Autism and Self-conscious Emotions

by

Gayathri Chidambi

Thesis submitted for the degree of Doctor of Philosophy at the University College London
Abstract

The topic of this thesis is the recognition and expression of pride, guilt, shame and coyness by children with autism. It was hypothesised that these self-conscious emotions develop through a child's ability to identify with others' attitudes towards the self and that children with autism have a limited ability to identify with others this way. Correspondingly, it is expected that they will be limited in their ability to express and perhaps experience these emotions.

The series of studies presented in this thesis investigate the recognition and expression of these self-conscious emotions in children with autism, relative to a chronological and verbal age matched group of children without autism. In the first study, parents were asked to describe a range of socio-emotional behaviour of their children with autism. The second study focused on parent reports of the expression of pride, guilt and shame in their children. The third study examined participants' recognition of these emotions in video-clips of enacted scenarios. Participants were then interviewed to explore their own experiences of pride, guilt and shame. Finally situations were designed to elicit pride, guilt and coyness in participants and their responses were recorded and rated.

The results from the studies offer substantial but qualified support for the hypothesis. Collectively, they present a complex picture of both spared and impaired aspects of pride, guilt, shame and coyness in children with autism.
# Table of Contents

ABSTRACT .......................................................................................................................... 2

TABLE OF CONTENTS ........................................................................................................ 3-6

LIST OF TABLES .................................................................................................................. 7-8

LIST OF FIGURES ................................................................................................................ 9

LIST OF PICTURES ............................................................................................................... 10

ACKNOWLEDGEMENTS ..................................................................................................... 11

CHAPTER ONE: INTRODUCTION TO THE DEVELOPMENT OF SOCIO-EMOTIONAL UNDERSTANDING IN CHILDREN WITH AUTISM ........................................... 12-34

1.1 The Development of Intersubjectivity in Typically Developing Children .................... 13-17
   Social referencing ........................................................................................................... 16-17
1.2 Emotion Recognition and Expression in Typical Development .................................... 17-19
1.3 The Development of Intersubjectivity in Children with Autism .................................... 19-25
   Social referencing in children with autism .................................................................... 22-25
1.4 Emotional Development in Children with Autism ....................................................... 25-30
   The development of self-conscious emotions in children with autism ......................... 28-29
1.5 Theories of the Origins of Autistic Impairments ............................................................ 30-33
1.6 Aims, Hypothesis and Plan of Thesis ............................................................................ 33-34

CHAPTER TWO: AN INTERVIEW STUDY OF THE INTERPERSONAL ASPECTS OF SELF-EXPERIENCE IN CHILDREN WITH AUTISM ................................................................. 35-76

2.1 Introduction .................................................................................................................... 36-42
   Tools commonly used in research to obtain information from parents of children with autism ......................................................................................................................... 39-42
2.2 Participants .................................................................................................................. 43-44
   Sample of children with autism .................................................................................... 43
   Sample of children with learning disabilities ............................................................... 43
   Parent characteristics ................................................................................................... 44
2.3 The Interview Method .................................................................................................. 45-48
   Milestones ...................................................................................................................... 45
   Body-self ........................................................................................................................ 45
   Imitation ........................................................................................................................ 46
   Self in relation to another ............................................................................................... 47
   Emotions ........................................................................................................................ 47-48
2.4 Predictions and Scoring ............................................................................................... 48-53
   Predictions .................................................................................................................... 48-49
   Scoring .......................................................................................................................... 49-53
2.5 Results ........................................................................................................................ 53-62
   Inter-rater reliabilities .................................................................................................. 53-54
   Body-self results .......................................................................................................... 54-55
   Imitation results .......................................................................................................... 55-56
   Self-other results ........................................................................................................ 56-57
   Emotions results ......................................................................................................... 58-62
2.6 Qualitative Analysis of Results and Discussion ............................................................ 63-76
   Body-self ....................................................................................................................... 63-65
   Imitation ....................................................................................................................... 65-66
   Self-other .................................................................................................................... 66-69
CHAPTER THREE: AN INTERVIEW STUDY OF PRIDE, GUILT AND SHAME IN CHILDREN WITH AUTISM ................................................................. 77-104

3.1 INTRODUCTION ....................................................................................................................................................................................... 78-88
Pride ................................................................................................................................................................................................................................. 79-82
Development of pride in children with autism ................................................................................................................................................ 82-84
Development of guilt in typically developing children ................................................................................................................................ 84-87
Development of guilt in children with autism .............................................................................................................................................. 87-88
3.2 METHOD .............................................................................................................................................................................................................. 88-89
Participants ................................................................................................................................................................................................................. 88
Sample of children with autism ........................................................................................................................................................................ 88
Sample of children with learning disabilities ............................................................................................................................................. 89
Method ...................................................................................................................................................................................................................... 89
3.3 PREDICTIONS AND SCORING .................................................................................................................................................................. 90-91
Predictions .................................................................................................................................................................................................................. 90
Scoring ...................................................................................................................................................................................................................... 90-91
3.4 RESULTS ............................................................................................................................................................................................................. 91-93
Inter-rater reliability .......................................................................................................................................................................................... 91
Presence/Absence of pride, guilt and shame .................................................................................................................................................. 91-93
3.41 RESULTS PARENT TRANSCRIPTS ........................................................................................................................................................................... 94-101
3.5 DISCUSSION ...................................................................................................................................................................................................... 101-104
Pride ......................................................................................................................................................................................................................... 101-102
Guilt ......................................................................................................................................................................................................................... 102-103
Shame ......................................................................................................................................................................................................................... 103
Conclusions ................................................................................................................................................................................................................. 104

CHAPTER FOUR: THE RECOGNITION OF SELF-CONSCIOUS EMOTIONS IN ADOLESCENTS WITH AUTISM ......................................................... 105-144

4.1 INTRODUCTION ...................................................................................................................................................................................................... 106
Aims and hypothesis .............................................................................................................................................................................................. 106
4.2 SELF-CONSCIOUS EMOTIONS-AN INTRODUCTION .......................................................................................................................... 107-112
Emotional development in typically developing children ........................................................................................................................................... 107-108
The development of self-conscious emotions in typically developing children ............................................................................................... 109-112
4.3 THE DEVELOPMENT OF BASIC AND SELF-CONSCIOUS EMOTIONS IN CHILDREN WITH AUTISM .................................................. 112-123
Empirical investigations of the affective impairment in autism ......................................................................................................................... 113-114
Recognition and expression of basic emotions by children with autism .......................................................................................................... 114-118
Expression of self-conscious emotions in children with autism .................................................................................................................. 118
Pride ......................................................................................................................................................................................................................... 118-119
Embarrassment ................................................................................................................................................................................................. 119
Empathy .................................................................................................................................................................................................................... 120-122
Guilt ......................................................................................................................................................................................................................... 122-123
4.4 PARTICIPANTS....................................................................................................................................................................................................... 123-124
Sample of children with autism ........................................................................................................................................................................ 123
Sample of children with learning disabilities ............................................................................................................................................. 123
4.5 METHOD .............................................................................................................................................................................................................. 124-129
Procedure .................................................................................................................................................................................................................... 125-129
4.6 PREDICTIONS AND SCORING ................................................................................................................................................................. 130-133
Predictions .................................................................................................................................................................................................................. 130
Scoring ...................................................................................................................................................................................................................... 130-133
4.7 RESULTS .............................................................................................................................................................................................................. 134-141
Inter-rater reliability .......................................................................................................................................................................................... 134
Productivity .............................................................................................................................................................................................................. 134
Prompts .................................................................................................................................................................................................................. 134-135
Actions-results ................................................................................................................................................................................................. 135-136
CHAPTER SIX: AN INVESTIGATION INTO THE EXPRESSION OF PRIDE, GUILT AND SHAME IN CHILDREN WITH AUTISM

6.1 INTRODUCTION .................................................................................................................. 166
Hypothesis and aims .................................................................................................................. 166

6.2 PARTICIPANTS ..................................................................................................................... 167
Sample of children with autism ............................................................................................... 167
Sample of children with learning disabilities ......................................................................... 167

6.3 METHOD ............................................................................................................................. 168
General Introduction to tasks .................................................................................................... 168
Guilt tasks ................................................................................................................................ 169-172
Pride tasks ............................................................................................................................... 172-174

6.4 PREDICTIONS AND SCORING ......................................................................................... 174-178
Predictions ............................................................................................................................... 174
Scoring ..................................................................................................................................... 174-178

6.5 RESULTS ............................................................................................................................. 178-190
Inter-rater reliability ................................................................................................................. 178-179
Results: pride .............................................................................................................................. 180-183
Results: guilt ............................................................................................................................. 183-188
Odd behaviour .......................................................................................................................... 188-189
Other-directedness ..................................................................................................................... 189-190
Ratings of verbal/non verbal expressions of emotion ................................................................. 190

6.6 QUALITATIVE ANALYSIS OF RESULTS AND DISCUSSION ........................................ 191-194
Pride ........................................................................................................................................ 191-192
Guilt .......................................................................................................................................... 192-193
Oddities .................................................................................................................................... 193
Summary and conclusion ........................................................................................................... 193-194
CHAPTER SEVEN: AN EXPLORATORY STUDY INVESTIGATING EXPRESSIONS 
of coyness in children with autism ................................................................. 195-213

7.1 INTRODUCTION ........................................................................................................ 196-200
Hypothesis and aims .................................................................................. 196
The development of coyness in typically developing children .................. 197-199
The development of coyness in children with autism ............................... 199-200

7.2 PARTICIPANTS ......................................................................................................... 200-201
Sample of children with autism ................................................................. 200-201
Sample of children with learning disabilities ........................................... 201

7.3 METHOD .................................................................................................................. 202-204
Pre test ............................................................................................................. 202
Eliciting a self-conscious emotion using visual gaze .................................. 202
Eliciting a self-conscious emotion using visual gaze and touch ............... 202-203
Eliciting coyness using visual gaze, touch and affect ............................... 203-204

7.4 PREDICTIONS AND SCORING ................................................................................ 204-205
Predictions ..................................................................................................... 204
Scoring ........................................................................................................... 204-205

7.5 RESULTS .................................................................................................................. 205-209
Inter-rater reliability .................................................................................. 205-206
Eliciting a self-conscious emotion using visual gaze ............................... 206
Eliciting a self-conscious emotion using visual gaze and touch ............. 206-207
Eliciting coyness using visual gaze, touch and affect .............................. 207

7.6 QUALITATIVE ANALYSIS OF RESULTS AND DISCUSSION ..................... 209-213

CHAPTER EIGHT: SUMMARY OF FINDINGS AND GENERAL DISCUSSION .......... 214-237

8.1 SYNOPSIS ............................................................................................................. 215-226
8.2 METHODOLOGICAL WEAKNESSES ...................................................................... 226-228
8.3 IMPLICATIONS OF RESEARCH FINDINGS AND FUTURE DIRECTIONS .......... 229-237
Theoretical Implications ........................................................................... 229-237
8.4 CONCLUSION ......................................................................................................... 237

REFERENCES ........................................................................................................... 238-251

APPENDIX 2.2 DIAGNOSTIC CRITERIA FOR AUTISTIC DISORDER ...................... 252-253
APPENDIX 2.2 PARENT CHARACTERISTICS .............................................................. 254-255
APPENDIX 2.3 THE INTERVIEW SCHEDULE .............................................................. 256-260
APPENDIX 2.5 RANGE OF RELIABILITIES FOR CHAPTERS 2 AND 3 .................... 261-262
APPENDIX 3.41 PARENT TRANSCRIPTS ................................................................. 263-275
APPENDIX 4.7 RANGE OF RELIABILITIES FOR CHAPTER 4 ................................. 276
APPENDIX 6.5 KAPPA SCORES FOR CHAPTER 6 .................................................... 277
APPENDIX 7.5 RANGE OF RELIABILITIES FOR CHAPTER 7 ............................... 278
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Matched Group Characteristics</td>
<td>44</td>
</tr>
<tr>
<td>2.2</td>
<td>Interpretation of Kappa Coefficient adapted from Landis, J.R. and Koch, G.G. (1977)</td>
<td>54</td>
</tr>
<tr>
<td>2.3</td>
<td>Body Self-Number of children expressing unusual behaviour</td>
<td>54</td>
</tr>
<tr>
<td>2.3 (a)</td>
<td>Body Self-Number of children expressing unusual behaviour (category 2: distribution of scores)</td>
<td>55</td>
</tr>
<tr>
<td>2.4</td>
<td>Imitation-Number of children expressing unusual behaviour</td>
<td>55</td>
</tr>
<tr>
<td>2.4 (a)</td>
<td>Imitation-Number of children expressing unusual behaviour (category 2: distribution of scores)</td>
<td>56</td>
</tr>
<tr>
<td>2.5</td>
<td>Self –Other- Number of children expressing unusual behaviour</td>
<td>56</td>
</tr>
<tr>
<td>2.5 (a)</td>
<td>Self –Other- Number of children expressing unusual behaviour (category 2: distribution of scores)</td>
<td>57</td>
</tr>
<tr>
<td>2.6</td>
<td>Number of children expressing self-conscious emotions</td>
<td>58</td>
</tr>
<tr>
<td>2.6 (a)</td>
<td>Number of children expressing self-conscious emotions (category 2: distribution of scores)</td>
<td>59</td>
</tr>
<tr>
<td>2.7</td>
<td>Number of children expressing basic emotions</td>
<td>60</td>
</tr>
<tr>
<td>2.7(a)</td>
<td>Number of children expressing basic emotions (category 2: distribution of scores)</td>
<td>61</td>
</tr>
<tr>
<td>2.7(b)</td>
<td>Number of children expressing basic emotions in an unusual manner</td>
<td>62</td>
</tr>
<tr>
<td>3.1</td>
<td>Presence/Absence of Pride</td>
<td>91</td>
</tr>
<tr>
<td>3.1(a)</td>
<td>Presence/Absence of Pride (category 2: distribution of scores)</td>
<td>92</td>
</tr>
<tr>
<td>3.2</td>
<td>Presence/ Absence of Guilt</td>
<td>92</td>
</tr>
<tr>
<td>3.2(a)</td>
<td>Presence/Absence of Guilt (category 2: distribution of scores)</td>
<td>92</td>
</tr>
<tr>
<td>3.3</td>
<td>Presence/ Absence of Shame</td>
<td>93</td>
</tr>
<tr>
<td>3.3(a)</td>
<td>Presence/Absence of Shame (category 2: distribution of scores)</td>
<td>93</td>
</tr>
<tr>
<td>4.1</td>
<td>Participant Characteristics</td>
<td>124</td>
</tr>
<tr>
<td>4.2</td>
<td>Mean Productivity Score</td>
<td>134</td>
</tr>
<tr>
<td>4.3</td>
<td>Number of participants referring to action terms</td>
<td>135</td>
</tr>
<tr>
<td>4.4</td>
<td>Accuracy of action terms</td>
<td>136</td>
</tr>
<tr>
<td>4.5</td>
<td>Reference to feeling terms</td>
<td>137</td>
</tr>
</tbody>
</table>
Table 4.6 Accuracy of feeling terms ................................................................. 138
Table 4.7 Choosing Emotions ................................................................. 139
Table 5.1 Interview results for pride .......................................................... 156
Table 5.2 Interview results for guilt .............................................................. 156
Table 5.3 Interview results for shame ............................................................ 157
Table 6.1 Participant Characteristics ......................................................... 168
Table 6.2 Verbal descriptions of pride ......................................................... 180
Table 6.3 Pride rating ........................................................................ 181
Table 6.4 Verbal descriptions of guilt .......................................................... 184
Table 6.5 Guilt rating ........................................................................ 185
Table 7.1 Participant Characteristics ......................................................... 201
Table 7.2 Number of children displaying change and a self-conscious emotion as a result of visual gaze ......................................................................................................................... 206
Table 7.3 Number of children displaying change and a self-conscious emotion as a result of visual gaze and touch ......................................................................................................................... 207
Table 7.4 Number of children displaying change and coyness as a result of visual gaze, touch and affect ......................................................................................................................... 207
LIST OF FIGURES

Figure 2.1 Number of children expressing self-conscious emotions.................................59

Figure 3.1 Number of children categorically expressing pride, guilt, and shame...............94

Figure 6.1 Number of children expressing pride and guilt .................................................187

Figure 7.1 Number of children expressing coyness ..........................................................208
LIST OF PICTURES

Picture 1: Still depicting pride...................................................................................................................127

Picture 2: Still depicting guilt....................................................................................................................127

Picture 3: Still depicting shame....................................................................................................................128

Picture 4: Still depicting pride.....................................................................................................................149

Picture 5: Still depicting guilt......................................................................................................................150

Picture 6: Still depicting shame.....................................................................................................................150

Picture 7: ‘Who drew this house?’ Participant with learning disabilities.......................................................182

Picture 8: Reaction to praise: participant with learning disabilities............................................................182

Picture 9: ‘Who drew this house?’ Participant with autism.............................................................................183

Picture 10: Reaction to praise: participant with autism.................................................................................183

Picture 11: Reactions of participant to the statement ‘the glasses are broken’: Learning disabled participant..................................................................................................................185

Picture 12: Attempt to fix glasses: Learning disabled participant.................................................................186

Picture 13: Reactions of participant to the statement ‘the glasses are broken’: Autistic participant.............186

Picture 14: Attempt to fix glasses: Autistic participant...................................................................................187

Picture 15: Participant 1: Learning disabled.................................................................................................208

Picture 16: Participant 2: Autistic................................................................................................................209
Acknowledgements

I would like to thank a few people for helping me complete this thesis. I would like to acknowledge the scholarship I received from University College London that helped enormously! I would like to thank my supervisors Peter Hobson and Tony Lee without whose guidance, patience and support, this thesis would not have been possible. I would also like to thank Beate Hermelin for her incisive comments and inspirational guidance.

The help and support of the students and staff of the schools I have worked in have been invaluable. In this regard, I would like to acknowledge the students and staff of Springhallow School, Ealing; Helen Allison School, Kent; The Jubilee Unit, Kent, and Field Heath School, Middlesex. I have been privileged enough to gain a deeper understanding of autism and learning disabilities largely due to working with the parents, staff and students of these schools.

I am very grateful to Rosa Garcia Perez for all the advice and support she so generously provided. My parents, Aruna and Krishna and my brother, Athreya have provided unwavering support during my Ph.D. I am deeply grateful for their understanding and thoughtfulness. Last, but by no means least, I would like to thank my husband Rohan for being there and making this possible.
Chapter 1 Introduction to the Development of Socio-emotional Understanding in Children with Autism
1.1 The development of intersubjectivity in typically developing children

Leo Kanner’s (1943) description of a 5-year-old child with autism identifies what seems to be the cardinal impairment in children with autism. He writes:

‘There was, on his side, no affective tie to people. He behaved as if people as such did not matter or even exist. It made no difference whether one spoke to him in a friendly or harsh way. He never looked up at people’s faces’ (pp. 227-228).

This description illustrates that emotional engagement plays a crucial role in laying the foundations upon which meaningful relationships are built. Impairments in the ability to engage are thought to lead to impairments in the development of those aspects of the self that develop as a consequence of engagement with others in one’s environment. Children with autism are hypothesised to lack the ability for emotional engagement (Hobson, 1993). The hypothesis underlying this thesis is that in the case of autism, this limited capacity for emotional engagement leads to specific impairments in the development of self-conscious emotions. The aim of the thesis is to apply a range of methodologies to compare children with and without autism, group-matched on chronological and verbal mental age, with regard to the recognition and expression of emotions such as pride, guilt and shame. This chapter compares the socio-emotional development of typically developing children and children with autism. This is because understanding the development of emotional behaviour in typically developing children serves to elucidate the possible affective impairments present in children with autism.

The centrality of emotional engagement to the development of aspects of the self has been elucidated by Stern (1985). He hypothesises that the emergence of a core sense of human self depends on emotional experiences. According to Stern, there are four different senses of self in infancy that emerge with the emergence of these new social capacities, the emergent self (between birth and two months), the core self (between 2nd and 6th months), the subjective self (between 7th and 9th months) and the verbal self (between 15 and 18 months). He is of the view that once developed, these senses or domains of self never disappear, even as a further one becomes dominant. Stern identifies certain ‘primary organisers’ that aid the development of the emergent self. These are, ‘amodal perception’, an
infant's propensity to grasp objects and their properties; 'physiognomic perception' an infant's propensity to grasp the affective nature of a sequence of sounds or a face or a drawing, and vitality affects, an infant's propensity to grasp the quality of it's own bodily experiences including its felt spatio-temporal properties. That the infant has a sense of this emerging organisation and integration of experiences is, he believes, the foundation for the emergent sense of self. He states that 'in order for the infant to have any formed sense of self, there must ultimately be some organisation that is sensed as a reference point. The first such organisation concerns the body: its coherence, its actions, its inner feeling states and the memory of all these' (Stern, 1985, pp 46). He views all these areas as aspects of the core self and discusses how infants come to integrate invariants in their experiences of themselves. The subjective self that emerges out of the core self marks a transition in that the infant realises that that s/he is not the only one with a mind, others have minds as well. The evidence Stern presents for the development of this intersubjective domain come from clinical and empirical studies of interactive experiences such as shared attention and attribution of intentions and affect to others. One's self system is reported to be formed by virtue of being able to engage emotionally with others and different aspects of the self emerge though an interactive and experiential process.

This hypothesis is supported by empirical research reporting that children seem to be born with a propensity for social relatedness which then aids the development of aspects of the self that emerge through a process of interaction with others. This propensity has been reported to be elicited initially by various physical factors such as their caregivers' heartbeat, the visual configuration of their faces and the rhythms of their voices (Capps and Sigman, 1996). Soon after they are born, infants have been reported to respond to social stimuli from other people with smiles, eye contact and vocalisations (Capps and Sigman, 1996). Additionally, researchers have found support for the importance of this intersubjective behaviour by demonstrating empirically that infants react very differently to human beings as opposed to other living things and objects. Brazelton et al. (1974), for example, observed how from as early as four weeks of age, the quality of infants' interaction with their mothers (and their mother's faces) was different from their reaction to non-personal objects. These researchers studied the interaction of five infants with their mothers. While the infants showed a constant cycle of attention followed by withdrawal of attention towards their mothers as each partner approached and then withdrew and waited for a response, they reacted towards a non personal object, in this case a furry
monkey suspended on a wire, with a fixed stare. Their reaction to their mothers was also often accompanied by vocalizations and smiles.

Similarly, Murray and Trevarthen (1985) desynchronised mother-child interactions to dramatic effect. They sat two and three-month-old children in front of a television screen which displayed a mothers’ face looking towards her child. The mother herself was in another room with a similar television screen with her child’s’ face on it. The mother and child were able to communicate through the use of these screens in an almost natural and smooth way. However, when a ‘perturbation’ in video-feedback was introduced, consisting of a 30 second delay in the time between the mothers response to her child, this natural free-flowing engagement was disrupted as the infant became increasingly distressed by the desynchronised pattern of engagement caused by the delayed feedback. Hence this study demonstrates that infants, even in an artificial laboratory setting, seem to be innately sensitive to patterns of engagement.

Another piece of work that demonstrates that infants seem to be innately attuned to becoming engaged with another comes from Haviland and Lelwica (1987) who asked mothers of 10-week-old infants to perform an array of different emotional vocal and facial expressions with their infants. The infants were shown to be responsive to these emotional states as seen by the unique affective responses they displayed in response to their mothers display of affect. It was shown that infants seemed to co-ordinate their expressions of affect with their mothers. For example, when a mother displayed joy, infants reacted with an increase in their own joyful response and when mother displayed sadness, infants increased their mouthing response. This responsiveness has also been found in the ‘teasing’ interactions mothers have with their children. In this regard, Reddy (1991) highlighted the importance of humour in human interactions and how infants as young as 10 weeks begin to engage in this ‘teasing’ activity through turn-taking and looking at and looking away indicating once more, the centrality of affect in aiding the process of learning about other minds.
**Social referencing**

The above studies point towards an innate sense of co-ordinated emotional responsiveness between infants and their caregivers. At around 15 months, infants seem to show an added dimension to this dyadic responsiveness, they begin to demonstrate responsiveness to their caregivers' affective orientation towards things in the environment. This has been referred to as social referencing. Social referencing refers to the ability of infants to obtain emotionally relevant information from people in their environment during times of uncertainty. It is thought to be an indication that another's attitudes to a shared environment can influence one's own attitudes. In other words, social referencing seems to demonstrate how affective engagement is used as a conduit to reading minds.

Sorce, Emde, Campos and Klinnert (1985) demonstrated this by revealing that infants as young as 15 months were influenced to cross over to the deep side of a visual cliff depending on their mother's facial expression. The 'visual cliff' was a structure made out of clear, hard glass. It was divided into two sides. One side, the shallow side, had a chequered pattern close to and under the surface. On the other side, the chequered pattern was placed some distance under the surface to create an illusion of a drop off. The study revealed that when infants and mother were placed on either side of the cliff, the mother's expression was important in determining whether the infants did or did not cross over the deep side of the cliff. If the mother smiled, the infants consistently crossed over this side. If the mother showed fear, none of the infants crossed over the deep side. Thus, this study demonstrates the role of affect in the process of reading others minds in learning about one's environment.

