics Committee.

For further information on ethical educational research access the guidelines on the BERA web site: <http://www.bera.ac.uk/publications/guides.php> and view the School's statement in your handbooks.

READ THIS FORM CAREFULLY AND THEN COMPLETE IT ON YOUR COMPUTER (the form will expand to contain the text you enter).
DO NOT COMPLETE BY HAND

Your name: Elizabeth Davies

Your student no: 560021507

Degree/Programme of Study: Doctorate in Educational Child and Community Psychology

Project Supervisor(s): Andrew Richards, Margie Tunbridge, Elias Avramidis

Your email address: ed236@ex.ac.uk

Tel:

Title of your project: The relationship between language difficulties and lack of empathy in young people displaying antisocial behaviour

Brief description of your research project:

The research will use the Children's Communication Checklist to assess pragmatic language and the Interpersonal Reactivity Index to assess empathy. Results will be analysed to discover patterns and correlations. I have also designed a questionnaire relating to the young person's experience of antisocial behaviour and, where applicable, exclusion from school. The second part of the research will select from the first sample and follow them up to further discuss their experiences and ideas of what support could have been put in place earlier. It will then discuss possibilities for multi-agency partnerships to work more effectively together.

Chair of the School's Ethics Committee
 last updated: September 2007

Give details of the participants in this research (giving ages of any children and/or young people involved):

So that different groups can be compared in the first stage of the research, the groups will consist of: young people and adults already identified as being involved in antisocial behaviour (aged up to 21), young people engaged in antisocial behaviour and excluded from school, young people at risk of exclusion from school, and matched controls who are neither at risk of exclusion nor known to be involved in antisocial behaviour. The latter three groups will be aged up to 18.

Give details regarding the ethical issues of informed consent, anonymity and confidentiality (with special reference to any children or those with special needs)

a blank consent form can be downloaded from the SELL student access on-line documents:

Informed consent will be sought for every participant, both from individual participants and where organisations are concerned from a relevant person representing the organisation. Consent from parents of participants under the age of 16 will also be an important acquisition. Issues surrounding antisocial behaviour and exclusion from school may be sensitive and will be handled with understanding.

Participant anonymity and data confidentiality will be maintained. Names of participants, schools, or other organisations will not be reported or revealed outside of the study. Names of some services, such as Educational Psychology and the Youth Offending Team, will be necessary but if information is sensitive or would risk identifying someone or a sensitive issue, it will be stated in such a way that the source is not identifiable.

Using the University of Exeter's consent form, participants will be made aware of their rights to choose whether or not to be involved, to withdraw at any time, and to refuse permission for their information to be included in the report. They will be given the opportunity to be debriefed. The completed report will be anonymised so that no participants can be identified, and participants will be made aware that they can read the final report.

Give details of the methods to be used for data collection and analysis and how you would ensure they do not cause any harm, detriment or unreasonable stress:

In addition to the above ethical considerations regarding harm, detriment or stress, the data collection methods will be both quantitative and qualitative and will partly depend on the information obtained; particularly the qualitative section will depend on the sampling that is undertaken as a result of the quantitative findings. The quantitative measures will be statistical tools such as t-tests, correlation coefficients, and ANOVAs. All information will be reported sensibly, with reference to the reliability and validity of the measurement tool, and in line with theory and ethics.

Give details of any other ethical issues which may arise from this project (e.g. secure storage of videos/recorded interviews/photos/completed questionnaires or special arrangements made for participants with special needs etc.):

All information will be stored on password protected computers, and all completed questionnaires and assessments will be kept in a locked filing cabinet in line with Educational Psychology Service procedures. As there is quite a lot of written information required, the CCC-2, IRI and specific research questionnaire can be completed in an interview format where there are known special needs of the participants.

Give details of any exceptional factors, which may raise ethical issues (e.g. potential political or ideological conflicts which may pose danger or harm to participants):

None anticipated.

This form should now be printed out, signed by you below and sent to your supervisor to sign. Your supervisor will forward this document to the School's **Research Support Office** for the Chair of the School's Ethics Committee to countersign. A unique approval reference will be added and this certificate will be returned to you to be included at the back of your dissertation/thesis.

I hereby certify that I will abide by the details given above and that I undertake in my dissertation / thesis (delete whichever is inappropriate) to respect the dignity and privacy of those participating in this research.

I confirm that if my research should change radically, I will complete a further form.

Signed: Gregor J. Davies date: 1.7.08

N.B. You should not start the fieldwork part of the project until you have the signature of your supervisor

This project has been approved for the period: July 2008 until: July 2009

By (above mentioned supervisor's signature): [Signature] date: 01-07-2008

N.B. To Supervisor: Please ensure that ethical issues are addressed annually in your report and if any changes in the research occurs a further form is completed.

SELL unique approval reference: 2/07/08/36

Signed: [Signature] date: 07/07/2008
Chair of the School's Ethics Committee

This form is available from
<http://www.education.ex.ac.uk/students/index.php> then click on On-line documents.

Appendix 3.2

Ethical Considerations

Details about ethical issues involved

Ethical considerations regarding the research are outlined in the Methods sections of each research paper. The research is in line with ethical standards of the British Psychological Society, and all ethical issues outlined were followed closely.