Sorce and Emde (1981) also demonstrated the facilitating effect of mother's emotional signals on infants' exploratory behaviour in that the infants demonstrated a definite preference for emotionally responsive mothers in situations of uncertainty. Fifteen month olds were placed in a playroom and presented with four successive situations designed to produce uncertainty in them. The results showed that infants whose mothers were 'available' to respond to their bids showed more exploration and more pleasure than did infants whose mothers were reading a magazine. Infants with emotionally responsive mothers moved farther away from her but also made more bids for her attention.
Hence affect plays a central role in the infants' dealings with the environment and as the above studies reveal, infants seem to have an innate capacity to be 'instructed' by affect through engagement with another. In other words, the above studies demonstrate how it is possible for an infant to learn about his/her environment through and affective engagement with other people.

1.2 Emotion recognition and expression in typical development

This hypothesis is strengthened by studies that report that infants seem to come equipped with a range of emotional expressions and responses from birth (Sigman and Capps, 1997). According to Lewis (2000), primary emotions emerge within the first six months of life. Joy is thought to emerge at three months when infants show happiness in relation to familiar faces and events. Sadness is also seen to emerge at this stage and is expressed, for example, when interactions between mother and child are disrupted. Disgust is seen as well in the context of the rejection of unpleasant-tasting substances. Anger seems to emerge between four and six months and is sometimes expressed in the context of frustration (having one's arms pinned down and being prevented from moving). Fear seems to emerge at seven or eight months in the context of discrepant or unfamiliar faces. According to Lewis, the late emergence of fear is said to be due to the child having to first be able to compare the event that causes the fear with some other event. Hence until an ability to compare emerges, children will not be able to show fearfulness. Surprise is also demonstrated in the first six months in relation to a violation of an expected event.

However, although Lewis is descriptive with regard to factors associated with the emergence of certain emotions, the descriptions provided above are not very revealing of the origins of these emotions. Investigating these emotions in children who have impaired socio-emotional development might be revealing of the origins of these emotions. However, Lewis's work does indicate that emotions emerge at a very early age and seem to perform a variety of different functions that help in the process of adapting to one's environment. In this regard, emotions provide a common reference point and a common language for infants and their caregivers, which then promotes further cognitive and social development.
Thus while all emotions are social, in that they emphasise the centrality of other people, certain emotions are especially social. Self-conscious emotions such as pride, guilt, shame and embarrassment are seen to be especially social as they are seen to be founded in social relationships where people interact, evaluate themselves and each other. Hence these emotions are thought to be built upon reciprocal evaluation and judgement (Fischer and Tangney, 1995). In addition, these emotions are often referred to as ‘self-conscious’ emotions as they require that one be conscious of one’s self in relation to another. In the case of pride, for example, one needs to be conscious with regard to the self’s success and with regard to guilt, one needs to be conscious of the self’s transgressions in the context of societal norms and values.

Research into the development of these emotions in typically developing children is on the increase (see Fischer and Tangney, 1995). As this area has become the subject of empirical interest only in the past two decades, several theories have been posited with regard to the developmental pathways, functional and adaptive significance, behavioural manifestations, cultural relativity and significance to psychopathology. Research findings concerning the expression of pride, for example, are normally based on and interpreted according to how the researchers concerned defined pride behaviourally and subjectively which is normally influenced by their theoretical orientation. However, despite the various definitional frameworks one could adopt when researching the development of these emotions, a few common parameters now exist with regard to acceptable ways of defining these emotions.

Pride is thought to involve joy regarding an appraisal that one is responsible for a socially valued outcome. Pride, as researched in the context of success in competitive situations, is said to develop by the age of 3 ½ years of age (Mascolo and Fischer, 1995). Guilt is thought to involve an appraisal that one is responsible for a wrong doing and is usually accompanied by reparative behaviours. It is said to emerge by the end of the second year (Mascolo and Fischer, 1995). Shame, according to Helen Block Lewis (1971, 1987), differs from guilt in that while guilt involves focus on the negative event for which one is responsible, shame focuses on the self’s deficiencies. Hence she emphasizes the differing role of the self in these two emotions. Thus while guilt involves reparative actions, shame, as it involves painful negative scrutiny of the self, might be manifested behaviourally as the need to hide or run away. Shame, as researched by studies involving the inducement of a lack of competence in the self’s
ability to complete certain tasks, is said to develop at around 2½ to 3 years of age (Mascolo and Fischer, 1995). Coyness, an emotional reaction that occurs as a result of an appreciation of the fact that one is the recipient of another’s attention and/or evaluation, has been mainly observed in the context of self-recognition studies using mirror self-recognition paradigms (Dawson and McKissick, 1984). Coyness, as observed in these mirror-self-recognition studies, is said to emerge only in the second year (Lewis et al., 1989). However, findings from a recent study report that coy behaviour can be observed in infants as young as 2-3 months (Reddy 2000). Hence by the age of 4, a child has experienced, in various contexts, both simple and self-conscious emotions and continues to develop these emotions in the context of intra and interpersonal relationships.

Understanding the development of emotional behaviour in typically developing children provides a background that helps elucidate the possible affective impairments present in children with autism. Research on the recognition and expression of self-conscious emotions in children with autism is still at nascent stage. However, a few important studies have shown that children with autism have unusual ways of expressing and perhaps experiencing these emotions.

1.3 The development of intersubjectivity in children with autism

Children with autism seem to have profound difficulties relating to other people. Writing at the same time, Kanner (1943) and Asperger (1944) drew people’s attention to certain children in their care who were, in Kanner’s words ‘...anxiously and tensely impervious to people, with whom for a long time they do not have any kind of direct affective contact’ (Kanner 1943, p.249). The fourth edition of the Diagnostic and Statistical Manual (DSM IV—American Psychiatric Association, 1994) describes the autistic disorder as ‘the presence of markedly abnormal or impaired development in social interaction and communication and a markedly restricted repertoire of activity and interests’ (pp. 66). Hence autism is a severe developmental disorder and is defined behaviourally by impairments in social, communicative and imaginative functions. Seventy-five percent of children with autism are also mentally handicapped, although the rest score in the normal or even at times superior range of standardised intelligence measures (Wing and Gould 1979). Evidence now suggests that several neurological systems might be impaired in children with autism (Gillberg and Coleman 1982),
although any neuropathology specific to autism remains to be identified. Findings from clinical neuroimaging and biochemical investigations suggest subtle prenatal neuronal maldevelopment in areas such as the cerebellum and certain limbic structures. Abnormalities in distributed networks involving neurotransmitters such as serotonin (see Cook, 1990) require further documentation.

To help one move from the abstraction of theory to the reality of what it is like to be autistic, I would like to draw upon descriptions of children with autism. For instance, Marian Sigman’s and Lisa Capps’ (1997) description of Julia, a little girl with autism, illustrates dramatically the profound social and emotional difficulties experienced by such children (pp 34).

"Julia, a five-year-old autistic girl with deep brown eyes and curly brown hair, bounds into the room four paces ahead of her mother. She flaps her hand near her face and screeches. The examiner asks Julia to join her at a small table. Julia sits down and works on a jigsaw puzzle. She finishes quickly, flashes a smile, and immediately reshuffles the pieces to begin again. She does not look up at her mother or the examiner as they praise and applaud her efforts, but shifts her chair, moving away from them. The examiner rolls a small ball toward Julia and she rolls it back smiling. The examiner points to various objects in the room saying 'look.' Julia does not shift her gaze. Julia’s mother joins them at the table and pounds wooden pegs into a peg board. She hits her thumb with a hammer and cries out in pain. Julia does not look at her or offer comfort, but picks up the hammer and begins pounding the pegs herself."

This description suggests, through the quality of Julia’s interactions with her mother and the examiner, that building a relationship with Julia could be extremely challenging due to her seeming lack of affective engagement, demonstrated by the fact that she does not seek to share her joy with either of the adults on completing the puzzle or seek to establish eye contact.

Lisa Blakemore-Brown’s (2002) description of Phillipa, a child with autism, highlights the isolation that children with autism seem to face as a consequence of this limited ability to engage with another (pp 175).
"Phillipa has never showed a particular interest in building constructions and generally is not keen on games, becoming bored quickly. She has never engaged in symbolic play. Phillipa will tend to flit from one activity to another rather than to focus on one thing.

In terms of Phillipa’s relationship with same age-peers, this has always been a problem. Parents report that her behaviour tends to be inappropriate, and she would want to be involved but behaves in a socially clumsy manner which causes other children to isolate her. Essentially she has problems with the fundamental skills of interaction. While she can pick up on some cues this is not intuitive and other children recognise social awkwardness.

When Phillipa attended playschool she would remain isolated inside the Wendy house. She is not a competitive child and, given her poor motor skills, doesn’t have the opportunity to engage with peers, even within a sporting situation."

Donna Williams (1992) in her autobiographical account of autism, provides an unusual description of her environment, in the context of her relationship with her sometimes aggressive, younger brother (pp 36). This description provides a different perspective with regard to the interpersonal difficulties faced by persons with autism.

"Colours and things and people would fly, doors would get kicked in and sometimes faces too. But it was never 'whole people'. Only their pieces. The pretty things that got smashed seemed to be a greater tragedy than what was happening to the people."

She writes about her experience of drawing in her classroom:

"We each had a pencil and would draw until finally I would look up at the face that was joined to the hand that had drawn something into my picture."

Although autobiographical accounts of autism should be viewed with a certain amount of caution due to concerns regarding unconscious falsification and possibly memory failures, descriptions such as these are suggestive of the profound socio-emotional difficulties faced by individuals with autism. As Volkmar (1987) notes, while some social skills do develop in children with autism, they are both
qualitatively and quantitatively abnormal even in the highest functioning individuals. Rutter (1978) suggests that the social development of autistic individuals is impaired even when developmental factors (mental age) are taken into account. Typical forms of early non-verbal interchange are deviant so that usually very early forms of intersubjectivity are absent; for example, young autistic children do not display a differential preference for maternal speech (Volkmar and Klin 1993). In time however, some social skills might develop so that by the time autistic children are four or five years old, they seem to display a certain amount of differential social responsiveness to familiar adults. Differential patterns of vocalizations or facial expression might even be observed although these do tend to be idiosyncratic. Children with autism, at this age, might even display visual self recognition as evidenced in mirror-self recognition paradigms, (Dawson and McKissick 1984), although the usually associated affective responses might be absent (Spiker and Ricks 1984).

As they grow into adolescents, the social skills of children with autism do seem to grow as well, but social responsiveness remains a source of great disability, even for high functioning individuals with autism. Their attempts at social interaction seem to fail as a result of their difficulties in pragmatic communication, empathy and their inability to integrate various sources of information relevant to interaction (Volkmar and Klin 1993). Hence as Hobson (1989) notes, although low functioning adolescents with autism are capable of processing some forms of socially relevant information, they have a poor capacity to use this information. This was illustrated by the experiences Marian Sigman and Lisa Capps (1997) had with Julia, described in the vignette above. While Julia was able to interact with the examiner in the sense that she carried out the tasks that were required of her, and smiled in response to successfully completing the jigsaw, she did not affectively engage with the examiner to solicit her approval or in any way indicate that she was interacting with another person with thoughts and feelings similar to her own. This has been demonstrated strikingly in studies of social referencing.

Social referencing in children with autism

The previous section introduced the concept of social referencing- an indication that another's attitudes to a shared environment can influence one's own attitudes. It has been demonstrated that children with autism are impaired in their ability to socially reference. The results from the studies described below
strengthen the claim that children might come to learn about other objects in their environment through affective engagement with other minds.

In this regard, Mundy, Sigman, Ungerer and Sherman (1986) investigated the non verbal communication skills and object play skills in 18 children with autism ranging in age from three to six years. They were individually matched on chronological and verbal mental age with learning disabled children. Additionally, the children with autism were matched with typically developing children on mental age. The researchers examined children’s capacity for joint attention using eye gaze as a measure of this capacity. They observed children while they were playing with objects and observed whether they chose to alternate eye gaze between the toy they were playing with and the researcher. The investigators found significant group differences on this measure. They reported that children with autism tended to focus their attention on the toys rather than, as the other groups of children did, divide their attention, as manifested in their eye gaze, between the toy and the researcher. The authors stated that this deficit reflected a primary psychological component of the impairment of children with autism.

In another study of this phenomenon, Sigman, Kasari, Kwon and Yirimiya (1992) investigated the reactions of children with autism to negative emotions (i.e. distress, fear and discomfort) expressed by other people. They studied 30 children with autism with an average age of 3½ years and a mean mental age of two years. The children were matched with a group of 30 typically developing children on verbal mental age and a group of 30 learning disabled children on chronological and verbal mental age. The examiner investigated children’s responses to distress by pretending to hurt herself while showing a participant how to pound a wooden toy with a hammer. In addition, the parent of the child did the same. The child’s reactions were then videotaped. When the adult displayed facial and vocal signs of distress, children with autism looked at the adult significantly less that learning disabled or typically developing children. They also looked and played with the toy significantly more than the two groups. The children with autism were also rated as showing less concern for the distressed adult.

In a second condition, reactions to the expressions of fear were examined in participants. The child was placed in between the examiner so that the parent where the examiner and parent faced each other. A
small remote control robot appeared and moved towards the child and the adults and then stopped 50 inches in front of the child. On seeing this both adults modelled facial and vocal expressions of fear. Here again, the children with autism looked at the toy less than the other groups of children although not significantly so. The children with autism were rated as being significantly less hesitant with regard to playing with the toy than learning disabled children. It was reported that across the three groups, the more a child attended to an adult’s expression of fear, the less likely they were to play with the robot.

In a final condition, the researchers examined the response of the three groups of children to the discomfort of others. Here, discomfort was modelled by the adults by closing their eyes to lie down for a minute feigning discomfort. There were significant group differences with regard to the children noticing the adult’s discomfort. Children with autism noticed their parents’ discomfort less and touched them less than other groups of children.

The failure, on the part of children with autism to use other people’s attitudes to the world to inform their own attitudes is thought to derive from an impairment in affective engagement. This primary impairment is thought to impact their ability to develop those aspects of the self that derive from social interactions.

A study by Moore, Hobson, and Lee, (1997) demonstrated why children with autism might perceive people in different ways from typically developing and learning disabled children. The results suggest that the distinctive ways in which children with autism perceive people possibly derive from a primary deficit in the capacity to engage affectively. The researchers analyzed whether there may be separable components to the human ability to perceive people as people who engage in actions and who have attitudes. In 3 experiments, matched groups of typically developing, autistic and non-autistic learning disabled children and adolescents were tested for the ability to recognize videotaped representations of "a person", a person's actions and a person's emotion-related attitudes and subjective states as manifest in moving point-light images of people. Autistic and non-autistic participants did not differ in the ability to recognize that a person was represented in very brief exposures of a walking point-light display. Autistic, learning disabled and typically developing participants were also equally able to recognize a person's actions. It was also shown that learning disabled and typically developing
participants were similar in their propensity to notice a person's attitudes vis-à-vis the person's actions, and in their abilities to recognize actions and attitudes when asked. By comparison, however, autistic participants were impaired in attending to and discriminating people's attitudes and states of mind. These results are revealing of the spared and impaired abilities in children with autism in that the interpersonal difficulties that stem from autistic individuals' impaired ability to perceive and engage with people's attitudes may be somewhat mitigated by their relative ability to perceive the actions of others.

Although the research cited above points towards children with autism experiencing profound difficulties in the realm of social relationships, a considerable body of research does suggest that they are able to develop primary forms of attachments with their caregivers. However, the connections formed as a result seem to be primitive and do not develop into forming internal working models of the other. Hence, as reported by Capps and Sigman (1996), the relationships children with autism form with their caregivers 'are not enriched by the joint anticipatory system that converts psychobiological attachment into something more subtle and sensitive to individual idiosyncrasies and to forms of cultural practise'.

1.4 Emotional development in children with autism

Thus the above studies indicate that children with autism have profound impairments in socio-emotional relatedness. However, the nature of these impairments needs further elucidating. Studies on emotional development in children with autism report that these children seem to be limited in their ability to express, and perhaps experience, emotions. More specifically, one of the earliest series of studies, conducted by Hermelin and O'Connor (1985) looked at the nature of the affective impairment in children with autism. Initially they tested Kanner's observation that children with autism seemed not to register the difference between people and objects. They did this by comparing the attention and behavioural orientation of twelve children with autism compared with twelve children with learning disabilities. The children ranged in age between five and sixteen years. All children functioned on a severely cognitively impaired level. Children were presented with an adult who was initially passive and then initiated interpersonal contacts such as stroking hair, cuddling and issuing verbal commands.
This was then compared to showing children pictures, recorded music and toys. Orientation was defined as turning towards, looking at or approaching a stimulus, remaining in close proximity to and establishing physical contact with or responding to such contact or speech.

Results showed that both groups showed the same amount of orientation to pictures and music. The learning disabled controls handled toys for significantly more often and longer periods than did the autistic children. When the stimulus was a person, significantly more responses were obtained from the learning disabled than autistic children particularly if the measure included a period of verbal exchange. They also found that children with autism oriented toward a person less frequently than controls. However, it was found that in both groups, children made many more responses to a person than any other stimulus.

Hence it seems that although children with autism seem to orient towards people, they seem to do so less frequently and more idiosyncratically. For example, it has been shown that although children with autism might not differ from normal controls in the overall frequency or duration of smiles, frowns or sustained eye contact, they were found to differ with regard to their tendency to be less likely to combine smiles with sustained eye contact and to smile less in response to their mothers smile (Dawson; Hill; Spencer and Galpert, 1988). It has also been shown, that individuals with autism failed to display certain expressive gestures such as putting an arm around someone else, and displayed mostly instrumental gestures aimed at terminating or avoiding an interaction (e.g. go away, be quiet) (Attwood; Frith and Hermelin, 1988). Children with autism also frequently displayed gaze avoidance and lack of eye-to-eye contact (Hutt and Ounstead, 1966).

Children with autism have been also been shown to demonstrate flat or neutral affect when compared to learning disabled children (Yirmiya, Kasari, Sigman and Mundy, 1989). With regard to the recognition and expression of emotional cues by autistic and normal adults, individuals with autism have been shown to be relatively impaired in both the appreciation and production of emotional expressions (Macdonald, Rutter, Howlin, Rios, LeConteur, Evered and Folstein, 1989). These researchers investigated the recognition and expression of emotional cues in facial and vocal modalities in ten normal adult males whose average age was 26.2 years and ten males with autism whose average
age was 27.2 years. The two groups were individually matched on the British Picture Vocabulary scale and the Ravens Standard Progressive Matrices. They were then given a battery of tests containing two recognition tests including recognising emotional speech (they were asked to recognise vocal expressions of happiness, sadness, anger and fear) and recognition of facial expressions of the four above emotions as well as a neutral expression. They were also photographed expressing the above emotions both vocally and facially. The individuals with autism were relatively impaired on both the appreciation and production of emotional expressions. Although no one test provided a clear cut separation of groups at an individual level, composite scores separated groups well. The researchers suggested that as the results obtained were relatively independent of chronological and mental age, they were the consequence of a persisting socio-emotional deficit rather than of a developmental lag.

Hobson (1986) looked at whether children with autism were able to interpret the emotions of other people which would again have implications for impairments in intersubjectivity. He concluded, after researching whether matched groups of autistic, typically developing and learning disabled children could choose drawn and photographed facial expressions to 'go with' a person videotaped in gestures, vocalizations and contexts of four emotional states namely, happiness, unhappiness, anger and fear, that children with autism have difficulties with recognizing how different expressions of particular emotions are associated with each other which might contribute to the failure, on the part of children with autism, to understand the emotional states of other people.

Thus collectively, research on emotions in children with autism indicates that children with autism seem to be able to interact with people but do so in ways that may not be motivated by affect. Studies on emotion recognition and expression seem to strengthen this claim as children with autism seem to be impaired in their ability to both recognise and express emotions in studies using varying methodologies. However, the ecological validity of these studies is questionable as the expression and recognition of emotions, in these studies, were de-contextualised. In real life situations, emotions are expressed and recognised in a more dynamic and socially contextualised manner. As this section has dealt with the recognition and expression of simple emotions, the next section will look, briefly at the development of self-conscious emotions in children with autism.
The development of self-conscious emotions in children with autism

This section will provide a brief introduction to the development of self-conscious emotions in children with autism as the following chapters will examine the literature on these emotions in greater depth.

Research on self-conscious emotions in children with autism is, as mentioned earlier, at a nascent stage of development. However, the research available suggests that children with autism have limitations with regard to the expression and possible experience of these emotions. With regard to pride for example, a study comparing expressions of pride and mastery in pre-school children with autism and matched controls without, showed that although children with autism smiled in response to finishing a puzzle just as frequently as non-autistic children, they did not seek to share their pleasure with the adults who praised them and even showed avoidant responses to this praise (Kasari, Sigman, Baumgartner and Stipek, 1993).

Another study assessing pride understanding in 8 to 14-year-old, high functioning children with autism showed that children with autism reported feeling pride and were able to identify situations that elicited pride just as frequently as non-autistic matched controls. However, they provided instances of situations that were more general and less personal than these children (Kasari, Paparella, & Bauminger, 1999). Yirimiya, Sigman, Kasari & Mundy, (1992) and Kasari, Chamberlain and Bauminger (2000), found that children with autism had more difficulty providing an example of guilt than typically developing children, even though they reported experiencing guilt as frequently as typically developing children.

Broadly speaking, studies on pride and guilt have shown that although children with autism are able to provide examples of pride and guilt just as frequently as typically developing children matched for chronological and verbal mental age, these descriptions seemed less personalised and more formulaic than descriptions provided by typically developing children. These results suggest children with autism, and specifically high functioning children with autism, might come to understand emotions using a non-affective route to do so.
Studies on coyness using mirror-recognition paradigms have reported that children with autism have limitations in their ability to express the coy and self-conscious behaviour that accompanies self-recognition in typically developing children. Mirror recognition studies with chimpanzees have traditionally involved a dye mark being placed above the eyebrow which is shown to have an effect on mirror viewing in terms of an increase in the amount of time spent viewing oneself. This was taken to be the result of a discrepancy between the way the face normally looked and the change perceived due to the dye mark—an indication that the chimpanzee recognised itself. With human children, this paradigm typically involves the researcher surreptitiously applying a rouge mark to a child's unmarked face (usually the nose) after which the child is asked to view him/her self in a mirror. The child normally views itself before and after rouge placement and reactions are then studied.

A number of studies have shown that although children with autism are able to recognise their reflection in a mirror, using the mirror self-recognition paradigm, they do not show the coy or self-conscious affect expressed by other children in studies employing the same paradigm (Dawson and McKissick, 1984; Mundy and Sigman, 1989; Newman and Hill, 1987; Spiker and Ricks, 1984). This again might indicate impairments in intersubjectivity, as it seems that although children with autism are able to recognise themselves, they seem impaired in their ability to express the coy behaviour that a number of typically developing children express when viewing their changed appearance in the presence of another.

However, the adequacy of this paradigm as an index of self-recognition has been questioned in recent years. Mitchell (1993) for example suggests that the paradigm is more a test of the understanding of the properties of reflective surfaces than the self. Therefore visual self-recognition might well be present before passing the mirror self-recognition test. While this paradigm does have serious shortcomings as an index of self-recognition, it does provide researchers with a rather unique opportunity to investigate reactions of participants to being the target of another's attitudes and evaluations. However, coyness needs to be investigated using methods other than mirror self-recognition paradigms.
1.5 Theories of the origins of autistic impairments

What causes children with autism to develop these intersubjective impairments? Broadly, two main theoretical orientations exist with regard to the origins of the social and emotional deficits in children with autism – cognitive and socio-affective.

The cognitive theory of autistic impairments (Baron Cohen, Leslie and Frith, 1985) states that children with autism come to have limited social relations with others due to their inability to impute thoughts, feelings and beliefs to others, or, in other words, to use a 'theory of mind' to predict and understand their own and others' actions. Hence a limited understanding on the part of children with autism to represent mental states of themselves and others is seen to lead to their impairments.

The theory states that a fully developed theory of mind is only attributable to children if they can understand a 'false belief'– where a mental state involves a belief that contradicts reality. Typically developing children develop the ability to impute thoughts, feelings and beliefs to others by the age of four. Children with autism were first seen to have impairments in the ability to understand false beliefs by Baron-Cohen, Leslie and Frith (1985). These researchers demonstrated this by investigating 20 children with autism ranging in age from 6 to 16½ years of age, matched for chronological age with 14 learning disabled children who possessed a lower verbal mental age than children with autism as well as 27 typically developing pre-school children who ranged in age from 3½ to 6 years. The children were introduced to two dolls– Sally and Anne. Sally was made to place a marble in a basket and then leave the scene. In Sally's absence, Anne moved the marble to a box. Sally then returned. The child was asked to tell the researcher where Sally would look for her marble. If the child pointed to the basket, they were judged to have passed the 'belief question' as they demonstrated an understanding of Sally's false belief. If they pointed to the box however, they were judged to have failed as they seemingly did not take into account Sally's false belief.

The researchers found significant groups differences with regard to the belief question with only 4 children with autism passing it. They proposed that children with autism lack the cognitive capacity to form representations of other people's representations, or in other words, to form meta-representations.
Thus children with autism are thought to be ‘mind blind’ by proponents of this theory. However further studies on the theory of mind revealed that a number of high-functioning people with autism could perform advanced theory of mind tasks successfully (Happe, 1994; Oznoff, Pennington and Rogers, 1991; Bowler, 1992). Thus one could question the applicability of this meta-representational deficit, to all levels of autism.

One could also argue that the theory does not take into account the social context in which these abilities emerge. In this regard, Russell (1984) suggests that cognitive development could also be understood as a linguistic distinction between ‘intension’ which he views as a mental orientation and ‘extension’ which is ‘reality as falling under no particular characterisation’. He believes children come to understand this difference between their own experiences and reality by a process of co-referencing, which occurs both at an inter and intra personal level. According to Russell, an infant through ‘co-referentiality of action, perception and gesture’ (Russell, 1984: p. 61) comes to understand that different actions s/he performs as well as alterations in his/her perceptions can reference the same objects. Thus s/he comes to understand the difference between subjectivity and objectivity through a process of social referencing which might be a precursor to later representational deficits.

An alternative cognitive theory that emerged, the ‘executive functioning deficit’ theory states that children with autism have impairments in the ability to plan ahead. The theory used two tasks that measured a capacity to think ahead and think flexibly- the Tower of Hanoi and The Wisconsin card Sorting Task, to demonstrate this deficit in children with autism. The former task could be completed only if one understood certain rules (for example, a larger disc cannot be placed above a smaller one) and planned ahead in order to complete the task successfully. The latter task required that one sorted cards according to feedback received and measured the capacity for flexible thought through the ability to switch sorting strategies according to feedback.

A study by Oznoff, Pennington and Rogers (1991) examined the performance of a group of 23 children with autism and pervasive developmental disorder not otherwise specified, ranging in age from 8 to 21 years, matched with 20 individuals with learning disabilities matched on chronological age and aspects of verbal IQ (the Information, Similarities and Vocabulary subtests of the WISC-R and WAIS-R) on
their performance on the Tower of Hanoi and Wisconsin Card Sorting tasks. Results revealed that children with autism obtained significantly lower scores than control participants on both tasks.

Thus this theory proposes that the primary deficit in autism is to do with planning. It has been proposed that this causes impairments in cognitive abilities that lead to distortions in the ability to understand and conceive of how minds work as well as impairments in introspection. However, here again, the social impairments in children with autism do not seem to be adequately explained by this theory.

In this regard, the interpersonal hypothesis (Hobson, 1993) states that people who do not possess a biologically based capacity for co-ordinated emotional relations with others will lack something essential for acquiring the concept of ‘persons’ who have subjective experiences and psychological attitudes toward the world. According to Hobson, in order to know what persons are, one needs to experience and understand the different sorts of relations that can exist between oneself and another—specifically, reciprocal relations based on feeling.

This author hypothesizes that developmentally, during the first year of life, infants come to perceive another person’s feelings in the other person’s bodily expressions and attitudes. He suggests that a child’s conception of other minds is founded upon these pre-reflective capacities to respond to the emotional attitudes of others. Also, using examples from the literature on social referencing, Hobson illustrates the argument that other people are perceived to have affective attitudes to the world before they are conceived to have potentially private mental attitudes.

Hence, according to Hobson, one prerequisite for a developed concept of self is the infants’ ability to recognise itself as a bodily locatable stimulus to and a focus for other peoples’ affective attitudes leading towards taking the role of the other towards itself. Affective relations are seen to be a prerequisite for a child to develop the concept of persons. A concept of persons is in turn necessary for a concept of self as a person. A recognition of others may be required for the capacity for reflection and self-consciousness, including reflective awareness of one’s own emotional life.
The cognitive and interpersonal hypotheses converge in suggesting what is common to most individuals with autism is a specifically limited understanding of the nature of people's mental states (Hobson, 1993). However, where they diverge is whether a cognitive or affective deficit is the primary cause of supervening autistic impairments.

1.5 Aims, hypothesis and plan of thesis

This thesis will examine the recognition and expression of pride, guilt, shame and coyness in children with autism relative to a non-autistic matched group. The results will be revealing of spared and impaired areas with regard to the recognition and expression of these emotions in children with autism. They could also be revealing of whether possible impairments arise due to cognitive or affective factors.

As stated earlier, a child's capacity for emotional engagement plays a crucial role in laying the foundations upon which meaningful relationships are built. The underlying assumption in this thesis is that the lack of this capacity for emotional engagement will lead to specific impairments in the development of aspects of the self that develop as a result of one's interaction with others in one's environment. It is hypothesised therefore that children with autism will be limited in their ability to recognise and express pride, guilt, shame and self-consciousness. The aim of this thesis then is to investigate this claim empirically using varying methods outlined below.

Chapter 2 examines socio-emotional functioning of children with autism in four socio-emotional domains by interviewing parents of children with autism and parents of a matched group of children without autism. Chapter 3 examines pride, guilt and shame in children with autism and a group of children matched for verbal mental age but without autism, through the use of parent reports. Chapter 4 examines the recognition of pride, guilt and shame in matched groups of adolescents with and without autism by presenting participants with videotapes of actors engaged in various emotional scenes. Chapter 5 examines the experience of pride, guilt and shame in these groups of adolescents using an interview. Chapter 6 examines the expression of pride and guilt in matched groups of children with and
without autism by engaging them in an emotion-provoking task. Chapter 7 explores the expression of coyness in these groups of children and Chapter 8 provides the conclusion to this thesis.
Chapter 2: An Interview Study of the Interpersonal Aspects of Self-Experience in Children with Autism
2.1 Introduction

The hypothesis investigated in this chapter is that children with autism are limited in their ability to express self-conscious emotions compared to non-autistic children matched on chronological and verbal mental age. It is also hypothesised that aspects of the self that develop through a process of social interaction and in turn facilitate engagement with others will be impaired, relative to the matched control group of non-autistic children. This study involved the use of parent reports to investigate these hypotheses.

Parent reports have been used in the past, when investigating the socio-emotional functioning of children with autism. For example, Stone and Lemanek (1990) used parent reports to investigate the social deficits of young children with autism. The aim of their study was to identify specific social behaviour that differentiated pre-schoolers with autism from pre-schoolers with learning disabilities matched on chronological and mental age using the Preschool Behaviour Checklist (PSBC). This checklist consisted of 22 items representing social milestones typically achieved within the first four to five years of life. In order to obtain information regarding the attainment of these milestones, the researchers interviewed 34 parents of the two diagnostic matched groups. Twenty parents of children with autism and 14 parents of children with learning disabilities were interviewed. Their results were consistent with the findings of previous investigations on this age group. The children with autism were reported to show lack of peer and imaginative play and lack of imitation skills, which distinguished them from the group of children with learning disabilities. More specifically, the specific manifestations of these deficits was revealing of the nature of the social deficits in children with autism. With regard to peer play, the researchers found that although there were no group differences with regard to parallel play, there were significant differences with regard to interactive play. With regard to imitation, although there were no group differences with regard to the imitation of adult movements (such as clapping hands), there were differences with regard to imitation in peer situations. There were however no differences found with regard to expressing affection with familiar people, playing simple interaction games with adults, demonstrating responsiveness to praise, or repeating actions that produce laughter and attention. The results suggest that a crucial difficulty faced by individuals with autism seems to have to do with a limited ability to engage emotionally with another
in a way that enables the formation of mutually meaningful relationships. However, while checklists might be a simple and efficient way of obtaining information, they do not provide a comprehensive picture of the autistic syndrome and are most useful when used alongside other, more sensitive measures.

Wimpory and colleagues (2000) also investigated parents' reports of the social engagement of their children with autism. They investigated 10 parents of children with autism and 10 parents of children with learning disabilities. The children ranged in age from two-and-a-half to four years and were matched on chronological age and developmental level. Parents were not aware of their child's diagnosis and could not, consequently, be influenced by this information. Parents were given a semi-structured interview (the Detection of Autism by Infant Sociability Interview) which elicited responses on whether 19 aspects of social engagement characteristic of typically developing children were present sometime during the child's first 24 months, such as the frequency and intensity of eye contact, interactive play, social referencing behaviour, teasing and intentional communication of social anger and distress. The results revealed that parents reported that their children with autism had specific abnormalities in person-to-person communicative expressions such as waving and raising the arms to be picked up as well as triadic interactions such as referential use of eye contact, pointing at objects and following others' points. These features distinguished the sample of children with autism from a control group of children with developmental delays. Parents' insight into the behaviour of their children subsequently diagnosed with autism was in line with other empirical findings of limited ability to socially engage in children with autism (see Capps et al., 1993).

The results from this study therefore partly contradicted the results obtained by Stone and Lemanek (1990) presented above in that Stone and Lemanek reported that the parents who took part in their study reported witnessing simple signs of social interest and responsiveness in their children with autism. However Stone and Lemanek's sample of children ranged in age from three to six years and they investigated features such as demonstrating responses to praise and expressions of affection for familiar people. Also, as mentioned earlier, checklists are best used in conjunction with other, more comprehensive instruments as they might be insensitive to subtler, more qualitative aspects of social
behaviour. Thus, this study adds to the information obtained by Stone and Lemanek by using a method that complements and adds to information obtained using a checklist.

The present study adds to the literature on social behaviour in children with autism by examining an older group of children from the previous studies, using a method that is sensitive to obtaining information about the qualitative aspects of social behaviour. It also investigates domains of functioning that previous studies have not investigated. Thus, although the main focus of this study is to investigate self-conscious emotions in children with autism, the study also investigates other domains of interpersonal functioning. The aim here is to provide a complex and holistic picture of the self's functioning in relation to the other. Specific, theoretically driven predictions were made with regard to aspects of the 'interpersonal self' (Neisser 1988) that were expected to be spared and aspects expected to be impaired. This was done with a view to conducting further empirical investigations on reported areas of impairment, using different methodologies.

To obtain information regarding socio-emotional functioning in children with autism, parents were interviewed using a semi-structured interview that was constructed specifically to provide a detailed profile of spared and impaired areas of socio-emotional functioning in children with autism when compared to mental age matched controls. The information obtained was analysed using quantitative as well as qualitative methods. A qualitative analysis of the responses of the participants was conducted to explore the quality of interaction in children with autism and how this might differ from interacting with a person of a similar mental age who is not autistic.

The interview investigated children's behaviour in five domains of functioning: 'milestones', 'body-self', 'self-other relations', 'imitation', and 'emotions'. To obtain information in these domains, 10 parents of children with autism and 10 parents of matched controls without autism were interviewed. The interview took the form of a guided conversation between the parent and the interviewer in a relaxed environment, in this case, the home of the parent being interviewed. The interview questions were used as guides to elicit detailed information, including examples, of children's current behaviour from their parents. Although, in most cases, examples of current behaviour were elicited, in some cases, especially the 'milestones' domain, the parent had to retrieve information from the distant past.
However, the interview mainly required the parent to retrieve information regarding the child's behaviour from the immediate past. The interview was designed to obtain information that was rich and detailed. The format of the interview will be described in detail in a later section of this chapter. As the previous chapter provided a background to the development of the self in children with autism, the following section will focus on the methods used to obtain information about the aspects of the self's functioning in relation to another.

Tools Commonly Used in Research to Obtain Information from Parents of Children with Autism

Clinical observation has often helped provide information regarding the social behaviour in children with autism. The information gained by researchers employing this method has been used mainly to ascertain whether characteristics that are understood to be central to the autistic disorder are in fact reliable and stable. Studies have also investigated which characteristics show reliability and stability across time. One such study (Stone et. al 1999) investigated the reliability and stability of an autism diagnosis in children under three years of age. The children taking part in the study received diagnostic evaluations from two clinicians during two consecutive yearly evaluations. The researchers reported strong evidence for the reliability and stability of the diagnoses. They also found that social deficits and delays in spoken language were the most prominent Diagnostic and Statistical Manual 4th edition (DSM IV -American Psychological Association, 1994) characteristics evidenced by very young children with autism. The conclusion that social impairments were central to the autistic disorder was supported by two findings. They were (1) the high frequency with which criteria in the social domain were validated by independent clinicians and (2) the association between changes in diagnosis over a period of time and the number of symptoms in the social domain. Two social items, namely the impaired use of non verbal behaviours and the lack of social or emotional reciprocity were validated with very high frequency by both the clinicians, suggesting the centrality of these characteristics for the autistic disorder.

Researchers have also used interviews and scales to carry out clinical observation of predominant socio-behavioural patterns in autism. They have helped to mainly support but also, importantly, enrich the information available with regard to the spared and impaired socio-emotional behaviours in
children with autism. Lord, Rutter, Goode, Heemsbergen, Jordan, Mahwood and Schopler, (1989), constructed a scale- the Autism Diagnostic Observation Schedule (ADOS), to facilitate observation of social and communicative features specific to autism. The schedule was designed to be interactive in order to observe these patterns of behaviour and it allowed for the observation of the quality of social behaviour not just an absence of behaviour or the frequency of occurrence of the behaviour. The components of this schedule included asking for help, symbolic and reciprocal play, giving help, taking turns in a structured task, descriptive gesture and mime, description of agents and actions, telling a sequential story, reciprocal communication and the ability to use language to discuss socio-emotional topics. Behaviours targeted for observation in each task were coded as the interview proceeded, with general ratings made immediately after the interview. Participants for the assessment of inter-rater reliability and validity were 20 children with autism and 20 learning disabled children ranging in age from six to eighteen years and scoring between 50 and 80 on full scale IQ. The participants were individually matched on chronological age and verbal IQ. The researchers found that four general ratings showed differences between autistic and non-autistic groups: unusual use of eye contact, non verbal communication linked with language, amount of overtures and unusual preoccupations. Broadly speaking, the ADOS showed that impairments in social relatedness and reciprocity are characteristic of children with autism. However, its reliance on the clinical skills of the examiner is restrictive and the schedule needs to be evaluate further using independent and varied samples.

Wetherby and Prutting, (1984), employed the Early Social and Communication Scales (Seibert and Hogan 1982) with four children with autism and matched controls. Here again clinical observation was used to obtain information regarding the social behaviour of children with autism. They reported that children with autism exhibited requests for objects, actions and social routines but did not engage in gestural acts simply to indicate or share an awareness of an object's existence or properties. In the social interaction category of these scales, children with autism were observed to engage in briefer turn-taking sequences than the control group of children and responded less frequently to social invitations than did the control children. In the requesting category, children with autism made eye-contact less frequently than normal children when a toy was out of reach or had stopped moving, and they pointed less often to objects out of reach than did the control children.
Hence one can see how clinical observation has been used as a tool to obtain information regarding various aspects of socio-emotional features central to the autistic profile. The studies cited using this method, emphasised a range of socio-emotional behaviour impaired in children with autism. However, clinical observation can be a useful tool depending on the skills of the clinician concerned. It is only useful when establishing the reliability, stability and centrality of characteristics found to be impaired in children with autism. The current study did not use published schedules or scales as it aimed to investigate some characteristics, in children with autism, previously not known to be impaired and thus not included on a number of scales in current use.

Another tool that has been used to obtain information regarding social impairments in children with autism is the questionnaire. Traditionally questionnaires have been used to elicit information from parents of children with autism regarding their child’s behaviour. A study by Wing (1969) used schedules to collect, retrospectively, details of certain aspects of development, of various groups of children including those with autism, from birth upwards. The behaviour of children with autism was compared to several groups of children with disorders of sensory, perceptual and decision-making functions. The study was designed to test the hypothesis that aspects of behaviour considered to be typical of children with autism would also be displayed by children with specific problems to do with these deficits. The author also hypothesised that the behavioural abnormality displayed would be related to the area of function affected by these deficits. A third hypothesis was that the number and severity of social deficits in behaviour would be related the number of sensory, perceptual or affective handicaps found in combination in each type of child. Parents of children aged four to sixteen completed the questionnaire. The results supported the hypotheses. They showed that children with autism were multiply handicapped. They had problems relating to comprehension, use of speech and right-left, up-down, back-front disorientation similar to those found in congenitally aphasic children. They also had abnormalities in the use of vision, difficulties understanding gestures, use of abnormal bodily movements and a preference for the use of proximal senses as seen in congenitally partially blind and deaf children. However, while other groups of children are able to engage emotionally, these handicaps only exacerbate an already impaired ability to engage in children with autism. The authors concluded that developmental theories, should take into account similarities to and differences from other childhood handicaps. This will ultimately serve to elucidate primary impairments.
In another study, Dahlgren & Gillberg (1989) asked mothers of a sample of individuals with autism and matched control individuals between the ages of 7 & 22 years, to complete a 130 item questionnaire on their child's behaviour in the first two years of life. Here again, the results revealed that the cardinal impairment in autism was related to emotional engagement. The researchers found that the characteristics that discriminated between children with autism and matched control children were social ones-namely, their isolation, lack of play, lack of smiling when expected, empty gaze and a failure to attract attention to their own activity.

Hence studies using questionnaires have identified various areas of impaired functioning in children with autism through comparing children with autism to various other groups. These comparisons help in identifying core deficits in autism and help enrich our understanding of associated areas of impairment. The problem with using questionnaires to elicit information is when information is obtained through this method, it is obtained retrospectively and hence could be subject to forgetting and unconscious falsification (Wing 1969). Questionnaires are also subject to misinterpretation by the person completing them and answers can be ambiguous and not as lucid as when the person is interviewed or questioned on the spot. Detailed knowledge of a child's behaviour might be difficult to obtain using this method. Therefore, this method did not seem the most appropriate one to use for the purposes of this study.

Another method that has been used to retrospectively investigate social impairments in children with autism is videotape material. They have shown that aspects of social interaction such as looking, pointing, showing and orientating appropriately when one's name is called might not be present in children with autism (Adrien et al, 1992; Osterling and Dawson, 1994). However, it has been pointed out that videotape studies are limited by difficulties to do with sampling behaviour and the lack of adequate control participants (Wimpory et al, 2000).

The semi-structured interview employed here is intended to overcome some of the problems mentioned and obtain information that is rich in detail and provide information regarding the socio-emotional functioning of children with autism and matched controls with a view towards suggesting areas that need further empirical investigation.
2.2 Participants

Parents of ten children with autism and ten children with learning disabilities but without autism took part. The parent groups were matched according to their children’s chronological age and verbal abilities.

Sample of children with autism

The children with autism were in a special school for autism. They ranged in age from seven to 12 years. Their initial diagnosis was confirmed using the Childhood Autism Rating Scale and an autism checklist derived from the Diagnostic and Statistical Manual 4th Edition (DSM IV-American Psychological Association, 1994) and adapted for use with children with autism by A. Lee (personal correspondence; see appendix). Information using the checklist was obtained using personal interviews with teachers. The mean CARS score of children with autism was 33 and scores ranged from 30-38.

Sample of children with learning disabilities

The children with learning disabilities similarly, were from a special school for children with learning disabilities. They ranged in age from five to twelve years.

The groups of children were individually matched for chronological and verbal mental age. To obtain verbal mental age, both groups were given the British Picture Vocabulary Scale. The mean verbal mental age of children with autism was six years and two months and the mean verbal mental age of matched controls was six years and six months.

The CARS and the DSM were only applied to the group of children with autism. They were applied to children in the control group only if the children displayed autistic features or to those children we felt unsure about with regard to diagnosis. Although this hangs upon the possibility that a small minority of children might have had some features of autism that would have emerged in a more systematic
examination, this would have rendered the present study a conservative test of special population differences.

Parent Characteristics

The parents of children with autism ranged in age from 32 to 45 years. They were mainly female, white, middle class individuals. Half the parents were single and the other half were married. Four parents had completed their O levels and two had completed a post graduate degree.

The parents of children with learning disabilities ranged in age from 38 to 51 years. They were again mainly female, white and middle class. Nine parents were married and one was single. Half the parents had no degree and one parent had a post graduate degree.

These details are presented in the appendix.

The details of the matched groups are presented below.

<table>
<thead>
<tr>
<th>Table 2.1: Matched Group Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chronological Age</strong></td>
</tr>
<tr>
<td>Mean yr; mo</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td><strong>Autistic</strong></td>
</tr>
<tr>
<td>n = 10</td>
</tr>
<tr>
<td>M: F = 7:3</td>
</tr>
<tr>
<td>9; 9</td>
</tr>
<tr>
<td><strong>Non-autistic</strong></td>
</tr>
<tr>
<td>n = 10</td>
</tr>
<tr>
<td>M:F= 9:1</td>
</tr>
<tr>
<td>10; 2</td>
</tr>
</tbody>
</table>
2.3 The Interview-Method

The interview was divided into 5 domains- 'milestones', 'body-self', 'imitation', 'self-other' and 'emotions'. Each of these domains contained questions designed to elicit responses with regard to various areas of the child's current socio-emotional functioning. However, especially in the 'milestones' domain, the parent did have to refer back to when the child was younger. An explanation of the content of the domains, as well as examples of questions contained in them, is provided below. The interview schedule itself is presented in the appendix. The domains, as they were investigated in the interview were:

Milestones

This domain was introduced mainly as a way of establishing rapport with the interviewee and helping the interviewee become familiar with the style and manner of questioning employed. The questions here pertained to the age when the child began to walk, when the child became toilet trained and if the parents encountered any problems with regard to feeding. There were no predictions made with regard to responses this area and it was not scored.

Body- Self

The body- self domain had questions that pertained to whether there was anything unusual in the way the child experienced his or her body in relation to other people. Questions here ranged from any sensory and perceptual problems the child might have had to the child’s reaction to body contact such as hugging and tickling. So for example, parents were asked, 'Have you noticed anything unusual about your child’s sensory abilities? For example, have you ever noticed anything unusual about the way your child reacts to pain?' similarly, 'Is your child exceptionally sensitive to sound, light, temperature or touch?' as well as questions such as, 'Would you say your child enjoys body contact such as rough and tumble? What sort of contact does your child enjoy? For example, does s/he enjoy caressing, tickling, stroking etc? Parents were then asked ‘Does your child seek to initiate any of these activities? When does s/he normally seek to initiate these activities? E.g. when s/he is happy, sad, scared angry etc?’
Imitation

The term 'imitation' has been used in this study, to refer to behaviour that involves one individual copying or reflecting another individual's actions, attitudes or speech. There have been consistent findings in literature that people with autism do not readily imitate others' actions (Meltzoff & Gopnik 1993; Dawson and Adams 1984; Curcio 1978; Sigman and Ungerer 1984). Whether this deficit is due to a more basic symbolic, affective or cognitive problem is yet to be established. Thus far attempts have been made to determine in which aspects of imitative behaviour children with autism are proficient and in which aspects they have problems. It is important to create such a profile of spared and impaired behaviour as it might help identify the underlying causes of imitative deficits. For example, children with autism have been shown to perform relatively better when imitating spontaneous object use as opposed to imitating random body movements (De Myer et al., 1972). One possible conclusion from these findings could be that imitative deficits in children with autism are due to a poorly formed body schema or poor inter-sensory integration rather than a more general symbolic deficit. Other researchers (Hobson and Lee, 1999) have found that although children with autism are able to imitate goal-directed actions, they are unable to imitate the 'style' with which these actions are performed. These researchers have speculated that individuals with autism have a specific disability with regard to perceiving, responding to and identifying with attitudes as opposed to actions of other people as the children tested seemed to be impaired with regard to imitating the person modelling the action rather than the action itself. They argue that the imitative deficits displayed reflect an early disruption in inter-subjective engagement between the child and its caregivers.

The rationale for the inclusion of this special section in this study was that although there are aspects of imitation that have been found to be abnormal in children with autism, there are also intact aspects, and the reporting of the phenomena might confuse these two different facets. In other words, this study has not been designed to adequately report the distinction between these two aspects. Therefore although it is expected that there might be evidence to suggest a different quality of imitation towards others in children with autism, this remains an exploratory enquiry.
The imitation domain contained questions that pertained to whether there was anything unusual in the way the child imitated other people’s mannerisms or gestures as well as under what circumstances the child imitated. So for example, parents were asked, 'Have you ever noticed your child copying what you do in terms of facial expressions or gestures? What kind of things does s/he copy? Does this require a lot of encouragement, or is imitation spontaneous? Is there anything unusual about the way your child imitates?' and 'Do you think your child imitates you only in certain circumstances (i.e. to get something s/he wants)? For example, do you think your child imitates you opening a cupboard with a view towards getting the cookies inside or does your child imitate with a view towards having fun, learning etc?'

**Self in relation to another (self-other)**

Questions in the self-other domain pertained to the child’s behaviour in social situations. Questions here explored physical demonstrativeness, the impact of others’ opinions, possessiveness, competitiveness, working in groups, social rules and pronoun usage. To give a few examples of the form these questions took, the parents were asked, ‘Would you say your child is physically demonstrative? For example, does s/he hug you or seek to initiate physical contact with you? When does your child normally seek to initiate physical contact with you....when s/he is happy, sad, scared excited ?’ and ‘Would you say your child finds it difficult to follow social rules such as those of personal space? For example, does s/he stand too close to someone when talking to them? Does s/he know not to stare at people etc?’ , as well as, ‘Would you say your child is possessive towards people? If so how does this express itself?’

**Emotions**

The emotions domain explored the way in which the child expressed various emotions- both 'basic' and 'self-conscious'. The parents were asked to provide instances in which they had observed their child expressing various emotions. They were asked to provide as many examples as possible of these situations. The emotions investigated were: jealousy, envy, shame, guilt, showing off, embarrassment, possessiveness (towards objects), coyness, flirting, concern, sadness and loss, pride, pity, happiness,
anger, disgust, surprise and fear. So for example, parents were asked 'When have you observed jealousy in your child? (i.e. resenting the attention you or someone else is giving to other individuals)'' and were asked to elaborate with examples. However, the inclusion, in this section, of certain emotions such as possessiveness, is not an indication of a theoretical position being taken with regard to these emotions, rather they are seen as being closely aligned with self-conscious emotions and have been explored in an effort to provide a comprehensive report of spared and impaired areas of functioning in this realm. The emotions pride, guilt and shame will be considered separately in the next chapter.

The interview took up to an hour and 15 minutes to complete on average. All responses were audi-taped and later transcribed for rating. The interviewees were encouraged to provide as many examples as possible with a view towards obtaining both a detailed response as well as some indication of the level of comprehension of the interviewee. Eliciting specific instances of behaviour served to facilitate a much more in-depth exploration of the areas in question.

2.4 Predictions and Scoring

Predictions

The predictions of the study were that, according to parent reports, children with autism and those with learning disabilities would differ in the following areas:

Self-Conscious Emotions

- The children with autism, when compared to matched controls without autism, would be reported as showing less indication of experiencing fully developed feelings for important others: the feelings explored were jealousy, guilt, concern, possessiveness, competitiveness, sadness and loss, cruelty, pity.
- BUT: the children with autism would not be reported to lack discriminable states of happiness, anger, disgust, surprise, and fear, even if they were expressed idiosyncratically.
Self in relation to another

- The children with autism would also be reported as showing less concern with appraisals of themselves from others, when compared to matched controls. This includes their lesser tendency to manifest embarrassment, coyness, showing-off and flirting.

Body - Self

- The children with autism would be reported as showing a different pattern of interpersonal relatedness in terms of personal contact, personal space, demonstrativeness and not treating people differently from objects. BUT: it was expected there would be no group difference with regard to the development of (or lack of development of) sensory abilities.

Imitation

As mentioned earlier, this domain constituted an exploratory area of enquiry.

Scoring

Answers to questions in each of the four domains (the 'milestones' domain was not scored) were rated by two raters. The author of this Ph.D. was the primary rater. The second rater was blind to the aims of the study as well as the diagnostic classification of the participants as transcripts were coded and did not contain the name or group membership - i.e. autistic or learning disabled, of the participant concerned. The second rater rated 40% of the transcripts. Inter-rater reliabilities were estimated as Kappa values. Between-group comparisons were made using a non-parametric measure, Fisher's Exact Test.

The domains were rated in the following manner:

Rating the 'Body-Self' Domain

The 'body-self' domain was rated as a whole by reading the responses to each of the questions in full before rating them. Responses were then rated together to determine whether there was anything unusual about the child's sense of his or her own body. Initially, to represent results in a clear and
precise manner, responses were rated categorically. In the first instance, responses were analysed as either being indicative of something very unusual about a child’s sense of his/her body or as being indicative of no unusual behaviour in this regard. In other words, this analysis involved categorising responses as those indicative of no unusual behaviour and those indicative of very unusual behaviour with regard to a child’s sense of his or her body. A second analysis was also introduced in order to provide a subtler rating of this behaviour. Here, the domain was rated as a whole from 0-4. In this regard, 0 indicated that there was nothing unusual about the child’s sense of his or her own body, 1 indicated that there was something possibly unusual about his/her sense of his/her body, 2 indicated that there was something unusual about his/her sense of his/her body, 3 indicated that there was something fairly unusual his/her sense of his/her body, and 4 indicated that there was something very unusual his/her sense of his/her body. Thus responses rated as not unusual in the first instance included responses scored as 0, 1 and 2. Responses rated as being clearly indicative of unusual behaviour in the first instance included responses scored as 3 and 4. Reliability was obtained using ratings from the second analysis.

To elucidate the scoring system by way of an example, what might be rated as being very unusual, is described with reference to the following response of the mother of a child with autism. ‘She doesn’t like her hair being brushed. She used to walk around naked when she was younger and she is not very self-conscious of her body even now. She doesn’t enjoy body contact. I almost hear her sigh when I hug her.’

*Rating the 'Imitation' Domain*

The 'imitation' domain was scored in a similar manner to the 'body-self' domain. Here the rater read the responses to all the questions in the domain and then judged whether s/he thought there was anything unusual about the child’s ability to imitate.

In the first instance, responses were analysed as either being indicative of something very unusual about a child’s ability to imitate or as being indicative of no unusual behaviour in this regard. A second analysis was also introduced in order to provide a subtler rating of this behaviour. Here, the domain
was rated as a whole from 0-4. In this regard, 0 indicated that there was nothing unusual about the child’s ability to imitate, 1 indicated that there was something possibly unusual about a child’s ability to imitate, 2 indicated that there was something unusual about a child’s ability to imitate, 3 indicated that there was something fairly unusual about a child’s ability to imitate, and 4 indicated that there was something very unusual about a child’s ability to imitate. Thus responses rated as not unusual in the first instance included responses scored as 0, 1 and 2. Responses rated as being clearly indicative of unusual behaviour in the first instance included responses scored as 3 and 4. Reliability was obtained using ratings from the second analysis.

Again, an extract from a parent response might help clarify what was rated as an unusual response ‘He copies children from school. He latches on to them and copies exactly what they say. He also imitates pieces off the video. When we’re sitting at the dining table, he might just spout an entire piece of conversation he heard off the t.v. or video’.

Rating the ‘Self-Other’ Domain

This domain was scored differently from the previous two domains in that the rater was required to rate every response in the domain. S/he was asked to judge from the parents’ responses whether s/he thought that there were any abnormalities in the child’s behaviour. In the first instance, as in the previous domains, responses were analysed as either not being indicative of any abnormality or being clearly indicative of an abnormality. A second analysis was then introduced. Here, each question was rated as a whole from 0-2. In this regard 0 indicated that there was no indication of abnormality, 1 indicated that an abnormality was possibly present and 2 indicated that an abnormality was clearly present. Reliabilities were calculated on these scores. Thus responses rated as not abnormal in the first instance included responses score as 0. Responses rated as being clearly indicative of abnormality in the first instance included responses scored as 1 and 2. Reliability was obtained using ratings from the second analysis.

This domain was not rated as a whole because it reported heterogeneous factors of self-other relations, and each response was scored as being unusual or not. Hence, for example, a response that indicated a
total unawareness of social rules regarding personal space and distance would be rated as unusual. Being emotionally unresponsive to another person’s opinions would also be rated as unusual. Unusual responses of this nature are examined in the discussion section below.

*Rating the ‘Emotions’ Domain*

The last domain to be rated was the ‘emotions’ domain. When rating ‘self-conscious emotions’ what was of interest was the presence or absence of the emotion, rather than the presence or absence of an abnormality as was the case in the previous domains. However this domain was rated in the same way as the previous domain where in the first instance, responses were analysed as either not being indicative of the presence of an emotion or being clearly indicative of the presence of an emotion. A second analysis was then introduced. Here, each question was rated as a whole from 0-2. In this regard 0 indicated that an emotion was not manifested, 1 indicated that an emotion was possibly expressed and 2 indicated that an emotion was clearly shown by the child. Thus responses rated as ‘emotion absent’ in the first instance included responses scored as 0. Responses rated as being ‘emotion present’ in the first instance included responses scored as 1 and 2. Reliability was obtained using ratings from the second analysis.

In this regard, certain cases where raters had to decide whether the emotion was present or absent from an ambiguous response provided by the parent need clarification. For example, when talking about her child feeling concern for other people, one mother noted that her child felt concern for her when she left her home as he said to her ‘Why don’t you come back tomorrow? You need to come and put things in order.’ When asked what sort of things her child required her to sort out, she responded that she felt that her absence caused a disruption in his routine and this concerned him. Hence, in this case, the raters decided that there was not evidence to suggest that the child was actually concerned about the mothers’ whereabouts or feelings and hence rated the response to indicate an absence of concern.

‘Basic emotions’ were rated in the same way as self-conscious emotions. However in addition to analysing responses with regard to the presence or absence of an emotion, responses were also analysed on the dimension of ‘unusualness’. This was because it was predicted that children with
autism would express basic emotions, but do so idiosyncratically. Thus this rating was instituted in order to judge the degree of unusualness present in the expression of basic emotions. This was rated from 0 to 4 where 0 indicated that there was nothing unusual about the expression of the emotion; 1 indicated that there was something possibly unusual about the way the emotion was expressed; 2 indicated that something unusual about the emotion expressed; 3 indicated that there was something fairly unusual about the emotion expressed and 4 indicated that there was something very unusual about the expression of the emotion.

If the parent reported never having seen the child express the emotion concerned, this was rated as being 'very unusual'. In addition, if the child only expressed the emotion in a very circumscribed set of situations (e.g. feeling happy only when watching television for example), this was also rated as being very unusual. A point to be noted here is that very often the raters had to use their judgment and knowledge of the behaviour of children to make a judgement. The inter-rater reliability confirmed whether this judgement was a reliable one.

After rating the responses, as mentioned earlier, the numbers of children in each rating category were then compared across groups. In addition to this, qualitative observations were made.

2.5 Results

The results of the interview study are provided in the table below and in figure 1. The total numbers of children displaying the behaviour in question in each domain have been reported. A qualitative description of responses within each domain will be provided in a later section.

Inter rater reliabilities

As stated earlier, a second rater rated 40% of the transcripts. This was to ensure that the primary rater was not being biased in any manner. Inter rater reliability was calculated by using a kappa score. Kappa measures the agreement between the evaluations of two raters when both are rating the same target. The difference between the observed proportion of cases in which the raters agree and the proportion expected by chance is divided by the maximum difference possible between the observed and expected
proportions, given the marginal totals. A value of 1 indicates perfect agreement. A value of 0 indicates that agreement is no better than chance.

Reliabilities were calculated for each item, except in the case of the body self and imitation domains, which were rated by domain rather than by item. The kappa scores ranged from 0.59 to 1.00 and most scores were in the 0.85 to 1.00 range. The table below indicates that the reliabilities range from moderate to perfect, and (except for the reliabilities for shame and jealousy), all are in the 'almost perfect' range. The full range of reliabilities is presented in the appendix.

<table>
<thead>
<tr>
<th>Kappa Statistic</th>
<th>Strength of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;0.00</td>
<td>Poor</td>
</tr>
<tr>
<td>0.00 - 0.20</td>
<td>Slight</td>
</tr>
<tr>
<td>0.21 - 0.40</td>
<td>Fair</td>
</tr>
<tr>
<td>0.41 - 0.60</td>
<td>Moderate</td>
</tr>
<tr>
<td>0.61 - 0.80</td>
<td>Substantial</td>
</tr>
<tr>
<td>0.81 - 1.00</td>
<td>Almost Perfect</td>
</tr>
</tbody>
</table>


**Body Self-results**

This domain was concerned with physical aspects of a child’s functioning, such as unusual sensory abilities, as well self-consciousness with regard to one’s body, psychological reactions to accidents, physical demonstrativeness and dressing oneself. Results indicate that while a large majority of children with autism were thought to have an unusual sense of their bodies, as revealed by impairments in a number of the areas investigated, only a minority of children with learning disabilities were reported to have an unusual sense of their bodies. Groups were significantly different in this regard.

<table>
<thead>
<tr>
<th></th>
<th>Not unusual</th>
<th>Unusual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autistic</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>LD</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

*Fishers Exact Test (two-tailed), P=0.02
Table 2.3(a): Body Self- Number of children expressing unusual behaviour (category 2: distribution of scores)

This table elaborates upon the results presented in the previous table. One can see that eight children with autism were reported to demonstrate either a fair or striking level of abnormality with regard to their physical selves while seven children with learning disabilities demonstrated either no unusual behaviour in this regard or a mild level of abnormality.

<table>
<thead>
<tr>
<th>Group</th>
<th>Categories</th>
<th>Nothing Unusual</th>
<th>Possibly Unusual</th>
<th>Unusual</th>
<th>Fairly Unusual</th>
<th>Very Unusual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autistic</td>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Learning disabled</td>
<td></td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Imitation- results**

Table 2.4: Imitation-Number of children expressing unusual behaviour*

In addition to having an unusual sense of their physical selves, the results reveal that children with autism also imitated in an unusual manner. While all the children with learning disabilities were typical with regard to their imitative behaviour, a large majority of children with autism imitated in an unusual manner. Groups were again significantly different in this domain.

<table>
<thead>
<tr>
<th></th>
<th>Not unusual</th>
<th>Unusual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autistic</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>LD</td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

*Fishers Exact Test (two-tailed), P=0.001
Table 2.4 (a): Imitation: Number of children expressing unusual behaviour (category 2: distribution of scores)

This table elaborates upon the previous table. One can see that half the number of participants with autism display behaviour that is rated as being fairly unusual while half the participants with learning disabilities are rated as displaying behaviour that is possibly unusual.

<table>
<thead>
<tr>
<th>Group</th>
<th>Nothing Unusual</th>
<th>Something Possibly Unusual</th>
<th>Something Unusual</th>
<th>Something Fairly Unusual</th>
<th>Something Very unusual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autistic</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Learning disabled</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Self-other -results

Table 2.5: Self–Other- Number of children expressing unusual behaviour

The results in this domain showed that while some learning disabled participants expressed socially inappropriate behaviour at times, children with autism were likely to do so more often, more intensely and at times, more idiosyncratically. The table below demonstrates that children with autism express significantly more unusual behaviour than children with learning disabilities in all domains investigated other than physical demonstrativeness.

<table>
<thead>
<tr>
<th>Q. No</th>
<th>Areas</th>
<th>Autism Unusual Behaviour</th>
<th>learning disabilities Unusual Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Comfort in social situations*</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Relations with parents*</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Physical demonstrativeness</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Following social rules*</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Possessiveness towards people*</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Effect of other's opinions*</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Competitiveness*</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Use of pronouns*</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>Working in groups*</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Spontaneity*</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>Effect of other's moods*</td>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>

*Fishers Exact Test (two-tailed), P<0.05
Table 2.5(a) Self-Other. Number of children expressing unusual behaviour (category 2: distribution of scores)

This table elaborates upon the results in the previous table.

<table>
<thead>
<tr>
<th>Q. No</th>
<th>Areas</th>
<th>Autism</th>
<th>LD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Comfort in social situations</td>
<td>0 1 2 0 1 2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Relations with parents</td>
<td>1 7 2 7 3 0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Physical demonstrativeness</td>
<td>1 5 4 5 5 0</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Following social rules</td>
<td>0 1 9 4 5 1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Possessiveness towards people</td>
<td>0 5 5 5 5 0</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Effect of other’s opinions</td>
<td>0 4 6 9 1 0</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Competitiveness</td>
<td>2 5 3 7 3 0</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Use of pronouns</td>
<td>1 8 1 8 2 0</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Working in groups</td>
<td>1 5 4 7 3 0</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Spontaneity</td>
<td>2 2 6 8 2 0</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Effect of other’s moods</td>
<td>1 5 4 8 2 0</td>
<td></td>
</tr>
</tbody>
</table>

To summarise, the tables above indicate that there were significant differences between groups with regard to the number of children expressing unusual behaviour in the domains of body-self, imitation and self-other experiences. In other words, a greater number of children with autism relative to the non-autistic matched group, according to parent reports, were perceived to experience their bodies in an unusual manner, manifested unusual imitative patterns and were unusual with regards to their relationships with others.

The next set of results related to self-conscious and basic emotions.
Emotions: results

Table 2.6: Number of children expressing self-conscious emotions

The results reveal that, in general there was a tendency for fewer children with autism to express self-conscious emotions relative to learning disabled children. However, children with autism were significantly different from the non-autistic group only with regard to showing off, flirting and expressing embarrassment. More specifically, significantly fewer children with autism than learning disabled children were reported to express these emotions.

<table>
<thead>
<tr>
<th>Q. No</th>
<th>Areas</th>
<th>Autism Emotion Present</th>
<th>learning disabilities Emotion Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jealousy</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>Envy</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Showing off*</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>Embarrassment**</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Possessiveness towards objects</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>Coyness</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>Flirting***</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>Concern</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>Sadness and loss</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Pity</td>
<td>6</td>
<td>9</td>
</tr>
</tbody>
</table>

*Fishers significance Test (two-tailed), $P=0.03$; **$P=0.05$; ***$P=0.001$

These results are represented in the histogram below.
Table 2.6(a): Number of children expressing self-conscious emotions (category 2: distribution of scores)

This table elaborates upon the results in the previous table. It shows that while a large majority of parents of children with leaning disabilities reported that their children clearly expressed self-conscious emotions, a large majority of parents of children with autism reported that most of their children had possibly expressed these emotions.

<table>
<thead>
<tr>
<th>Q No</th>
<th>Areas</th>
<th>Autism</th>
<th>LD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>Jealousy</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Envy</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Showing off</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Embarrassment</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Possessiveness</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Coyness</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Flirting</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Concern</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Sadness and loss</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>Pity</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

59
Table 2.7: Number of children expressing basic emotions

Unlike self-conscious emotions, results reveal that an equal number of children in both groups expressed basic emotions. In this regard, results reveal that there were no significant differences between groups with regard to the presence of basic emotions.

<table>
<thead>
<tr>
<th>Q. No</th>
<th>Areas</th>
<th>Autism</th>
<th>learning disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Emotion Present</td>
<td>Emotion Present</td>
</tr>
<tr>
<td>1</td>
<td>Happiness</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Unhappiness</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Anger</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>Surprise</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>Fear</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>Disgust</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>
This table elaborates upon the results from the previous table and one can see that unlike the results on self-conscious emotions, parents of both groups of children reported having seen them clearly express all basic emotions. The only emotions that parents of children with autism seemed unsure of having clearly noticed in a number of their children were unhappiness and disgust.

<table>
<thead>
<tr>
<th>Q. No</th>
<th>Areas</th>
<th>Autism</th>
<th></th>
<th>LD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Happiness</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Unhappiness</td>
<td>1</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Anger</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Surprise</td>
<td>1</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Fear</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>Disgust</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
The results, calculated using mean scores, reveal that although, broadly speaking, an equal number of children with autism expressed basic emotions as learning disabled children, they expressed these emotions in ways that were very different from children with learning disabilities. In this regard there were significant differences between groups with regard to the unusual manner in which children expressed anger, fear and disgust relative to non-autistic, matched children.

### Table 2.7 (b): Number of children expressing basic emotions in an unusual manner

<table>
<thead>
<tr>
<th>Areas</th>
<th>groups</th>
<th>Q No</th>
<th>0 Nothing Unusual</th>
<th>1 something Possibly unusual</th>
<th>2 Something unusual</th>
<th>3 Something fairly unusual</th>
<th>4 something very unusual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happiness</td>
<td>Autism</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Unhappiness</td>
<td>Autism</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Anger**</td>
<td>Autism</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Surprise</td>
<td>Autism</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fear***</td>
<td>Autism</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Disgust****</td>
<td>Autism</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

**Mann Whitney U= 12.500; z= -3.131; sig.<0.005 (two-tailed)**

***Mann Whitney U= 7.000; z= -3.503; sig.<0.001 (two-tailed)**

****Mann Whitney U= 19.000; z= -2.593; sig.<0.05 (two-tailed)**
2.6 Qualitative Analysis of Results and Discussion

The hypothesis investigated in this chapter was that children with autism are limited with regard to the expression and possible experience of self-conscious emotions. It was also hypothesised that children with autism are impaired with regard to those aspects of the self that developed through a process of social interaction. The study also examined parent reports of pride, guilt and shame in their children with autism and these will be focused on exclusively in the next chapter as they are the focus of this thesis.

The results indicate that children with autism, when compared to a control group of children without autism, manifest signs of an unusual sense of their physical selves. They are also and are limited with regard to their ability to imitate, to demonstrate social awareness, and to express certain self-conscious emotions. Although children with autism are able to express 'basic emotions', they do so in ways that are unusual. These findings are especially important in the light of the hypothesis that aspects of the self that evolve through the interaction with others are impaired in children with autism. A qualitative analysis of these impairments is discussed below.

Body-Self

This domain was concerned with physical aspects of a child's functioning, such as unusual sensory abilities, as well self-consciousness with regard to one's body, psychological reactions to accidents, physical demonstrativeness and dressing oneself. The results reveal that children with autism displayed unusual patterns of physical relatedness and seemed to experience their bodies in ways that were significantly different from children with learning disabilities. A number of children with learning disabilities also seemed to display unusual sensory patterns although they were less severe and tended to stem from physical causes such as allergies and grommets. It is now appropriate to consider details of unusual responsiveness.

From parent reports, children with autism seemed to have unusual sensory abilities in terms of being hyper or hypo sensitive to sounds (six out of ten children with autism were sensitive to specific sounds such as trains, fireworks, Hoovers and high pitched noises such as people screaming) and pain (five out
of ten children with autism were reported to have high pain thresholds. In this regard, brushing hair was cited by two parents as being undesirable and painful while more serious injuries caused by falling down or getting cut seemed to be tolerated by these children).

In addition to this, children with autism showed less self-consciousness with regard to their bodies than children without autism. Self-consciousness in this context, referred to the ability of children to demonstrate an awareness of other peoples' thoughts and feelings about their physical selves. In this regard, a common observation by parents was that children with autism quite often undressed in front of other people regardless of who they were. They also seemed to be less concerned with regard to their physical appearance, for example being unconcerned with regard to what they wore, and at times wearing their clothes back to front. However, although most children with autism in this sample displayed unselconscious behaviour, a small number of children with learning disabilities also displayed the same sort of behaviour. Thus children with autism seemed to be less aware of other people's thoughts and feelings about their physical appearance.

Another observation was that while most children in both groups liked to engage in rough and tumble play, children with autism differed from learning disabled children in certain ways. Some children were rather excessive in their application of physical strength and seemed not to be aware of their physical impact on other people. One parent described her daughter's behaviour as her not being able to control 'the strength of her own movements' and another said her son 'squashed' people unintentionally. In general, most children with autism had to be repeatedly made aware of the physical impact they had on another person. However, a few children with autism did not enjoy physical contact such as rough and tumble play or cuddling at all. One parent reported said of her child's dislike of physical contact 'I almost hear her sigh when I hug her.' A few children with autism also displayed idiosyncratic behaviour while engaged in physical contact with others. In one such child, this took the form of touching the nose of the person he was engaged in physical contact with. Both groups of children seemed to prefer to engage in physical contact on their own terms, but non-autistic children were more likely to initiate contact in response to an emotional stimulus (e.g., fear, happiness, sadness) than children with autism.
With regard to the children's reaction to accidents, a qualitative analysis revealed that the groups did not differ with regard to the overall number of accidents reported by parents. However, a few children with autism seemed to react more idiosyncratically to these accidents than control children. These responses involved a higher pain threshold in some cases stemming from, according to one parent, a lowered 'sense of self-preservation'.

To summarise, according to parent reports and when compared to children with learning disabilities, children with autism seem to be less self-conscious of their bodies, displayed more idiosyncratic behaviour when in physical contact with others, seemed not to be aware of the physical impact they had on other people, seemed less inclined to initiate physical contact in response to an emotional stimulus and to want to engage in physical contact on their own terms. A theme running through these parent reports seemed to be an impaired sense of the perspective of another person when engaging in physical contact with that person. This was made evident in the way in which children with autism physically interacted with others without being aware of the physical or social impact they seemed to make, as well as not being inclined to respond to emotional situations in a physical manner (such as hugging or stroking).

Imitation

With regard to imitative behaviour, autistic and non-autistic children were similar in that both groups of children imitated other people and were aware when other people imitated them. Both groups reacted to other people imitating them by either being upset, angry or amused. The major difference between groups, was that children with autism tended to imitate characters from movies or cartoons so as to use this as a means to interact with other people. Non-autistic children seemed to imitate 'real' people as well as people from television, but for different reasons. The following excerpts from transcripts illustrate this more clearly. The mother of a child with autism reported that her child used to quote 'great big chunks of video' (mainly from the Simpson's cartoon show) and used these 'chunks' to make conversation. She reported that 'if my mother were to ring, and I said, X (her son), it's granny, speak to granny, he'll start quoting from Postman Pat....' Another parent reported that her child would imitate selective aspects of characters, such as their accent. Yet another parent reported that 'when
we’re sitting at the dining table, he (her child) might just spout an entire piece of conversation he heard from TV. or radio.’ One of the parents volunteered a reason for such idiosyncratic behaviour. According to her, her child wanted to speak ‘but doesn’t quite know what to say.’

Hence, children with autism seemed to be able to imitate aspects of characters they saw on popular media, sometimes taking on the entire personality of that character to communicate with others. Non-autistic children however, used imitation differently, and for a number of different reasons. To illustrate, one parent reported that her non-autistic child ‘sort of imitates what other people are doing, what other children are doing, playing....’ Another parent said that her child imitated other children to ‘take the mickey out of them.’ Yet another parent reported that her son ‘copies his sister’s attitude when someone argues with her, she fights back and X (her son) has learnt to do the same.’ Another parent reported that her child copied ‘the way people dress at school’.

Thus, to conclude, although both groups of children imitate, and are aware when other people imitate them, there seem to be important qualitative differences with regard to their motives when imitating others as well as the manner in which they do so. These differences suggest that children with autism are desirous of an interaction with others but seem unable to do so ‘naturally’. Hence a number of children use various aspects of the media to help them learn how to interact. Imitating popular characters from television and movies seems to equip children with autism with a script that they can then use to interact in a more effective manner. Here one can see how a seemingly spared area of functioning could be informative with regard to the nature of certain core deficits in children with autism.

Self-Other

Children with autism significantly differed from non-autistic children with regard to all the areas explored in this domain except with regard to physical demonstrativeness. The two groups of children showed certain similarities in this domain in that both groups of children seemed to be more comfortable in social situations where they were with people they knew, and felt uncomfortable or
overwhelmed in situations that required them to interact with people they were not familiar with. Thus, not surprisingly, both groups of children felt most comfortable at school or at home.

Both groups also, at times, displayed socially inappropriate behaviour. In non-autistic children, this behaviour included physically interacting with others in a socially inappropriate manner, in an inadvertent way (e.g., parents reported that ‘she gets too close’, he’s too cuddly, she’ll pinch or poke or pull you about’). Hence these non-autistic children seemed to sometimes put their own needs before others with regards to social space. Children with autism had more severe problems with regard to social rules and space. One parent summed up what a number of parents reported by saying ‘I’ve often thought he just doesn’t notice people; He’ll just brush straight past somebody without kind of being aware that they’re there. And it’s often struck me that it’s almost like they’re invisible to him.’ Another parent reported ‘....anything that a child would normally pick up, he had to learn.’ This included, as another parent observed, being taught in school that one must try and maintain eye contact with others. This parent reported that her child tended to exaggerate what she had learnt at school in terms of often coming very close to a person’s face when talking to them in an effort to maintain eye contact or shouting loudly to make a point. Hence children with autism seemed to differ from the control group with regard to the manifestation of their socially inappropriate behaviour, and the severity of this manifestation, in that aspects of their interactions with others seemed at times to be learned and unnatural.

Both groups also seemed to display possessiveness. However, while non-autistic children were possessive about both people and objects, children with autism seemed to mainly be possessive about a single person (normally their mother) and certain specific objects. In other words, non-autistic children did not display limited patterns of behaviour with regard to possessiveness while children with autism did. It might be interesting to further investigate possessiveness in the context of the self in a more detailed manner.

In the same way, while non-autistic children did not seem to display any idiosyncratic behaviour patterns with regard to reacting to other people’s opinions about themselves, children with autism did. They did so by either not reacting at all to others’ opinions (positive or negative) about them, or in a
distinctive way from other children. For example, one parent talking about her son’s reaction to people saying nice things about him, said, ‘he doesn’t like people praising him, he’ll sort of tense up’. A number of children with autism seemed to be concerned about others’ opinions only if they were perceived to be accompanied by a withdrawal of rewards. Hence they seemed to fear the repercussions of others’ opinions rather than be emotionally affected by the opinion itself.

Both groups of children were also similar with regard to their lack of competitiveness. However, non-autistic children seemed to be slightly more competitive than children with autism. Parent reports suggested that the similarity might have been a function of schools discouraging a great deal of competitiveness among children. However, even in an environment that did not foster competitive behaviour, non-autistic children seemed to naturally want to compete whereas children with autism did not display this need. Also while some non-autistic children seemed to be competitive with regard to physical appearance, children with autism were consistently non-competitive with regards to this. Both groups however, seemed equally keen to accomplish goals and were reported to be pleased when they were achieved. Their motives for wanting to achieve these goals might have differed and again, this remains an area for future enquiry.

With regard to pronoun use, although some non-autistic children were reported to have had used ‘he’ or ‘she’ rather than me or I when referring to themselves, when learning to speak, most of these children did not seem to have had any problems in this area. However, most children with autism seemed to have had difficulties with regard to pronoun use. A number of children used ‘he’, ‘she’ or their name rather than ‘I’ when referring to themselves. One child was distinctive in that he used to refer to himself as ‘Thomas the Tank Engine’ and ‘Winnie the Pooh’. However, as children grew older, they invariably learned to use pronouns more appropriately.

With regard to interacting in groups, non-autistic children mostly enjoyed playing and working in groups while children with autism preferred to play and work alone. Some children with autism even seemed to prefer playing group games such as ‘Monopoly’ on their own. One mother reported that her child ‘does not know how to be in a group’ and ‘what the purpose of the group is for’. In short, children with autism did not seem comfortable with group dynamics while non-autistic children seemed to
derive pleasure from these very dynamics. Children with autism also seemed to be less spontaneous with other people with regard to giving or making things for them compared to non-autistic children. They needed more prompting to do so.

Children with autism also did not seem to ‘feel’ for other people. They seemed to be unaffected by other people’s moods and attitudes. If they did notice a change in mood, they seemed to react to it in idiosyncratic ways such as being disruptive, engaging in challenging behaviours, getting upset or getting excited. One parent attributed their inability to cope with other people’s mood shifts as a need for sameness, but equally, it might primarily stem from a lack of an ability to engage emotionally with others from very early on.

Self-conscious Emotions

This section covers a number of emotions that involve a consciousness of self in relation to another and an ability to evaluate both emotionally and intellectually, another’s feelings and judgements about oneself. As mentioned earlier, the study investigated pride, guilt and shame which will be dealt with separately in Chapter 2, which is an extension of the current chapter.

Children with autism were significantly different from non-autistic children with regard to the presence of certain self-conscious emotions, namely showing-off, embarrassment and flirting. However, a qualitative analysis reveals that although parent reports suggest that certain self-conscious emotions were present in children with autism, they were expressed in ways that were unusual and different from non-autistic children. In other words, children with autism seemed to display fewer self-conscious emotions than non-autistic children and also seemed to express these emotions, when they did, in a more unusual manner than matched control children.

With regard to the reported presence of jealousy and envy in children with autism for example, although five parents reported noticing their child displaying these emotions, their descriptions conveyed a sense of their children expressing their jealousy in a rather limited way with reference only to particular person. A few seemed to be jealous, for example, of their mothers picking another baby
up. Most children with autism who were reported to have expressed jealousy, therefore, seemed to be jealous, mainly of their mothers interacting in a particular way, in a specific situation, like the one just described. However, a different picture emerged with non-autistic children. Parent reports suggested that non-autistic children seemed to be jealous with regard to attributes other people might possess such as good looks or intelligence as well as envious about material things they might have. They seemed equally envious of their classmates beating them at school as well as of them possessing more Pokemon trading cards. Children with autism seemed envious of a very circumscribed set of things that they were particularly interested in such as videos of favourite cartoon shows for example. In this regard, parents’ descriptions suggest that their children might have been experiencing something akin to greed with regard to possessions rather than being envious of the person in possession of these objects.

With regard to coyness, parents of children with autism seemed to interpret their coy behaviour as stemming from not wanting to be the centre of attention or their dislike of meeting new people rather than being embarrassed in a more socially oriented way. Hence, here again, although parents seemed to have witnessed their child being ‘coy’, the children’s motives, as reported by parents, seemed to suggest a rather different sort of emotional experience being had by the child.

Flirtatious behaviour was reported to be absent in all but one child with autism but was reported as being present in nine children with learning disabilities. Parents of children with learning disabilities reported that their children flirted mainly in a non-sexual way so as to make themselves attractive to another and get their own way. Given that children with autism have reported impairments in the ability to engage, it does not seem surprising that this behaviour was absent in this group of children as flirting involves engaging in a specific way so as to monitor and influence the thoughts and feelings of another towards oneself with a view towards making oneself seem more attractive to them. Perhaps this area would perhaps benefit from investigation with an older age group of children with autism.

With regard to sadness and loss, nine out of ten parents of children with autism reported that although they had possibly or clearly witnessed their children being unhappy, the majority of these children had not experienced any major loss in their lives. Hence what was reported here was a sense of children
having been unhappy rather than sad in reaction to a loss. To illustrate, one parent said about her daughter’s expression of sadness in response to a loss, ‘getting her out of her mood can be very difficult. It might be to do with changing situations in general. Not being upset anymore seems to be hugely difficult for her.’ Another mother said that the only time her son felt sadness in response to a loss was when he lost toys he treasured. She reported that her son did not express sadness in response to the death of his pet. One parent said that her son did not understand the concepts of death and loss and hence found it difficult to express sadness in response to them. Parents of children with learning disabilities however reported that their children had felt a greater sense of sadness and loss with respect to living things (animals and people) relative to objects.

With regard to concern and pity, more than half the group of parents of children with autism reported their children expressed these emotions in a very limited set of circumstances. For example, one parent reported of her son’s demonstration of concern for others that he would ask younger children specifically, if they were ‘okay’ if he saw that they had hurt themselves and were in physical pain. The same parent speculated whether this might have been a learned response from what students were taught in school due to the limited set of circumstances in which it was expressed. Another parent reported of her daughter’s unique way of expressing concern: ‘She asks me (about things and people) but I’m not sure she’s (emotionally) affected by it’. Another parent said that her son might experience concern, but expressed it idiosyncratically, when someone was upset, by insisting that they stop being upset. This parent said of her son’s sense of concern ‘He doesn’t have that empathy sort of concern’. This ‘empathy sort of concern’ was reported to be present in a number of children with learning disabilities as they seemed to be emotionally affected by events they saw on television as well as people they perceived as being in some way distressed or disadvantaged.

In the same way, pity was expressed by six out of nine children with autism, in a learned way. A number were reported to express sentiments of pity and enquired after a person they saw was suffering, but they did so in a way that implied a lack of understanding of what the person might be going through emotionally. For example, one parent reported of her child with autism: ‘Yes, I think limited, but I’ve seen that in terms of “Oh poor whoever” or perhaps somebody on a television story, but I guess that’s all.’ In addition to this, a number of parents reported that their children with autism
expressed pity for animals more than they did for people. One parent reported that her son did so because people were too ‘complex’ for him to feel pity for. She reported: ‘If it is an animal. He feels sorry if it is in pain. He feels connected. It’s easier for him to see than with people, people are more complex for him with the emotions. But I think he does feel concerned. If people are asking for money, he would like to go and give, I don’t know how much he’s really concerned about the person or whether it’s just the act to do it.’

In contrast to this, learning disabled children seemed to express pity in a way that suggested a deeper understanding of the emotional situation of the person concerned than children with autism. For example, one parent reported of her child’s demonstration of pity when watching a nature show: ‘….. he’ll ask “Have they got a Mummy? Have they lost their Mummy?” so he possibly will feel pity, sadness again, because that lion cub hasn’t got a mummy like he’s got…’

Another parent reported: ‘Oh yeah, if he’s watching, like Lassie, or something about a baby or a dog, or something. He will sit there howling, he will get well upset. We got him quite a few times at night in bed and that, when he’s supposed to be asleep and he’s not, and all of a sudden you’ll hear a “Waaaaaaah!” you go in there and go “what’s the matter with you?” and he’ll go “nothing” and you go “it’s something on telly is it not?” and he’ll go “No’ and he’s bawling his head off. And then sometimes he’ll tell us….he’s not supposed to believe it, but I think sometimes he does take it to heart.

With regard to embarrassment, four out of ten reported that their children with autism might experience embarrassment but express it idiosyncratically. Embarrassment, like a number of the emotions described above, was also reported to occur in a very circumscribed set of situations in these children. Most parents of children with autism reported that their children were embarrassed when they were the focus of people’s attention. In this situation, they became upset with regard to being the centre of attention. One mother said that her child reacted negatively to being the centre of attention, even though the attention was positive (people complementing her dress), by ‘turning red and getting angry’. Parents interpreted their child’s discomfort in these situations to stem from a sense of being embarrassed. In contrast, children with learning disabilities seemed to express embarrassment to positive and mildly negative experiences. In this regard, they expressed embarrassment in a less circumscribed set of situations than children with autism.
With regard to showing off, again, when children with autism were reported to show off, they did so in a limited number of situations. One parent reported that her son only showed off when riding his bike. Another parent reported that her daughter only showed off in plays and in character, in that she showed off when the character required her to show off but never showed off as herself. Another parent interpreted her son being loud and telling jokes as stemming from a desire to show off. However, children with learning disabilities seemed to show off in a number of different situations and contexts such as academically at school, playing football, swimming, wearing a new dress, and in front of an audience.

Hence, one can see that when children with autism express self-conscious emotions, they seem to display them in idiosyncratic ways, ways that underscore a different motive to one of being socially engaged with others in one's environment. The excerpts presented above are a striking illustration of this.

**Basic Emotions**

Children with autism are able to express ‘basic’ emotions - emotions that have been reported to develop independently of social relationships (Parker, 1998). However, here again, there are differences in the manner in which children with autism display these emotions, which once again suggests a lack of social involvement. While non-autistic children seem to display basic emotions in a socially appropriate manner, children with autism seem to express these emotions, at times more intensely than circumstances warrant and very often, only in a limited range of situations. For example, one parent reported of her son, ‘He’s happy and content when he gets his own way, television etc., He’s very involved with a routine and if that breaks, he’s unhappy.’ With regard to being unhappy, most parents interpreted this emotion as sadness in response to a loss. Children with autism seemed to express this emotion very differently from matched control children in that, in general, they seemed to express this emotion less frequently than non-autistic children. When they did, they did so in distinctive ways. Again, an excerpt serves to elucidate this. One parent talked of her child with autism in the following terms: ‘Yes she does feel sad I think. She cries if something upsets her. But if I say to her, do you want a cup of tea? She stops crying immediately. It’s like she can switch it on and off. So I’m not sure she
really feels sad. When our dog died, she cried and cried but when I said, well he's probably feeling better now-she stopped crying immediately. I don't think she understands death either. I think she thinks they don't leave forever.'

With regard to expressing anger, a number of autistic children, again, seemed to express it in distinctive ways, such as expressing it in an extremely intense manner or inflicting pain on themselves.

Children with autism do not seem to differ from non-autistic children with regard to the presence of surprise and happiness, and also with regard to the manner in which they express these emotions. However, in the case of surprise, children without autism seemed more likely to surprise someone else than children with autism, who mainly seemed with react to surprise rather than to plan to surprise other people. Here again though, what makes a child with autism surprised or happy might be very different from what makes a non-autistic child surprised or happy and this again is an area for future enquiry.

With regard to fear, children with autism seemed to show less fear generally than non-autistic children, although not significantly so. They also seemed to be less fearful of potentially fear-evoking stimuli. For example, a mother reported that her child hadn't learnt to be careful when climbing trees even after a bad fall from a tree.

Children with autism also showed less disgust than non-autistic children, but again, not significantly so. One mother reported '......there's a lot of things that I will find disgusting that he wouldn't at all. No. We've had some quite unpleasant poo situations where the poo hasn't been in the toilet, it's been on the windows or on the floor and X (son) will say, oh remember the time when that happened? And I'm still horrified months later, and he'd be thinking that it was quite a laugh and not thinking it was the least bit disgusting....' This example again highlights a lack of being aware of another's perspective, on the part of children with autism.
Summary and Conclusions

To summarise, results from all the domains investigated in the study suggest that children with autism, when compared to matched, non-autistic children, have impairments and limitations in those aspects of the self that develop through a process of social interaction. The findings that children with autism have difficulties with pronoun use taken together with their distinctive imitative patterns, where they were often found to take on aspects of characters from the media and use this to communicate with others, suggest certain impairments in the development of the interpersonal self, an aspect of the self that develops through the interaction with others (Neisser, 1991). The absence of certain self-conscious emotions from their emotional repertoire, emotions that have been hypothesised to originate in interpersonal relationships (Parker, 1998), as well their seeming lack of awareness of others' emotional perspectives when in physical as well as psychological interaction with them, seems to indicate that a primary impairment in autism might be a lack of intersubjective engagement. Individuals who are impaired with regard to the development of these emotions, or develop them in an idiosyncratic manner, such as individuals with autism, seem to be impaired with regard to those aspects of the self that are crucial with regard to engaging with another person.

However, the study did have some methodological limitations. Parent reports may sometimes have been subject to unconscious falsification, memory failures and lack of insight. In addition, the interview covered a large number of areas in order to obtain a general picture of spared and impaired areas of socio-emotional functioning in children with autism. Hence none of the areas was covered as comprehensively as they could have been if investigated individually. The ratings reflect this lack of depth of coverage, as raters rated the information available to them and had to make judgements about the existence of various psychological states based on these relatively restricted descriptions provided by parents. One would need a less wide-ranging instrument and a larger sample to extrapolate these results with confidence to the population of children with autism. However, the instrument highlighted areas of difficulty that would benefit from further empirical investigations.

A related point is that raters' judgements might have reflected their insight into what constitutes normal and abnormal behaviour. The primary rater had a post-graduate degree in the field of psychology and
had worked with children with autism. However, the primary rater was not blind. The second rater had a first degree in psychology and a keen interest in children. While substantial inter-rater reliability was obtained, indicating that one could be confident in the judgements made, it is important to highlight these issues for future research in the area. More specifically, future research in the area could employ more stringent definitional frameworks for the emotions concerned and build this into their study so as to enable a tighter scoring system that is not as dependent on rater knowledge.

The current study revealed that parents of children with autism report that their children express fewer self-conscious emotions than matched controls and do so in a more distinctive way. This claim needs empirical support using other methods and the following chapters in this thesis aim to provide such support. Another shortcoming of this study was that parents and caregivers of children with autism might, inadvertently, not recognize certain emotions in their children either because they do not expect to, or because they are present in a form that is extremely different to what one normally might be given to expect.

As parent reports suggest that children with autism express and perhaps experience self-conscious emotions in distinctive ways, the following chapters aim to examine a few of these emotions in a more detailed manner. The next few chapters therefore focus on the investigation of three self-conscious emotions, namely, pride, guilt and shame in children with autism. These self-conscious emotions were chosen with a view towards investigating a few self-conscious emotions in depth in children with autism, in an ethically permissible manner. It is hoped that this will then elucidate, in a more holistic and comprehensive manner, how children with autism, express, recognize and perhaps experience these emotions.
Chapter 3: An Interview Study of Pride, Guilt and Shame in

Children with Autism
3.1 Introduction

The previous chapter explored the functioning of children with autism in five domains of functioning: 'milestones', 'body-self', 'self-other relations', 'imitation', and 'emotions'. The aim was to provide a holistic picture of the self's functioning in relation to the other. Specific, theoretically driven predictions were made with regard to aspects of the interpersonal self that were expected to be spared and aspects expected to be impaired.

The results indicated that children with autism, when compared with a matched group of children without autism, had an unusual sense of their physical selves, were limited with regard to their ability to imitate and demonstrated abnormalities in social awareness and the expression of certain self-conscious emotions. Results also indicated that although children with autism were able to express 'basic emotions', they did so in ways that were unusual. The remarkable absence of certain self-conscious emotions from their emotional repertoire as well their seeming lack of awareness of others' emotional perspectives when in physical as well as psychological interaction with them, was suggested to be the consequence of what is thought to be a primary impairment in autism- a lack of intersubjective engagement. It was suggested that emotions, especially self-conscious emotions, provide a sense of coherence with regard to the development of the interpersonal self. Individuals who do not develop these emotions, or develop them in an idiosyncratic manner, such as individuals with autism, seem to be impaired with regard to developing those aspects of the self that are crucial with regard to engaging with another. However, the above statement remains speculative and a longitudinal analysis of the socio-emotional development in children with autism might help clarify it.

The present chapter is an extension of the previous chapter in so far as it uses the same method and participants. However, it focuses on the results obtained from the interview study, described in the previous chapter, for pride, guilt and shame. The remainder of this thesis will focus on three self-conscious emotions in children with autism: pride, guilt and shame. It seems appropriate therefore to present responses parents provided with regard to the expression of pride, guilt and shame in their children in a separate chapter, as they merit investigation in greater detail. This is hoped to provide a background to explore these three emotions further using other methods.
Before presenting the study, it seems necessary to provide a background to the development of pride, guilt and shame in typically developing children and children with autism.

**Pride**

Pride has been defined as a positive, self-conscious emotion, which is experienced when one achieves a socially valued outcome. Stipek (1995) is of the view that self-conscious emotions, like pride, develop through a process involving ‘social referencing’ (Campos and Stenberg, 1981). Social referencing in her opinion, aids the process of identifying and making explicit the social value of the outcomes of certain actions, as children often use caretaker’s emotional attitudes to shape their own emotional attitudes to the world. Thus, they eventually come to internalise important and sometimes emotionally laden cultural values and standards that they then evaluate their behaviour against.

In this regard, Stipek and her colleagues (Stipek, Recchia and McClintic, 1992), observed toddlers reactions to having produced an outcome in two contexts. In one context, they compared the reaction of 59 toddlers aged 13 to 39 months, to having produced an outcome themselves or having a researcher produce an outcome. The researcher showed each child a toy that had an unambiguous, visually salient purpose (for e.g., rolling a ball to knock down a plastic bowling pin or pounding a wooden ball with a hammer to make it go through a hole on the bench and roll out onto a platform). The researcher then gave the objects to the child and asked him/her to produce the desired effect. Children’s reactions to the goal being achieved by the researcher were compared to their reactions to achieving the goal themselves. The aim of observing the difference in the children’s reactions was that it might be informative with regard to behaviour associated with personal achievement. The results indicated that children in all age groups were no more likely to smile when they produced the outcome than when the researcher produced it, indicating that they might have experienced joy with the outcome itself as much as they experienced joy with a positive self-evaluation. The researchers found strong age effects with regard to a second behaviour- that of a child looking up at the researcher. Toddlers aged 22 to 39 months were more likely to look up at the researcher after they had produced the outcome themselves than after the researcher had produced it. The difference was especially strong for children over 2½ years: Whereas only 10% of the 30-39- month-old children looked up at the researcher after the
researcher had completed the task, 65% did so after they had completed the task on their own. This compares with 15% compared with 45% for the 22 to 29-month olds on the referencing task, which was statistically significant, and 22% compared to 30% of the 13 to 21-month-olds, which was not significant. The researchers interpreted this social referencing behaviour as being indicative of a desire for confirmation among the older children that they had achieved a goal and that they desired praise for this achievement. Hence this keen interest in other's reactions to one's behaviour might indicate that self-evaluation might have its roots in other's evaluation as has been hypothesised by Cooley (1902), Harter and Whitesell (1989) and Stipek, Recchia and McClintic (1992).

Toddler's reactions to their achievements have also been observed in a more naturalistic setting namely, a free-play situation with their mothers (Stipek, Recchia and McClintic, 1992). Eighty-six mother-toddler pairs were videotaped for 10 minutes while they played with a set of age-appropriate toys (e.g., puzzle blocks, drawing board, a shape-sorting cube) most of which provided opportunities for achievements. The mothers were instructed to play as naturally as possible with their children. Each child's emotional reaction was coded as it occurred within 3 seconds of the child producing an identifiable outcome. The mother's praise and whether the mother or the child defined the goal were also coded. The results indicated that there were no age differences in the proportion of toddlers who spontaneously expressed positive emotions, including smiling, exclaiming or clapping their hands. But like the above study, age differences were found with regard to social referencing. Nearly half of the 22-39-month-old children called their mother's attention to at least one achievement, whereas only 14% of the younger children did.

Thus, it seems, as indicated in both experimental and naturalistic settings, as children approach the age of 2, they begin to manifest an interest in other people's reactions to their achievements. The researchers also suggest that by the age of 2 years, the apparent anticipation of a positive adult response could be suggestive that these toddlers are able to reflect upon the implications their achievements might have on other's reactions. After the age of 2 years however, the researchers observe that, as a result of an internalization of cultural standards, children become less reliant on other's approval and more reliant on internalised standards when feeling proud.
Pride has also been examined in a different context. Pride about competitive success seems to emerge at about 3 to 3 1/2 years of age. In a series of studies (Heckhausen, 1981, 1984, 1987) children competed with a researcher in a ring-stacking task where the researcher controlled who won by modifying the speed with which she performed in competition with each child. She found that a minority of 2 1/2 -year-olds, but almost all 3 1/2 -year-olds, responded with pride after winning and shame after losing. Pride and shame reactions seemed to be a function of the child understanding who had come first in the task. In a similar study (Stipek, Recchia and McClintic, 1992), children completed a competitive ball-stacking task. These researchers found that by 2 1/2 to 3 years, children smiled when they won, but it was not until 3 1/2 years, that children showed an appreciation of the competitive aspect of the task by pausing, slowing down or stopping after the winner had completed his or her tower.

Pride in these various contexts, therefore, might have developed as an emotional reaction to the appraisal of another or as an emotional reaction to one’s internalised representation of what might be deemed praiseworthy in one’s culture. These comparisons with others could then eventually lead to the construction of a dimension of one’s personality. For example, Mascolo and Fischer (1995) provide the hypothetical example of a female student aged 10-12 years, who gets better grades than her friends and is also better at sports than them. Hence she concludes, on the basis of these comparisons, that she must be a ‘competent’ person. Hence self-conscious emotions could help in the formation of aspects of the self that derive from affective engagement.

To conclude, studies have reported that pride is felt when one has been responsible for a socially valued outcome or for being socially valuable in some way (Mascolo and Fischer, 1995; Barrett and Campos, 1987; Davitz, 1969; H. Heckhausen, 1984; Stipek, Recchia and McClintic, 1992). Behavioural manifestations include a ‘broad smile, erect posture, celebratory gestures or comments (such as hands raised in the air, applause and cheers), and comments that call attention to the self’s accomplishments (Mascolo and Fischer, 1995). Although there have been a number of studies investigating pride, there is still a lot of research needed with regard to its developmental, behavioural, subjective, cultural and neurological correlates.
Keeping this background in mind, the next section will explore the development of pride in children with autism.

Development of Pride in Children with Autism

Although studies have demonstrated that children with autism report experiencing pride just as frequently as typically developing children, these studies show that the experiences of these children are reported to be idiosyncratic in several ways. For example, Kasari, Sigman, Baumgartner and Stipek (1993) compared expressions of pride and mastery in samples of 30 preschool children with autism, 30 typically developing children and 30 learning disabled children. The learning disabled and autistic groups were individually matched on chronological and mental age and the typically developing children were individually matched with the children with autism on mental age. The paradigm used in the study involved children completing developmentally appropriate, commercially available, puzzles and both with and without praise. Children's behaviour was videotaped and rated for interest and engagement, positive affective responses (smiling, open body posture), social orientation (looking up, turning towards the adult, drawing attention to the task) and avoidance (looking down, looking away, closed body). Results indicated that compared to other children, although as many autistic children smiled when they completed the task, many fewer looked up to share their pleasure with their parent or the researcher. Also, significantly more children with autism showed avoidant responses particularly in response to praise. The researchers concluded that preschool aged children with autism had not developed self-reflective, socially-mediated pride.

Another study however, showed an under-developed understanding of pride even in older, high functioning children with autism (Kasari, Paparella & Bauminger, 1999; cited in Kasari, Chamberlain and Bauminger, 2001). In this study, typically developing children and children with autism aged 8 to 14 years were asked to provide an example of a time they had felt pride and asked to estimate how frequently they had felt this emotion in the past two weeks. Additionally they were presented with pride-eliciting situations and asked to identify the emotion involved in these situations. In these situations, they were also asked to estimate the degree of pride a main character would feel in various situations that involved varying degrees of assistance received when completing tasks. The reasoning
behind this was that pride would vary in relation to the amount of assistance received, where the greater the independence, the greater the pride. Results indicated that although children with autism reported feeling proud as frequently as typically developing children, they were more likely to provide examples of pride that were more general and less personal. For example, a child with autism was reported to have said ‘I felt proud when I got an A’ while a typically developing child said ‘when I got an A on a really difficult algebra test in Mr. Graham’s class’. Children with autism were also less likely to refer to the presence of an audience in their examples of pride and were more likely to give examples that were external and uncontrollable such as ‘I was proud because my dad was tall’. They were also found to refer to pride less often when shown illustrated pictures of situations designed to elicit pride although their answers reflected that they might have felt happiness or an emotion that reflected the same ‘hedonic tone’. In response to vignettes that described the success of children in situations where they received varying degrees of help, children with autism more often attributed main characters with similar levels of pride regardless of the amount of help received while typically developing children took into account help received and were more likely to respond with a greater degree of pride to situations involving greater independence.

Another study by Capps, Yirimiya, and Sigman, (1992), reported that with regard to pride, autistic children’s responses centred around themes that included finishing one’s homework and winning games. It was found that 23% of autistic children recounted the same experience for pride and happiness, while this was never the case among the comparison children. They also found that children with autism took longer to recall an example of pride and again, their answers were general and non specific. The authors suggested that children with autism took longer to recall a pride-eliciting situation due to the increased cognitive workload reflecting a learned association rather than a subjective experience of pride.

Thus, children with autism seem to report their experience of pride in a manner that suggests they may have come to experience this emotion in manner that is different from typically developing children. They seem to have had to learn to recognise and express these emotions, as reflected in their more generalised, less personal examples as well as the longer reaction time involved in recalling pride-inducing situations.
The following section will examine guilt in typically developing children and children with autism. It will consider literature that investigates whether a similar response pattern is found in children with autism with regards to their experience of guilt, as was reported in the case of pride.

**Development of Guilt in Typically Developing Children**

Hoffman (1982) has argued that guilt is based in empathic distress. Essentially it is an affective response to another's suffering. Empirical studies have shown guilt to occur mainly in an interpersonal context (Tangney 1992; Tangney, Marschall, Rosenberg, Barlow and Wagner, 1993; cited in Tangney and Fischer, 1995) and in the context of close, intimate relationships (Tangney, 1995).

Longitudinal studies have explored early pro-social and reparative behaviours that might be reflective of early guilt (Zahn-Waxler and Radke-Yarrow, 1982; Zahn-Waxler, Radke-Yarrow, Wagner and Chapman, 1992). These researchers conducted two studies where trained mothers observed the following patterns in their 1-2-year-old children. 1) Their responses to naturally occurring distress that they caused or witnessed as bystanders and 2) distress simulated by mothers and researchers. They found that by one year of age, most children provided physical comfort to another in distress by hugging, patting or tender touching whether or not they had been instrumental in causing that distress. This might be due to the fact that they needed comfort as much as the person being comforted, lending validity to Hoffman's claim that guilt has its origins in empathic distress. The researchers noted that between the ages of one and two, most children also begin to show other forms of pro-social and reparative behaviours such as helping, sharing, sympathising and comforting victims. Children's reactions on behalf of others in distress also seemed to increase with age in both naturally occurring and simulated distress conditions, especially between 1 ½ and 2 years of age. However these increases in pro-social and reparative behaviours seemed to occur in conjunction with corresponding decreases in strong emotional arousal, particularly personal distress. Hence more modulated emotional expressions of concern increased in frequency over time as did an intellectual exploration of the distress caused. The researchers observed that the more modulated expressions of concern included sad or sympathetic facial expressions, tender statements or cooing and vocalisations that employed a soothing tone. The intellectual exploration of the distress included 'complex visual search patterns' accompanied by verbal
queries and statements such as ‘hurt foot?’ or ‘what’s wrong?’. The researchers are of the view that these early expressions of emotional concern might reflect early signs of empathy and guilt. The intellectual exploration, according to the researchers, might be an attempt to comprehend the circumstances of other and take their perspective.

The results obtained in the above studies were partially replicated in another longitudinal twin study of monozygotic and dizygotic twins (Zahn-Waxler, Robinson and Emde, 1992). The twins were seen at 14, 20 and 24 months. The researchers observed responses to simulations of distress. The results showed that at 14 and 20 months, pro-social behaviours were low in frequency and did not increase over this time period. However, affective expressions of empathic concern and intellectual explorations of distress did show increases with age reflecting the pattern of results found in the previous study. The authors also examined the connection between guilt and other negative emotions in this study and found that the negative emotion most consistently correlated with guilt was sadness. Guilt was not strongly correlated with fear, perhaps again indicating again that the origins of guilt lie in empathic distress.

In this respect, another negatively valenced emotion, namely shame, needs to be distinguished from guilt as it might be confused with it. Shame and guilt have been grouped together as ‘moral emotions’ (Tangney, 1995). However, H.B. Lewis has distinguished these two emotions in her book, *Shame and Guilt in Neurosis* (Lewis, 1971). She distinguishes them by referring to the differing role that the self plays in these two emotions. According to Lewis, ‘the experience of shame is directly about the self, which is the focus of evaluation. In guilt, the self is not the central object of negative evaluation, but rather the thing done or undone is the focus. In guilt, the self is negatively evaluated in connection with something but is not itself the focus of the experience’ (pp30). Tangney (1995), in a similar vein, argues that a prototypical shame experience involves the self, as a person, as one’s primary concern while a prototypical guilt experience involves a particular behaviour as the self’s primary concern. This distinction has been supported empirically in several studies (e.g. Ferguson and Stegge, 1995; Tangney, Miller and Flicker, 1992; cited in Tangney and Fischer 1995; Ferguson, Stegge and Damhuis, 1990, 1991). Tangney (1995) also argues that studies have shown that while shame often motivates an avoidance response i.e. people feeling shame have often reported wanting to disappear or flee from a
shame inducing situation, guilt is more likely to keep people engaged in a constructive manner within an interpersonal context. Hence guilt seems to motivate corrective, reparative action.

To summarise, feelings and behaviour, reflecting concern for others and personal responsibility seem to emerge and increase in frequency during the second year of life (Zahn-Waxler and Robinson, 1995). A number of studies have shown that guilt has its origins in empathic distress and normally occurs within interpersonal situations. It has been distinguished from shame with regard to the role the self plays in both these emotions where, with regard to guilt, the behaviour that the self was involved in rather than the self itself is of primary concern.

In addition to empirical research on guilt, autobiographical narratives have been employed to investigate it. The reason this method has been employed is because a number of experimental studies of guilt lack ecological validity. This is because for ethical reasons, they mainly study accidental transgressions rather than intentional transgressions. Autobiographical narratives rely on people narrating significant stories from their own lives that pertain to a theme chosen by the researcher. These studies are then coded for content on several dimensions thought to be relevant to the hypothesis being investigated (Baumeister, Stillwell and Heatherton, 1995). Although this method has some limitations with regards to control and homogeneity, some researchers believe that it has several benefits including external validity and a capacity to investigate issues that resist investigation in a controlled laboratory situation (Baumeister, Stillwell and Heatherton, 1995).

By studying autobiographical narratives related by upper-level college students, Baumeister, Stillwell and Heatherton (1995) investigated the functions served by guilt. They posit that guilt has three interpersonal functions. Firstly, it serves to strengthen relationships by stimulating relationship-enhancing patterns of behaviour, as it causes changes in behaviour to accommodate for important social attachments and also because it functions as a form of pressure that makes one pay positive attention to one's partner.

Second, guilt also functions as an influence technique whereby people make use of others' capacity for guilt in order to get their own way. Third, guilt serves to redistribute emotional distress between
partners by transferring negative affect from the victim to the transgressor. Guilt seems to serve the purpose of strengthening and maintaining close relationships in normally developing individuals. Thus these findings demonstrate the manner in which guilt is used to manage interpersonal relationships. They emphasise the role of guilt in the process of development of aspects of the self that derive from and are used to strengthen social relatedness.

How guilt develops in contexts outside of typical development is explored in the next section with reference to the development of guilt in children with autism.

*Development of Guilt in Children with Autism*

Hoffman (1982), as noted earlier, argued that guilt is based in empathic distress as it is essentially an affective response to another’s suffering. Chapter 1 reported studies exploring empathy in children with autism. These studies focused on responses to discomfort in others (Sigman, Kasari, Kwon & Yirmiya, 1992) and in high functioning school age children, these studies focused on how a main character felt after viewing scenes designed to elicit empathic responses (Yirmiya, Sigman, Kasari & Mundy, 1992). Both studies revealed that children with autism showed fewer behavioural signs of empathy than typically developing children. They also took longer to respond and used more ‘I think’ terms in responding to an emotion (Capps, Yirimia, and Sigman, 1992). The authors speculated that empathic responses, like pride responses, might involve a learned response which involves a higher cognitive work load in children with autism.

Similarly, Kasari, Chamberlain and Bauminger (2000) showed that children with autism have difficulty experiencing guilt in interpersonal, empathic terms. In a study of mental age and IQ matched samples of high functioning typically developing children and children with autism, these researchers asked the children to provide personal examples of guilt. The examples provided were subsequently coded for several elements including specificity, locus of control, type of harm caused and social script elements. Compared with typically developing children, children with autism had more difficulty providing an example of guilt than typically developing children, although they reported feeling guilt with the same frequency. Children with autism also provided fewer self-evaluative statements and were more likely to
describe situations of rule breaking, disruptiveness and property damage and less likely to report feeling guilt over causing physical or emotional harm to others. Hence the researchers concluded that for children with autism, guilt appeared to be defined in terms of memorizable rules and action towards things such as taking toys from school, stealing cookies, running away etc., rather than in interpersonal, empathic terms. In addition, while typically developing children were more concerned about hurting other people’s feelings or about trying shift their guilt onto others (lying, leaving their friend out of a game, blaming a brother for a broken window), children with autism did not provide any such examples of blaming others for one’s own transgressions, a result perhaps of not sensing the effects their actions had on others.

3.2 Method

To summarise the account from the previous chapter:

Participants

Parents of ten children with autism and ten children with learning disabilities but without autism took part. Parents were on average female, white, middle class mothers, ranging in age from 32 years to 51 years. The parent groups were matched on their children’s chronological age and verbal and non verbal abilities.

Sample of children with autism

The children with autism were in a special school for autism. They ranged in age from seven to twelve years. Their initial diagnosis was confirmed using the Childhood Autism Rating Scale and an autism checklist derived from the Diagnostic and Statistical Manual 4th Edition (DSM IV-American Psychological Association, 1994). The information obtained was provided using personal interviews with teachers. The mean CARS score of children with autism ranged from 30-38.
Sample of children with learning disabilities

The children with learning disabilities similarly, were from a special school for children with learning disabilities. The children ranged in age from five to twelve years.

The groups were individually matched for chronological and verbal mental age. To obtain verbal mental age, both groups were given the British Picture Vocabulary Scale. The verbal mental age of children with autism was six years and two months and the verbal mental age of matched controls was six years and six months.

Method

The aim of the study was to investigate the ways in which parents reported that their children expressed pride, guilt and shame.

The interview, as described in the previous chapter, took the form of a guided conversation between the parent and the interviewer, the home of the parent being interviewed.

The parents were asked to provide instances in which they had observed their child expressing the emotions of pride, guilt and shame. They were asked to provide as many examples as possible of these situations. So, for example, in the case of guilt, parents were asked "Do you think your child feels guilty? What sort of situations do you think make your child feel guilty?" and were asked to elaborate with examples.

All responses were audio-taped and later transcribed for rating.
3.3 Predictions and Scoring

Predictions

It was predicted that children with autism, when compared to matched controls without autism, would show less indication of experiencing fully developed feelings for important others: the feelings explored were pride, guilt and shame.

Scoring

Raters

Answers to questions were rated by two raters. The author of this Ph.D. was the primary rater. The second rater was blind to the aims of the study as well as the diagnostic classification of the participants as transcripts were coded and did not contain the name or group membership—(i.e. autistic or learning disabled)—of the participant concerned. The second rater rated 40% of the transcripts and inter-rater reliabilities were estimated on this basis.

Rating of pride, guilt and shame

'Presence /Absence' Rating

The raters had to rate each response with regard to the presence or absence of the emotion concerned. This was rated in the same way as the self-conscious emotions domains in the previous chapter where the rater was asked to rate each response. Thus in the first instance, responses were analysed as either not being indicative of the presence of an emotion or being clearly indicative of the presence of an emotion. A second analysis was then introduced. Here, each question was rated as a whole from 0-2. In this regard 0 indicated that an emotion was not manifested, 1 indicated that an emotion was possibly expressed and 2 indicated that an emotion was clearly shown by the child. Thus responses rated as 'emotion absent' in the first instance included responses scored as 0. Responses rated as being 'emotion present' in the first instance included responses scored as 1 and 2. Reliability was obtained using ratings from the second analysis.
A qualitative analysis of the results was conducted in order to describe unusual ways in which children were reported to express these emotions.

### 3.4 Results

#### Inter rater reliability

Inter rater reliability for pride = 0.89; guilt = 0.94 and shame = 0.65. Hence reliabilities ranged from substantial for shame to almost perfect for guilt and pride.

#### Presence / Absence of Pride, Guilt and Shame

The following table provide the numbers of children in each group who were reported as expressing as well as not expressing pride, guilt and shame.

**Pride**

With regard to pride, seven children with autism were reported to express pride compared to every one of the matched control children that did. This difference was not significant.

**Table 3.1: Presence/Absence of Pride**

<table>
<thead>
<tr>
<th></th>
<th>Absent</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Autism</strong></td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td><strong>LD</strong></td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

*Fisher's Test: ns*
Table 3.1(a): Presence/Absence of Pride (category 2: distribution of scores)

This table elaborates upon the results presented in the previous table. Here, one can see that while raters judged pride to be possibly present in five out of ten children with autism, it was judged to be clearly present in nine out of ten children with learning disabilities.

<table>
<thead>
<tr>
<th>Emotion not present</th>
<th>emotion possibly present</th>
<th>emotion clearly present</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Autism</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>LD</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Guilt

With regard to guilt, one can see that while a large majority of children with autism expressed no guilt, only a single child with learning disabilities did not express this emotion.

Table 3.2: Presence/Absence of Guilt

<table>
<thead>
<tr>
<th></th>
<th>Absent</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>LD</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>

Fishers Exact Test (two-tailed), $P = 0.005$

Table 3.2(a): Presence/Absence of Guilt (category 2: distribution of scores)

This table elaborates upon the results presented in the previous table.

<table>
<thead>
<tr>
<th>Emotion not present</th>
<th>emotion possibly present</th>
<th>emotion clearly present</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Autism</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>LD</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
Shame

With regard to shame, one can see that while seven children with autism expressed no shame, all matched, non-autistic children expressed this emotion.

Table 3.3: Presence/ Absence of Shame

<table>
<thead>
<tr>
<th></th>
<th>absent</th>
<th>present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>LD</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

*Fishers Exact Test (two-tailed), P= 0.003*

Table 3.3(a): Presence/ Absence of Shame (category 2: distribution of scores)

This table elaborates upon the results presented in the previous table.

<table>
<thead>
<tr>
<th></th>
<th>Emotion not present</th>
<th>emotion possibly present</th>
<th>emotion clearly present</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Autism</strong></td>
<td>7</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td><strong>LD</strong></td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>

The histogram below presents the number of children judged to have categorically expressed pride, guilt and shame.
3.41 Results- Parent Transcripts

This section will list parent transcripts in order to provide an in depth description of the responses of three parents for pride, guilt and shame. The rest of the responses are provided in the appendix. This has been done with the aim of providing one with a flavour for the way in which groups manifested pride, guilt and shame as well as the differences in the way they did so.

The alphabet at the start of each transcript is the code given to each participant. Some transcripts contain a conversation between the researcher and the parent. The researcher is coded G.

Transcripts

Autism

G

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?
'Yeah, he won a swimming badge, his first swimming badge last week, and he was very proud of himself. I'd like him to be a bit more proud of his appearance, I suppose that will come eventually, it's probably just when they're teenagers they start caring about how they look. Sometimes he will be (proud) with somebody that he really likes. He had this friend that's gone to Canada and he could kind of do-no-wrong and he was brilliant at everything and he'd comment on everything that he'd done, yeah. Maybe what X feels, is he feels happy for someone who's doing something well, but I don't know whether I'd say it was pride. It's probably not pride. Probably just warm happy feeling for a friend, or for anybody.'

_Shame:_ What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'Off the top of my head, no. Other people might feel ashamed for him, but think he should be feeling ashamed, but no. definitely not. Not even with awful, horrible gross things.'

_Guilt:_ Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

'I can't imagine X feeling too much time feeling guilty about anything, no.'

_Pride:_ What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

'Yeah, he's achieved ...he gets certificates at school and if he's well behaved he gets a leaf, so he's quite chuffed if he's got a leaf 'cause he's been good and he'll pin it up on the board. So yeah. When he comes in he opens his bag from school and is quite pleased with a big smile on his face. It's exuberant and it's quite matter of fact, "oh, look what I've got, I've been a good boy today" and that's it, whereas L (sibling) will make a big song and dance. Sometimes he'll come home with a certificate and he won't
come home and say, oh I’ve got a certificate, it will be like, like I’ll see it and say, you’ve got a certificate, that’s really good. And then it will be he’s pleased with himself. But he does not seem to have any sense of, this might be something I can tell mum and please her, it’s always a response to my interest.’

**Shame:** What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

‘No’

**Guilt:** Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

‘Yes, I think that’s about the worst. I don’t think it’s a case of feeling guilty, I think it’s just a case of “don’t tell so-and-so”. We’ve had full blown tantrums in Debenhams’, he’s lying on the floor kicking in the middle of the walkway where customers are walking through and no reaction to the fact that people are looking at him, and the shame that his parents may have felt ’cause the whole world was looking at them, no.’

D

**Pride:** What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

‘Yeah, I think he… “Look what I’ve done” yeah, I think I’ve heard that a few times, he’s brought a few things home, not loads and loads, “look what I’ve done mum!” and I’ve looked at it, and it is quite good, I do encourage that and I say “oh, that’s brilliant, I could never do that at your age, all using colours all that texture of whatever” only very selective things he does, and I think he has to really think it’s good to bring it home, to even do that. but I think it’s happiness rather than pride.’
Shame: What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'Yes, when he’s done something wrong, he’ll hide that fact and he says “you’re going to shout at me, you’re going to shout at me” and I say ...it was a couple of weeks ago, and I heard screaming and shouting and crying and all of a sudden he come running down the stairs and there was complete silence, and he was sort of standing there saying “you’re going to shout at me, you’re going to tell me off” and I said “why? why” and I said, “where’s N (sibling)? I can’t hear her running down after you?” I was getting really worried, I thought something had happened like he’d killed her and he goes “no, no” and what he’d done was sort of, broke something... He feels the wrath, if there’s any, so he’s aware that if he’s done something, and there is going to be punishment linked to it. I think he’s more scared of the consequences than the actual doing the damage, that’s what I think. He’s become quite aware, if something gets broken, people are going to get upset about it. I mean, I had loads of fish down there, they’re all smashed, because he keeps on putting his foot there, the first one I was quite angry but in the end, I, sort of, moved everything out of there, then I moved everything out the way now, so that’s the way it is really.'

Guilt: Do you think your child feels guilty? What sort of situations do you think make your child feel guilty?

‘He’s more scared of if he’s going to be shouted at, yeah, he’s not bothered about the actual object.
‘He’s scared about himself, yeah.’

G: ‘I mean, even with your daughter, it’s probably evident if she feels guilty, you know, she might not be scared, she might just be feeling guilty, she might not be scared of what you’re going to say to her.’

D: ‘Yeah, it would be different, if she’d sort of, if she’d actually broken something that I’m quite fond of, she’d feel sort of deeply sad about that and wish she could probably turn the clock back, like most people would, my son, he wouldn’t. It’d probably be for a few hours, and then it’d be pushed to the back of his mind. But, with my daughter, no, it would be different. Like my birthday, none of them
bought me anything, I didn’t get a birthday card of anything, right which I’m not bothered anyway, I
never tell anyone my birthday, at a certain age you don’t tell people your birthday, and she carried that
around with her and she actually bought me a present on Saturday, you know, and I said “I don’t want
anything, I don’t need anything, I’ve got everything I want” but she must have felt some sort of guilt,
and I sort of never got a card, never got this. And she carried that with her, and she bought me a
present, you see. My son, no, that doesn’t matter, you see.’

Learning Disabled

G

Pride: What kind of situations engender this feeling in your child? What sort of things is your child
proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

‘Oh yes. That she gets a merit at school. If she’s done well at school, spelling. She does get quite
frustrated at spelling, they’re getting a lot harder now and if she comes home and I go ‘how did you do
with your spellings?’ she says ‘Oh I got 10 out of 10’ and then she is really proud of herself.’

Shame: What, if anything, in your opinion would make your child ashamed? Having been mean or rude
to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social
situation?

‘Yes. When she’s done something wrong. That’s when I know she’s done something wrong, because I
can see it in her. I just know, the look on her face and perhaps the way she behaves. But she does tell
me, if she has done anything wrong, she will tell me, you know. She says she’s sorry. Like things that
happen at school, she’ll come over and tell me and I’ll say ‘well, what did you do’ and she says ‘I was
sorry mum’. Yeah, I can tell by looking at her she’s ashamed.’

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel
guilty?
'I only have to look at her and she laughs, she's guilty.'

B

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

'Yeah, he's recently been a bit different about that, but up until about 6 months ago you could say "X, that's a wonderful picture", he did that "HOME SWEET HOME" embroidery, and you know, it was just lovely and then he just threw it on the floor and broke it. It's almost like he can't take too much praise, he can be proud to a certain level and then he goes funny about it, gets angry if you say it too much. That's manifested itself recently, if I said "that's wonderful X" "That was great reading" you know, sometimes he'll say "no it wasn't, it was horrible, I'm stupid" and be really angry at me for saying that, and I don't know where that's come from, it's only been very recently he's been like that. (with teacher's praise) he's tickled pink, you know if he gets a star, he's absolutely thrilled by that. So yes, he's certainly proud but recently it is also mixed with embarrassment...or perhaps he feels we don't mean it.'

Shame: What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'He does. I knows it as shame, but it usually doesn't come out like that, it usually comes out as him being really angry and kicking something, kicking me and saying he hates everybody in the whole world and he is ashamed, yes, he does show shame a lot. He bit his younger sister the other day, and you know, he was really ashamed that he did that. Things that have been pretty bad, he's really quite ashamed about and he'll show it.'

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

99
"There's been a couple of times when he'll...something horrendous has happened and I've had them all lined up and said "now, you're all going to stay there until somebody says who did it" which I very seldom do, and they stood there for about 10 minutes...I was really upset about something, and finally X said that he had done it, and I wondered for a minute if he'd said he had done it just to take the blame to diffuse the situation, but he had actually done it. So I suppose you could say he felt guilty enough to confess since he knew otherwise everyone else would have been punished.'

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

'Oh yeah. When he comes home, he has his spelling in his book bag and he can't hold a pencil but as all the other children come home with a spelling list on Monday, he won't let me take that from him—but that's not a possessive thing, that's a proud thing. When he gets home he sits down and does zig zag lines under all the words. He shows that to me- I think he learned that from his older brother and sister.'

Shame: What, if anything, in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'It's coming more this year- the sorry- this is the sign for sorry. He continually -when he started liking chocolate I used to ignore the fact that he used to steal my cooking chocolate from the cupboard because it was quite delightful that at long last he had a passion for food. I kept shouting at my 15 year old, leave my cooking chocolate alone. This was in front of the whole family and my older son kept saying it's not me. One morning I came down stairs and X quickly was putting the chair back under the table. I then noticed that the kitchen cupboard was open slightly and he wouldn't look at me and he had his back to me -and I said have you been in my cupboard- no. yes you have, I said turn around, have you stolen my chocolate. He turned around and the chocolate was all around his face. And I said to him
have you been eating my chocolate? No- so I was making him lie. He then pointed up and he said
"Ack" and my eldest son is called J and I said it's not J, it's you, you liar and then you'd see the shame
because I got the mirror and showed him his face. I marched him up the stairs and I was delighted
really I was putting on my anger because this is a step forward in his development- the fact that he's
lying. And the fact that all those weeks he'd let me shout at my oldest son. I took him to my oldest son
and I said Jack I found X stealing the chocolate. X was trying to hide behind me and then he ran over to
his brother in bed and said sorry. That was a real leap forward for me so there have been times when
he's felt shame and embarrassment and guilt.'

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel
guilty?
See above

3.5 Discussion

The current study revealed that parents of children with autism report that their children express guilt
and shame less frequently than non-autistic children, and do so in a more distinctive way.

Pride

With regard to pride, children with autism were reported to express pride just as frequently as non-
autistic children but were reported to do so in a more restricted range of situations and in a more
formulaic manner than these children. A number of parents reported that their child reacted to being
praised about their achievements rather than spontaneously talking about achievements they felt proud
about. A number of parents also reported that their children with autism felt happy rather than proud.
When they did express pride, a number of children with autism were reported to have felt proud mainly
due to a scholastic achievement. Broadly speaking, pride seemed to be expressed in a circumscribed set
of situations, and in a manner that seemed to be less personalised than that expressed by learning
disabled children.
Learning disabled children seemed to express pride in a variety of different situations and a few parents reported that their child was proud of other people and their achievements in addition to their own. The pride expressed by these children seemed to be more relational than children with autism and there was a sense of evaluating one's achievements in a broader social context rather than feeling happy.

To summarise, the pride expressed by children with autism, as reported by their parents, seemed more circumscribed than the descriptions of pride provided by parents of children with learning disabilities. However, as significant differences were not obtained between groups, further investigations need to be conducted to examine whether there is clearer evidence to suggest that children with autism experience this emotions differently to children with leaning disabilities.

Guilt

With regard to guilt, there were two children with autism who were reported to express this emotion. Most parents of children with autism felt that guilt was an exceptional emotion for their child to feel. The two children with autism who were reported to have expressed guilt did so in a very circumscribed way. One of the children expressed guilt in the context of fighting with a younger sibling, and the other in the context of not washing up dishes for his mother. In these two situations, the mothers reported that their children might have felt guilty as a result of a fear of the consequences of their actions rather than because they had upset someone else.

Parents of learning disabled children however reported that their children expressed guilt in a variety of different situations. A theme running through a number of their descriptions was the fact that these children felt guilt in the context of interpersonal relationships. The emphasis seemed to be on the harm caused to another individual rather than just a fear of the repercussions of their actions.

Thus, according to parent reports, guilt, when expressed by children with autism seemed to be primarily motivated by a fear of the repercussions of their actions rather than the potential harm their actions might cause to another person. Again, guilt seemed to be expressed almost as fear rather than
guilt expressed in the context of a broader social and moral environment. The guilt expressed was thus less relational in children with autism than children with learning disabilities.

Shame

Similarly, with regard to shame, seven out of ten parents of children with autism reported that this might be an exceptional thing for their children to experience.

As with guilt, learning disabled children seemed to express shame interpersonally. Parent reports suggested that when shame was expressed in these children, it was always expressed in relation to having harmed or hurt another either physically or psychologically and the emotional reaction that occurred as a result of this seemed to be a more intense one than guilt. Thus the range of situations in which these children expressed shame was wider in scope than children with autism. The intensity of the emotion expressed seemed different from parent reports of guilt, as parent reports of shame in children with learning disabilities seemed to suggest that these children expressed shame in a way that demonstrated the involvement of the self rather than merely the self’s actions.

Of the three children with autism who did express shame, one parent reported that her daughter expressed shame very intensely in the context of being told off. This child did not seem to discriminate between negative situations, but rather reacted to all of them similarly by saying she hated herself and wanted to punish herself. Another child seemed to display shame typically, although it was not clear from the parent report whether the child felt shame or fear as the parent reported that the child seemed to get a ‘frightened’ look when she had done something wrong. The third child was reported to feel shame only in the context of messing in the toilet and even here, whether the child felt shame was a little ambiguous as the parent reported that the child felt ‘chastened’ when this happened.
Conclusions

With regard to guilt and shame one can see that children with autism express these emotions less frequently than children with learning disabilities. When they do express pride, guilt and shame, they do so in a less interpersonal way than non-autistic children. Their expressions seem to be more scripted in the sense of perhaps being learned in some way than children without autism, as has been found with other self-conscious emotions described in the previous chapter. However, further evidence is needed to substantiate these claims.

This study has the same methodological limitations as the previous study, in particular that parent reports might be subject to unconscious falsification, memory failures and lack of insight. In addition, here again one needs to be cautious while generalising these results to the autistic population as a whole for reasons of small sample size and rater judgements being subject to bias despite substantial inter-rater reliability having been obtained.
Chapter 4: A Study Investigating the Recognition of Self-Conscious Emotions by Children with Autism
4.1 Introduction

**Aims and hypothesis of the study**

The previous chapters investigated the performance of children with autism and a control group of children without autism, with regard to their interpersonal and emotional functioning using an interview format. The results demonstrated that, according to parents, children with autism, when compared to the control group without autism, had limitations in their ability to express self-conscious emotions such as guilt, shame, embarrassment and showing off. They also indicated that children with autism very often expressed these self-conscious emotions as well as other such as pride, jealousy, envy and coyness only in a circumscribed set of situations and sometimes in an idiosyncratic manner. Parent reports indicated that basic emotions such as happiness, unhappiness, anger, fear, surprise and disgust were expressed by these children in an unusual manner that seemed to reflect a lack of awareness of the social situations in which they expressed them.

Therefore in a number of domains investigated in the previous chapters (body-self, self in relation to another, and imitation), children with autism, when compared to non-autistic children matched on chronological and verbal mental age, had impairments with those aspects of the self that appear to develop through a process of social interaction. It was hypothesised that the absence of a number of self-conscious emotions from their emotional repertoire as well their seeming lack of awareness of others’ emotional perspectives when in physical as well as psychological interaction, seemed to derive from what some consider being a fundamental impairment in autism- a lack of intersubjective engagement.

The hypothesis of this study is that children with autism, when compared to non-autistic children matched on chronological and verbal mental age, are impaired in their ability to recognise and express self-conscious emotions. The aim of the current study is to investigate whether adolescents with autism recognise pride, guilt and shame. Before proceeding to describe the method used to investigate the recognition of pride, guilt and shame, it seems appropriate to provide an introduction to literature in the area.
4.2 Self- Conscious Emotions- An Introduction

This section is primarily concerned with examining self-conscious emotions in the context of autism. However, understanding the nature and pervasiveness of the affective impairment in children with autism necessitates an exploration of the development of affective engagement in typically developing children with a special emphasis on the development of self-conscious emotions. This is because understanding the development of emotional behaviour in typically developing children serves to elucidate the possible affective impairments present in children with autism. Hence this area will be considered before presenting the literature on self-conscious emotions in the context of autism.

Emotional development in typically developing children

From birth, infants show a differential pattern of interaction with objects and people. This has been demonstrated in a variety of different ways as will be elucidated below. These studies give weight to the view that infants are innately programmed to engage emotionally with people in their environment. This innate capability then leads to the ability to develop aspects of the self that are involved in forming meaningful relationships with people in one's environment.

Brazelton et al., (1974) for example, observed how from as early as four weeks of age, the quality of infants' interaction with their mothers (and their mother's faces) was different from their reaction to non-personal objects. These researchers studied the interaction of five infants with their mothers. While the infants showed a constant cycle of attention followed by withdrawal of attention towards their mothers as each partner approached and then withdrew and waited for a response, they reacted towards a non personal object, in this case a furry monkey suspended on a wire, with a fixed stare. Their reaction to their mothers was also often accompanied by vocalizations and smiles.

An indication that older infants are aware of the emotional attitude of people in their environment comes from studies of social referencing. Social referencing refers to the ability of infants to obtain emotionally relevant information from people in their environment during times of uncertainty. Sorce, Emde, Klinnert and Campos (1981) demonstrated this by revealing that infants as young as 15 months
were influenced to cross over to the deep side of a visual cliff depending on their mother's facial expression. The 'visual cliff' is a structure made out of clear, hard glass. It is divided into two sides. One side, the shallow side, has a chequered pattern close to and under the surface. On the other side, the chequered pattern is placed some distance under the surface to create an illusion of a drop off. The study revealed that when the infant and mother were placed on either side of the cliff, the mother's expression was important in determining whether the infants did or did not cross over the deep side of the cliff. If the mother smiled, most infants crossed over this side. If the mother showed fear, none of the infants crossed over the deep side. Thus, this study demonstrates the role of affect in the social regulation of behaviour.

Sorce and Emde (1981) also showed the facilitating effect of mothers' emotional signals on infants' exploratory behaviour, in that infants demonstrated a definite preference for emotionally responsive mothers in situations of uncertainty. Fifteen- month-olds were placed in a playroom and presented with four successive situations designed to produce uncertainty in them. The results showed that infants whose mothers were 'available' to respond to their bids showed more exploration and more pleasure than did infants whose mothers were reading a magazine. Infants with emotionally responsive mothers moved farther away from her but also made more bids for her attention.

The above studies indicate that infants show a strong propensity to engage emotionally with others in their environment. They also demonstrate that infants begin to acquire knowledge of the self through an engagement with others. The social-referencing studies demonstrate how certain social rules and norms could be learned through affective means and these affect-laden messages could then be assimilated to evaluate the self and the self's actions vis-à-vis others in one's environment. Thus self-reflective awareness could have its roots in engagement with another. Self-conscious emotions could then be seen to develop against this background of being able to reflect upon one's own attitudes to others thoughts and feelings about oneself. The 'other' in this case could be another person or the encapsulated attitude of a group of people transmitted through cultural norms. In the light of this, the literature on the development of self-conscious emotions in typically developing children is presented below.
Development of self-conscious emotions in typically developing children

According to Tangney and Fischer (1995), although all emotions can be social, self-conscious emotions are particularly social in that they are founded in social relationships. These authors are of the view that emotions such as shame, guilt, pride and embarrassment originate in social relationships in which people not only interact but evaluate and judge themselves and each other. Self-conscious emotions are built on reciprocal evaluation and judgement. For example, people are ashamed or guilty because they establish that someone (self and/or other) is making a negative judgement about some activity or characteristic of theirs. Hence self-conscious emotions involve one being conscious of oneself as well as being conscious of one’s thoughts and feelings about others’ opinions and judgements of oneself.

According to Lewis (2000), primary emotions emerge within the first six months of life. One sees joy emerging at three months when infants show happiness in relation to familiar faces and events. Sadness also emerges at this stage and is demonstrated, for example, when interactions between mother and child are disrupted. Disgust is seen as well in relation to the rejection of unpleasant-tasting substances. Anger seems to emerge between four and six months, sometimes in the context of frustration (having ones arms pinned down and being prevented from moving). Fear seems to emerge at seven or eight months in the context of discrepant or unfamiliar faces. According to Lewis, the late emergence of fear is due to the child having to first be able to compare the event that causes the fear with some other event. Hence until an ability to compare emerges, children will not be able to show fearfulness. Surprise is also demonstrated in the first six months in relation to a violation of an expected event.

According to Lewis, in order for children to develop self-conscious emotions, they need to be able to be objectively self-aware. Objective self-awareness is said to emerge in the second half of the second year. This allows one to develop a capacity for self-evaluation. This self-evaluative capacity allows us to evaluate our behaviour vis-à-vis a set of culturally transmitted standards, rules and goals. Lewis goes on to say that one can attribute success or failure to oneself based on ones’ evaluation of ones’ own behaviour relative to ones’ knowledge of these standards, rules and goals. Hence, according to Lewis, shame is based on an individual making a global attribution of failure about him/her self in relation to
his/her interpretation of society's standards rules and goals. This internal, global attribution is phenomenologically experienced as a desire to hide or disappear and behaviourally manifests itself as an inability to speak and a disruption of ongoing activity.

Pride on the other hand, involves an evaluation of a specific action as having been successful. Phenomenologically it involves joy over something in which one has succeeded. Guilt, like pride, involves the evaluation of a specific action. However, the individual's behaviour is evaluated as a failure which then produces a phenomenological experience of sadness over the action but it is accompanied by a need to undertake some reparative action in order to alleviate the negative emotional experience. Hence guilt and shame differ, according to Lewis, in their attribution of failure to the whole self (in the case of shame) and to the specific negative action (in the case of guilt). Embarrassment in a sense is a milder form of shame and behaviourally manifests itself as a need to avoid another person by looking away, smiling or blushing. Shyness, which according to Lewis appears much earlier than shame and guilt is caused by a sense of discomfort in a social situation. He considers it to be a dispositional characteristic and therefore does not classify it as an evaluative emotion.

A sense of audience, as well as a sense of responsibility, have might be necessary for the development of emotions such as pride and embarrassment. In relation to this, Seidner, Stipek and Feshbach (1988) examined school children's and adults' ability to describe situations that had elicited pride, embarrassment, happiness and sadness. They did this in order to compare the criteria that children and adults use when experiencing these emotions. They coded responses on the dimensions of locus, controllability and the presence of an audience. They found that ten to twelve year old children resembled adults in their ability to feel proud in relation to external and controllable events and happy in relation to external and uncontrollable events. Hence they distinguished these two emotions on the basis of locus and controllability. Younger children (six to eight years old), differed from older children and adults, in that their descriptions referred less to the presence of an audience. However, with regard to embarrassment, children across ages referred to the presence of an audience. Embarrassment was seen to be attributed to internal and controllable events by the majority of the subjects, although a significant number of ten to twelve-year-olds attributed the experience of embarrassment to
uncontrollable events. Sadness, however, was attributed to external and uncontrollable events across all ages.

The literature also suggests that children's emotional experiences become less diffuse with age (Lewis and Michaelson 1983). Accordingly, pre-schoolers might be capable of imputing primary emotions to themselves and others but might need to develop cognitively and socially to experience more advanced emotions such as guilt and pride.

However, although descriptive with regard to what factors are associated with self-conscious emotions and the circumstances under which these emotions occur, these studies are not entirely revealing of the origins of these emotions. Investigating these emotions in children who have impaired socio-emotional development might be more revealing in this regard. Thus, investigating the development of these emotions in children with autism, children who have been reported to be impaired with regard to emotional engagement, could be illuminating with regard to the origins and developmental pathways of these emotions in typically developing children.

Theories regarding the development of self-conscious emotions range from psychoanalytic theories to cognitive and socio-emotional theories. These theories will be examined in brief so as to provide a richer background with regard to the development of self-conscious emotions. Zahn-Waxler and Robinson, 1995, for example, hypothesise that emotions such as guilt and empathy evolve during the second year of life within a broader moral context. They suggest that the basis for these emotions lies in the ability of an individual to internalise society's moral and pro-social values. Hence, for example, this theory considers how empathy and guilt together contribute to both adaptive and maladaptive paths of moral development. In a similar vein, other theories (Ferguson and Stegge, 1995) view socialisation experiences to be primary contributors to the development of what they term self-conscious evaluative emotions. It is hypothesised that socialisation experiences can take the form of (a) direct parental modelling of affective styles (b) parental feedback of how a child ought to feel in specific situations (c) parental feedback with regard to how a child actually behaves vis-à-vis how a child ought to behave and (d) parents reactions to violations of expected behaviour. The development of some self-conscious emotions like shame has been examined psychoanalytically (Freud, 1936/1963; Erikson, 1950). Shame
is said to develop through experiences with toilet training and exposure of the backside. Shame has also been studied in the context of Jungian (Jacoby, 1994) theory as well as Kohutian self-psychology (Morrison, 1987).

One can see that theories concerning the development of emotions are rooted in diverse schools of thought from psychoanalysis to cognitive-affective to socio-emotional theories. In addition, there also exist various ways of conceptualising and studying the components and mechanisms of emotional development. For example, self-conscious emotions can be examined in terms of emotions, cognitions, behaviours, beliefs about oneself or interpersonal relationships. This thesis uses a developmental psychopathological approach in investigating the development of self-conscious emotions in children with autism which could then be revealing of the origins of these emotions in typical development.

Keeping this background in mind, the next section will examine the development of self-conscious emotions in the context of autism. In it will be presented literature dealing with autism and self-conscious emotions as well theories concerning the nature and origins of the affective impairment in autism.

4.3 The development of basic and self-conscious emotions in children with autism

Individuals with autism have a number of impairments in their ability to maintain social relationships. These deficits have been hypothesised to evolve from an innate impairment in the ability to engage emotionally with people in one's environment (Hobson, 1993). Normal infants, as we have seen in earlier sections, are able to share emotional experiences with people in their environment for example in their social referencing skills. Affective engagement seems to be a prerequisite for initiating and maintaining social relationships, and children with autism seem to have profound difficulties in this area. This section will examine the nature and pervasiveness of the social and emotional impairments of children with autism that may be responsible for the atypical development of the interpersonal self.
Empirical Investigations of the affective impairments in children with autism

One of the earliest series of studies, (Hermelin and O'Connor, 1985) looked at the nature of the affective impairment in children with autism. Initially they tested Kanner's observation that children with autism seemed not to register the difference between people and objects. They did this by comparing the attention and behavioural orientation of twelve children with autism compared with twelve children with learning disabilities. The children ranged in age between five and sixteen years. All children functioned on a severely cognitively impaired level. Children were presented with an adult who was initially passive and then initiated interpersonal contacts such as stroking hair, cuddling and issuing verbal commands. This was then compared to showing children pictures, recorded music and toys. Orientation was defined as turning towards, looking at or approaching a stimulus, remaining in close proximity to and establishing physical contact with or responding to such contact or speech.

Results showed that both groups showed the same amount of orientation to pictures and music. The learning disabled control children handled toys for significantly more often and longer periods than did the autistic children. When the stimulus was a person, significantly more responses were obtained from the learning disabled than autistic children, particularly if the measure included a period of verbal exchange. The investigators also found that children with autism oriented toward a person less frequently than control children. However, it was found that in both groups, children made many more responses to a person than any other stimulus.

Hence it appears that although children with autism seem to orient towards people, they do so less frequently and more idiosyncratically. For example, it has been reported that although children with autism do not differ from normal controls in the overall frequency or duration of smiles, frowns or sustained eye contact, they differ with regard to their tendency to be less likely to combine smiles with sustained eye contact and to smile less in response to their mothers' smile (Dawson; Hill; Spencer and Galpert, 1988). In one study of gestures in individuals with autism, these children failed to display certain expressive gestures such as putting an arm around someone else, and displayed mostly instrumental gestures aimed at terminating or avoiding an interaction (e.g. go away, be quiet) (Attwood; Frith and Hermelin, 1988).
Children with autism have also been reported to display gaze avoidance and lack of eye-to-eye contact. Hutt and Ounstead (1966), for example, investigated aspects of impaired social interaction in eight children with autism between the ages of three and six years, using film records of the children's behaviour in a hospital setting. The film clips indicated that although children with autism ran up to a nurse and sat on her lap, all eight children consistently displayed gaze aversion.

Recognition and expression of basic emotions by children with autism

With regard to the recognition and expression of emotional cues by autistic and normal adults, individuals with autism have been reported to be relatively impaired in both the appreciation and production of emotional expressions (Macdonald, Rutter, Howlin, Rios, LeCouteur, Evered and Folstein, 1989). These researchers investigated the recognition and expression of emotional cues in facial and vocal modalities in ten normal adult males whose average age was 26.2 years and ten males with autism whose average age was 27.2 years. The two groups were individually matched on the British Picture Vocabulary scale and the Ravens Standard Progressive Matrices. They were then given a battery of tests containing two recognition tests including recognising emotional speech (they were asked to recognise vocal expressions of happiness, sadness, anger and fear) and recognition of facial expressions of the four above emotions as well as a neutral expression. They were also photographed expressing the above emotions both vocally and facially. The individuals with autism were relatively impaired on both the appreciation and production of emotional expressions. Although no one test provided a clear cut separation of groups at an individual level, composite scores separated groups well. The researchers suggested that as the results obtained were relatively independent of chronological and mental age, they were the consequence of a persisting socio-emotional deficit rather than of a developmental lag. However, one could question whether these results could be generalised, as the expression and recognition of emotions, in this study, were de-contextualised. In real life situations, emotions are expressed and recognised in a more dynamic and socially contextualised manner.

Facial expressions have long been used as indicators of affect-laden experiences. Hence they have been studied in children with autism to examine whether their affective experiences differ from normal
and learning disabled children. This then is one way of studying emotional experiences in children with autism and detailing possible impairments that might occur with regard to these experiences. Children with autism have been shown to demonstrate flat or neutral affect when compared to learning disabled children. Yirmiya, Kasari, Sigman and Mundy, (1989) examined facial affect expressions in three groups of children. The first group consisted of eighteen children diagnosed with infantile autism. The second group consisted of eighteen learning disabled children who had been matched on chronological and mental age with the children with autism and the third group consisted of typically developing children matched with the children with autism on mental age. Facial expressions of affect were coded from videotapes of a child-experimenter interaction using the Early Social Communication Scales-a measure designed to assess pre-linguistic communication skills. This interaction was then coded using the Maximally Discriminative and Movement Coding System (Izard, 1979), a theoretically guided, automatically based, micro-analytic system for coding discrete movement changes that are associated with expressions of affect in three regions of the face.

Other than displaying flat or neutral affect when compared to controls, children with autism also displayed a variety of ambiguous expressions not displayed by any of the other children. The authors speculated that this might have contributed to the fact that other people find it difficult to read facial expressions of affect in children with autism. The authors concluded that a disturbance in affect interpretation and expression seemed to be a primary deficit in autism and affected the ability of children with autism to share feelings with others.

Another study obtained similar results when investigating the expression of emotion in children with autism (Snow; Hertzig and Shapiro, 1987). The study investigated ten pre-school aged autistic children and ten developmentally delayed children matched for chronological and mental age. Each child was videotaped for fifteen minutes in interaction with their mothers, a child psychiatrist and a nursery school teacher. Affective expressions were then recorded using a behaviour checklist. The children with autism displayed positive affect mostly in a random, unrelated, manner and while playing alone compared to developmentally delayed children. The advantage this study has is its ecological validity. These results further demonstrate the contribution of affect to social experiences and the specific difficulties that children with autism might have in the real world.
Hobson (1986) researched emotions from a different perspective, in that he looked at whether children with autism were able to interpret the emotions of other people—which would again have implications for impairments in intersubjectivity. He tested the ability of children with autism to choose drawn and photographed facial expressions to 'go with' a person videotaped in gestures, vocalizations and contexts of four emotional states namely, happiness, unhappiness, anger and fear. It was demonstrated in twenty-three children with autism, the same number of typically developing children and eleven non-autistic learning disabled children, who were matched for mental age, that although both autistic and control subjects were adept in choosing drawings of non-personal objects such as a dog, a car, a plane, a train and an aeroplane, to correspond with videotaped cues, the autistic children were impaired in selecting the appropriate faces for the videotaped expressions and contexts. The autistic children's performance on this task was demonstrated to be related to mental age. The author concluded that children with autism have difficulties with recognizing how different expressions of particular emotions are associated with each other, which might contribute to the failure, on the part of children with autism, to understand the emotional states of other people.

Weeks and Hobson, (1987), expanding on the previous study, tested 15 autistic and 15 non-autistic retarded children who were individually matched for chronological age, sex and performance on the verbal scales of the Wisconsin Intelligence Scale for Children-Revised. These children were shown photographs of people who differed in three, two or one of the following respects: sex, age and facial expression of emotion and the type of hat they were wearing. When given similar photographs to sort, the majority of the non-autistic children sorted according to the person's facial expression before they sorted according to the type of hat. Most autistic children gave priority to sorting by type of hat and many neglected facial expressions. It is suggested that these results reflect autistic children's insensitivity to facial expressions altogether. The researchers suggested that the results might reflect the fact that children with autism might sort in this manner due to their relative insensitivity to other people's expressions of emotion, suggestive, once again, of a failure to understand emotional states of other people and therefore perhaps a failure to have experienced these emotions themselves.

Hobson, Ouston and Lee (1988a) examined emotion recognition in a group of 17 young people with autism ranging in age from 13 to 26 years. They were individually matched on chronological and
verbal mental age and their verbal mental age ranged from 5 to 11 years. In the first experiment, participants were required to sort standard photographs by facial expression (happy, sad, angry, scared) and then by identity (two men and two women). The 16 sorting cards included photographs of faces of four individuals, each expressing four standard emotions. In the emotion sorting task, participants were presented with four target photographs of a different identity to those to be sorted, expressing the four standard emotions. These four pictures of each identity were presented to the participant and s/he was asked to sort these by putting the happy face with the happy face target, the sad face with the sad face target, and so on. In the identity sorting task, the participants were presented with four target photographs of four identities to be sorted, each with a neutral expression. The researcher pointed to the target photograph of each of these four identities and asked the participant to pick the picture of the person who matched it. In the second condition, an identical set of 16 cards was given to the participants. In this case however, the mouth had been blanked out with a white strip to reduce emotional cues available. In the third condition, the mouth and the forehead were both blanked out, reducing even further the emotional cues available for sorting. The same procedure employed in the first condition was adopted in the second and third conditions.

The researchers found that as emotional (facial) cues were reduced from presenting the full face to presenting the face with the mouth and forehead blanked out, the performance on identity recognition declined at approximately the same rate for both the groups. However, with regard to performance on the recognition of emotion, while non-autistic participants performed successfully when few emotion cues were available, children with autism performed significantly less well.

In a second study, these researchers presented the first condition again to the participants but target faces and faces to be sorted were presented upside down. The researchers found that children with autism were significantly more proficient with regard to sorting both the identity and emotion in upside down faces than were the non-autistic participants. The researchers concluded that the results provided evidence for ‘qualitative differences’ in the processes or strategies adopted during emotion recognition in both groups. These differences appeared to be specific to emotions recognition vis-à-vis identity recognition.
A different sort of emotion recognition task was conducted by Celani, Battacchi & Arcidiacono (1999). These researchers investigated emotional recognition in ten autistic 5.9-16.0- year olds, ten 7.1-16.0- year- olds with Down's syndrome, and a control group of ten 4.0-9.3- year- old normally developing children, (matched for verbal mental age), using a 'delayed-matching task' and a 'sorting-by-preference task'. The first task required participants to match faces on the basis of the emotion being expressed or on the basis of identity. Different from the typical simultaneous matching procedures the target picture was shortly presented and was not visible when the sample pictures were shown to the participant, thus reducing the possible use of perceptual, piecemeal, processing strategies based on the typical features of the emotional facial expression. In the second task, participants were required to rate the valence of an isolated stimulus, such as facial expression of emotion or an emotional situation in which no people were represented. The aim of the second task was to compare the autistic and non-autistic children's tendency to judge pleasantness of a face using facial expression of emotion as a meaningful index. Results showed a significantly more limited performance in autistic participants than in both normal and Down participants on both facial expression of emotion tasks.

However, as mentioned earlier, the emotion matching procedures using photographs detailed in the studies above, could be questioned with regard to their ecological validity, in that one could ask whether judgements of emotions in photographs is an effective way of assessing emotion recognition in real life situations, where emotions expressed are typically much more dynamic than photographs.

*The expression of self-conscious emotions in children with autism*

Although there have been numerous studies with regard to the recognition and expression of 'basic emotions' i.e. happiness, unhappiness, anger, fear, surprise and disgust, in children with autism, there has been a paucity of research with regard to possible impairments in self-conscious emotions, in children with autism. The literature above indicates that children with autism have certain limitations in the ability to recognise and express basic emotions in their relationships with others. However, the results from the previous study in this thesis, where parents of children with autism were interviewed with regard to different domains of their child's interpersonal functioning, indicates that children with autism might experience basic emotions in certain specific, limited, contexts such as happiness when
allowed to indulge in routines or unhappiness or anger when not. The results from this study also showed that self-conscious emotions were rarely expressed by children with autism, and if they were, they were expressed in an idiosyncratic manner that was mostly inappropriate to the social circumstances in which they were expressed. The few studies that have researched self-conscious emotions in children with autism show similar patterns of results. These studies will be outlined in this chapter and detailed in Chapter 6.

Pride

In a study comparing expressions of pride and mastery in pre-school children with autism and matched controls without autism, researchers found that although children with autism smiled in response to finishing a puzzle just as frequently as non-autistic children, they did not seek to share their pleasure with the adults who praised them and even showed avoidant responses to this praise (Kasari, Sigman, Baumgartner and Stipek, 1993).

Another study assessing pride understanding in 8 to 14-year-old, high functioning children with autism showed that children with autism reported feeling pride and were able to identify situations that elicited pride just as frequently as non-autistic matched controls. However, they provided instances of situations that were more general and less personal than these children (Kasari, Paparella, & Bauminger, 1999).

Similarly, another study by Capps, Yirimiya, and Sigman, (1992) reported, that with regard to pride, autistic children's responses centred around themes that included finishing one's homework and winning games. It was found that 23% of autistic children recounted the same experience for pride and happiness, while this was never the case among the comparison children.

Thus these studies reveal that although there were not differences between groups with regard to the frequency of reported pride, there were more subtle differences in the quality of their responses suggestive of a different and perhaps lower level of insight into the experience of pride than other
groups of children. One could then question whether children with autism have had genuine experiences of these emotions of have come to understand these emotions using a non-affective route.

**Embarrassment**

Embarrassment has also been studied in children with autism and investigations of this emotion have yielded similar results to the pride study. Two studies on embarrassment in older, high functioning children with autism have been conducted (Capps, Yirimiya & Sigman, 1992; Kasari, Parparella & Bauminger, 1999). These studies, like the ones reported above, reported that children with autism were more likely to give general examples of embarrassing situations that were external and uncontrollable, compared with typically developing children who gave more specific, personally related examples that were internal and controllable. Forty-two percent of children with autism described situations in which embarrassment was provoked by others, for example, being teased when they had done nothing wrong while only six percent of typically developing children recounted direct provocation as being a cause of embarrassment. Also 68% of typically developing children provided individual behaviour examples in contrast to 18% of autistic children. Capps et al., (1992) reported that in recounting experiences of embarrassment, autistic themes included someone being teased and feeling stupid and afraid in contrast to the more light-hearted themes chosen by the control group like throwing a ball to the wrong team. The authors concluded that although children with autism did surprisingly well with regard to recognising and expressing emotions, they did have problems with complex emotions such as pride and embarrassment. With regard to embarrassment for example, the children referred less frequently to the presence of an audience. These subtle differences, suggestive of a more learned quality to these emotions, lend further weight to the suggestion that children with autism might use a non-affective route to understand these emotions.

**Empathy**

It has been proposed that guilt has its foundations in empathic distress Hoffman (1982). Children with autism have been shown to be less empathic than non-autistic children. Yirimiya, Sigman, Kasari & Mundy, 1992 compared 18 high functioning children with autism between the ages of 9 and 17 years of
age with 14 typically developing children between 9 and 15 years of ages. The task required that these children discriminate between various emotional states, take the perspective of another regarding emotional states and respond affectively. The groups were individually matched on full scale IQ and chronological age. The measure used to assess empathy was the Feschbach and Powell's Audio-visual Test for Empathy (Feschbach, 1982). This included 10 videotaped segments displaying stories about children experiencing different events and emotions. The emotions experienced by the protagonist included happiness, anger, pride, sadness or fear. After watching the segments, the participant was expected to report how s/he feels. The groups were also given a test of Cognitive Mediation (Stranger, 1989) that examined why they felt the emotions they did, and the degree to which they were able to assume roles and perspectives. In addition, the groups were given A Concept Assessment Kit-Conservation Test (Goldschmid & Bentler, 1968) that included six conservation tasks adapted from Piaget, with a view to measuring the relationship between cognitive abilities and affective understanding. Results indicated that although children with autism performed surprisingly well on the empathy related measures, they performed less well than typically developing children on these measures and on the conservation measures. More specifically, they performed less well than typically developing children on labelling emotions, empathic ability and cognitive mediation. Higher functioning children with autism performed better on conservation and empathy measures that lower functioning children.

In another study on empathy, (Sigman, Kasari, Kwon & Yirimiya, 1992), responses to the negative emotions of others by autistic, learning disabled and typically developing children were investigated. Thirty autistic (mean age, 42.40 months), 30 learning disabled (mean age, 41.67 months) and 30 typically developing children (mean age 19.83 months) took part in the study. The learning disabled and autistic groups were matched on chronological and mental age while the typically developing and autistic groups were matched on mental age and gender. The study involved the researcher or the parent hurting themselves while showing their child how to hammer a wooden toy. They then displayed facial and vocal signs of distress without using words. Another task involved parents and researchers modelling fear to the appearance of an electronic robot. A final task involved the parent lying down as if experiencing some discomfort. Attention, facial affect and behavioural responses of the children to these emotions were then measure. Results revealed that while the typically developing
and learning disabled groups of children were very attentive to adults in all the situations, the children with autism appeared to ignore or not notice the adults displaying these negative affects. As a group, they looked at the adults less, and were much more engaged in toy play than the other children during periods when an adult pretended to be in discomfort. They were also less attentive to adults showing fear although this behaviour was not significantly different from that of typically developing children.

**Guilt**

According to Hoffman (1982), in order to feel guilt, one must have the capacity to empathise with another’s distress. It has been reported that children with autism are relatively less able to empathise with another than non-autistic children and should, therefore, be relatively less able to feel guilty. Indeed, it has been reported in a study examining understanding of guilt in IQ and mental age matched groups of high functioning children with autism and typically developing children, (Kasari, Chamberlain and Bauminger, 2000) that children with autism had more difficulty providing an example of guilt that typically developing children. On the other hand, they reported experiencing guilt as frequently as typically developing children but they also made fewer self-evaluative comments than typically developing children. The authors concluded that, for children with autism, guilt appeared to be defined not in interpersonal, empathic terms, but as memorizable rules and actions towards things.

Hence, to conclude, although children with autism report being able to experience self-conscious emotions as frequently as typically developing and learning disabled children, these emotions, as reported by them, seem to have a learned, less personalised quality to them than with other groups of children. However, further research needs to be conducted in order to determine what part intelligence has to play as a compensatory learning strategy in these children. Future studies also need to tease out the circumstances under which children with autism express and recognise basic as well as self-conscious emotions at times when they do. This will enhance our knowledge of the spared and impaired aspects of the interpersonal self in children with autism.
In an attempt to explore this, the following study aims to investigate self-conscious emotions in adolescents with autism by investigating whether they are able to recognise self-conscious emotions in others and, in the following chapter, discuss their own personal experiences with these emotions.

4.4 Participants

Twelve children with autism and 12 non-autistic children matched on chronological and verbal mental age took part in the study.

Sample of children with autism

The children with autism were from a special school for children with autism. Their diagnosis was confirmed using the Childhood Autism Rating Scale (CARS). An autism checklist adapted from the DSM IV (American Psychological Association, 1994) by A. Lee (personal correspondence), with the help of teacher interviews served as a check on these scores. Their mean CARS score was 33.0 and the scores ranged from 30.0 to 37.0. They ranged in age from 12 to 16 years.

Sample of children with learning disabilities

The children with learning disabilities, similarly, were from a special school for children with learning disabilities. The children ranged in age from 11-19 years.

The two groups were individually matched on verbal mental age. To obtain verbal mental age, both groups were given the British Picture Vocabulary Scale. They were given the Ravens Progressive Matrices to assess non verbal mental age. In addition to this, the productivity of the two groups was assessed to provide an index of verbal output. The productivity score was the number of words used by each participant in the first part of the study.

123
Table 4.1: Participant Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Chronological Age</th>
<th>Verbal Mental Age (BPVS)</th>
<th>Non Verbal IQ (CPM)*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean yr; mo</td>
<td>SD - mo</td>
<td>Range yr; mo</td>
</tr>
<tr>
<td>Autistic n = 12 M: F = 9:3</td>
<td>14</td>
<td>17</td>
<td>12-16;5</td>
</tr>
<tr>
<td>Non-autistic n = 12 M:F= 8:4</td>
<td>14;5</td>
<td>36</td>
<td>11;5-19</td>
</tr>
</tbody>
</table>

* Coloured progressive Matrices

In addition to this an index of productivity was obtained using transcripts from the study. This was an index of the participants' verbal output and was included as a check to determine whether the participants who scored high with regard to accuracy did so by chance because they were more verbally productive.

4.5 Method

The study involved participants watching trained actors from the Royal Academy of Dramatic Arts, London, perform several scenes reporting specific self-conscious emotions: pride, guilt and shame. The task for each participant was to recognise the emotion that was being depicted by the actors. The participants also had to report the sequence of actions that was crucial in eliciting the emotion. This served as a control condition, insofar as participants were required to recognise actions as well as emotions. Thus while watching the scene unfold on video, the participants were effectively being shown a short story, one where the main characters might have experienced various different emotions while performing a series of actions. The aim of the story was to lodge a specific sequence of events in
mind that lead up to the protagonist experiencing a specific emotion. Thus, the study involved the participants having to recognise self-conscious emotions.

Procedure

Each participant watched two videotapes. Each videotape contained actors acting four scenes depicting the emotions mentioned above (i.e. pride, guilt and shame) as well as an additional scene depicting happiness. The happiness scene served to acquaint the participants with the task as well as establish a rapport with the researcher and was not scored. There were two versions of the same scenes - A and B. Version B had the same scenes as version A but in a different order such that none of the scenes that followed each other in version A followed each other in version B. This was to ensure that if there was any discrepancy in the results between these versions, they did not arise due to the order of the scenes, practice or fatigue. Half of each group was shown version A and the other half was shown version B. The responses obtained from the participants were audio-taped and later transcribed.

The aim of the scenes was to determine if each participant recognised the principal emotion as well as the principal actions depicted by the actors. ‘Principal action’ refers to a certain sequence of actions considered to be crucial to the short story enacted. In the case of pride, for example, building a castle of cards and calling a friend over to show her the castle of cards that has been built was considered to be the principal action sequence. The principal feeling was the emotion that the main character is believed to experience at the end of the story. Thus for pride, the principal feeling was pride.

A brief description of each scene is provided below.

Happiness: A girl walks in carrying a bag. She is accompanied by another girl. The main character opens the bag and shows her friend how it works. They are seen chatting about the bag and the main character is obviously very pleased and animated about it. One assumes that it is a new bag and she's very happy to have it and is very pleased to show her friend the new bag.
Pride: The scene opens with two people-a man and a woman. The woman is seated with her back towards the main character, the man, who is carefully building a tower/pyramid of cards. When he finishes, he taps the lady on her shoulder and shows her the tower. His body language (arms outstretched, big smile, one can almost hear him say ta da) suggests he is very proud of what he’s done. The lady looks at the pyramid and the scene ends.

Guilt: The scene begins with a lady carrying a glass of water and walking across a room. On the other side, seated, is another lady reading a newspaper at a desk. The lady carrying the water brushes past the other lady’s desk, and, as she obviously hasn’t been looking where she’s going, accidentally spills the water on the newspaper the seated lady was reading. The main character is seen bringing her hands to her head while the other lady says it’s ok. The main character’s body language again suggests guilt as her head is bowed and she is seen to apologise. She is seen to look rather unhappy as well.

Shame: Two ladies are lying on the grass on a sunny day. One of them sits up and takes her coat that lies above the other lady’s head. Soon after she does this, the other lady sits up and covers her nose. She says something to the main character. The main character is seen to become rather agitated and she smells her armpits. She seems angry. The other lady stands up. She is still talking to the main character. The main character turns away from her and smells her shirt again. She is seen to hug herself. She then covers her face in her hands and almost seems to shrink. The other lady looks away.

The scenes were therefore, as close as one could get to depicting prototypical behavioural expressions of pride, guilt and shame. Before each scene was shown, the participant was asked to watch carefully and was told that s/he would be discussing what happened after each scene was played. All the scenes were shown with the sound switched off so as to enable the participant to focus solely on the facial emotional expressions and bodily gestures of the actors.

After each scene was played, the participant was asked to spontaneously describe what happened in the scene. The researcher asked the participant ‘what happened there?’ and the response the participant produced was recorded.
The researcher then produced a still from the scene. The still consisted of a colour picture captured from the video on to a computer and then printed onto an A4 sheet of paper. All the stills were the same size (10.5 X 8.5 centimetres) and they captured the actor performing the principal emotion. The stills used are printed below.

**Picture 1: Still depicting pride**

The main character (man seen building the pyramid of cards) is shown here after just having built a tower of cards. He is shown demonstrating his pleasure at having built this tower.

**Picture 2: Still depicting Guilt**

The scene described above where the main character (lady with hands on her forehead) spills her drink on the newspaper someone was reading. The main character is shown here, bringing her hands to her head while the other lady says it is ok.
The main character is shown here covering her face with her hands after she is made to feel she smells.

The still was shown to the participant and the participant was asked what the actor in the picture (a) did and (b) felt. The order of these two questions (i.e. ‘what did s/he do?’ and ‘what did s/he feel?’) was counterbalanced within and between subjects. This again was to ensure that the results obtained did not stem from any order effects. The responses to both questions were recorded.

If the participant did not indicate an awareness of the principal emotion depicted (i.e. gave an inaccurate response to the question ‘what did s/he feel?’) the still was shown again and the researcher ran through the story to prompt the subject to provide an accurate response. Thus the participant was asked if there was anything else the actor might feel. So for example, if the participant did not reply that ‘he felt proud/good about himself’ to the scene depicting pride, then s/he was prompted by saying ‘Let’s go over what happened once again. This time, I’ll tell you what I think happened. This man built a big castle of cards and he called his friend over to show her what he’d done. What else did he feel?’ The prompts were standardised so that all participants received the same prompts.

The next part of the study involved providing the participants with both the actions that led up to the experiencing of the emotion as well as the emotion itself. The researcher said to the participant, ‘I am going to show you the pictures from the films you saw earlier. I am also going to show you some
words. I would like you to choose the word that you think goes with the picture.’ They were thus asked to match the word that went with the picture. Again happiness was used to acquaint the subject with the task and was not scored. So for example, the participant was asked to determine which word went with the still depicting pride in the following way. The participant was shown the still and the researcher then said ‘This man built a big castle of cards and he called his friend over to show her what he’d done. What did he feel? Did he feel proud, ashamed, guilty or shy?’ the researcher pointed to the words printed on separate pieces of card as she read the emotions out in case the participant could not for some reason read the words themselves. These words were counterbalanced across participants.

Hence if the participant had failed to provide an accurate response to the ‘what did s/he feel?’ as well as the first prompt, this served as a final prompt by providing the participant with a limited choice of responses, one of which was the correct one. Thus if the participant could not previously describe the emotion due to an inability to retrieve the response, this gave them a final chance to do so.

Thus, the study tested participant’s ability to recognise these specific self-conscious emotions in a variety of different ways. Initially, the participants were required to respond spontaneously to the scene they had watched unfold. The study then became more specific in what it required of the participants by asking them what the main character did and felt, where questions regarding what the person did served as a control condition for questions concerning what the person felt. It was believed that if a dichotomy between doing and feeling responses was obtained in children with autism relative to the control group, this would be indicative of specific difficulties faced by these children. As the study aimed to understand self-conscious emotions in children with autism, attempts to provide adequate opportunities for children to express their knowledge are extremely important. The study provided these opportunities to the children by prompting them initially with the sequence of events that lead up to the experiencing the emotion in question and then later by actually providing them with the emotions themselves in case any difficulties they might have had to do with retrieving the right response would be eliminated.

All responses were audio-taped and later transcribed for rating.
4.6 Predictions and Scoring

Predictions

The predictions of the study were made a priori and were:

- That in response to the question:
  'What happened there?', children with autism would show a preponderance of responses that refer to what the person did (viz. actions), rather than to what the person felt (viz. attitudes) relative to the children with learning difficulties who would show a preponderance of responses that refer to what the person felt (attitudes) rather than to what the person did (actions).

- That in response to the two questions:
  'What did the person do?' and 'What did the person feel?', the children with autism would give relatively more accurate replies in relation to the former than the latter questions relative to the children with learning disabilities.

Scoring

Responses we audio-taped and later transcribed. They were rated by two raters. The author of this Ph.D. was the primary rater. The second rater was blind to the aims of the study as well as the diagnostic classification of the participants as transcripts were coded and did not contain the name or group membership- i.e. autistic or learning disabled, of the participant concerned. The second rater rated 40% of the transcripts. Inter-rater reliabilities were estimated as Kappa values.

Question 1 ‘What happened there?’ Scoring for actions and feelings

Question 1 ‘what happened?’ was designed to elicit a spontaneous response from participants was scored with regard to:
Number of participants referring to feeling and doing terms

a) This score indicated whether any feeling and doing terms were mentioned or not. The terms need not have been accurate i.e. they need not have referred to the principal feeling or doing terms that the particular scene was designed to elicit. Responses were scored as either 0 or 1. 0 indicated that no feeling and doing terms were mentioned by the participant and 1 indicated that the participant had mentioned any feeling or doing term. So for example, if the participant mentioned happiness rather than pride in response to the question what did s/he feel?, s/he was given a score of 1 for mentioning a feeling term, even though the term mentioned was no the accurate one (i.e. pride). Thus each participant got two scores for responses to this question, namely one for referring to a feeling term and one for referring to a doing term for each of the three self-conscious emotions investigated. The number of participants scoring 0 and 1 were reported.

b) Accuracy score for feeling and doing

If a feeling or doing term was mentioned, then the participant’s response was scored for the accuracy of the term or terms mentioned. Accuracy referred to whether the feeling or doing terms mentioned were the principal doing or feeling terms. These scores were reported as accurate and inaccurate responses.

Reliabilities were not calculated for responses to question 1 as the responses to question 2 had to take into account responses to question 1. Thus reliabilities were only calculated for responses to question 2.

Scoring for question 2 and 3: 'What did s/he do/feel?'

The next response to be scored was the response to the question ‘what did s/he do?’ With regard to responses to this question, the rater noted:
a) Reference to actions

Thus raters noted whether any action was mentioned. It is to be noted that this was scored in conjunction with response to 'what happened?' This was because the participant might have elaborated upon his/her spontaneous response in the 'what happened?' section in this section. If any action was mentioned, the participant was given a score of 1 and if not, the participant was given a score of 0. For example, a participant who responded to this question by saying 'he made something' was given a score of 1. This score was instituted for several reasons. It served as a check on comprehension in terms of noting whether the participant understood the task and the clip shown. It also served as a check on attention in terms of noting whether the participant was attending to the task at hand. Lastly, it served to provide a comparison condition to the 'presence/absence of feeling' condition.

b) Accuracy score for actions

The next score given to responses to this question was an accuracy score. Here again, as in the previous section, accuracy referred to whether the doing term/s mentioned was/ were the principal doing term/s. This was scored in a similar manner to the 'what happened?' accuracy score in the previous section. Scores were reported as being indicative of accurate and inaccurate responses. When rating, responses were considered together with responses to the question 'what happened?' Reliabilities were calculated for these responses.

a) Reference to feelings

Whether a feeling was mentioned or not was noted and scored as 0 or 1 and the number of participants scoring 0 and 1 were reported.
b) Accuracy score for feeling

These responses were reported as being accurate or inaccurate. Reliabilities were calculated for these responses.

Number of prompts

In addition to these scores, the number of prompts, across part I of the participant’s transcript, was also noted. As mentioned earlier, the participants were prompted if they were not accurate with regard to their responses concerning the principal feeling.

Choosing emotions to go with pictures

This part of the study required that the participant match the right emotion terms with pictures shown. If the participant was successful in doing this, s/he was given a score of 1 for each emotion matched correctly. If the participant was unsuccessful, s/he was given 0.

Productivity Score

In addition, each participant was given a ‘productivity’ score. This, as mentioned earlier, was a broad index of the participants verbal output. As the study, was heavily verbally loaded, it seemed appropriate to include, in addition to the British Picture Vocabulary Scale, another index of the participants verbal ability. To obtain this score, the number of words in part 1 of the participants’ transcripts was obtained.
4.7 Results

**Inter-rater reliability**

Inter-rater reliabilities were calculated for 40% of the transcripts. The second rater, as mentioned earlier, was given transcripts that did not contain the names or group membership of the participants. She rated responses to the questions ‘what did s/he do?’ and ‘what did s/he feel?’ for each of the three emotions investigated for each participant. She did not rate the spontaneous responses of the participants (i.e. responses to the ‘what happened?’ question) but was provided a transcript containing participants responses to this question so as to enable her to rate the ‘what did s/he do/feel?’ questions more accurately. Reliabilities were calculated for each item. The kappa scores ranged from 0.86 to 1.00. If one refers to the table in chapter 2, (Landis and Koch, 1977) this indicates that the reliabilities range almost perfect range. The full range of reliabilities is presented in the appendix.

**Table 4.2: Mean Productivity Score**

This table provides the mean scores for both groups with regard to productivity. This was a broad index of the participants’ verbal output and was included as a check to determine whether the participants who scored high with regard to accuracy were accurate by chance because they were more verbally productive. To obtain this score, the number of words in part 1 of the participants’ transcripts was obtained. The table below reveals that both groups, on an average, produced similar numbers of words.

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>224.08</td>
<td>171.81</td>
<td>98-719</td>
</tr>
<tr>
<td>Learning Disabled</td>
<td>217.50</td>
<td>118.55</td>
<td>81-470</td>
</tr>
</tbody>
</table>

**Number of Prompts**

Pre-determined prompts were provided to participants if they were unable to answer the question ‘what did s/he feel?’ Hence both groups needed to be prompted an equal number of times when asked
what the main character felt. The mean number of prompts received by children with autism was 2.7 and the mean number of prompts received by children with learning disabilities was 2.8.

Action terms

Number of participants referring to action terms for questions 1 and 2 ('what happened there?' and 'what did s/he do?')

These scores reflect whether participants made reference to actions that the main character was engaged in, when asked to do so spontaneously (question 1) as well as when asked specifically (question 2). The participants need not have been accurate with regard to the responses given. Results reveal that there were no significant differences between groups with regard to their ability to spontaneously and specifically identify action sequences from a video clip. Results reveal that a large majority of children spontaneously referred to actions and in any condition, no more than two individuals failed to mention actions. When asked specifically, all participants made reference to actions that they perceived the main character to have been engaged in.

Table 4.3: Number of Participants referring to action terms

<table>
<thead>
<tr>
<th>Condition</th>
<th>Spontaneous</th>
<th>Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of participants referring to action terms</td>
<td>Number of participants not referring to action terms</td>
</tr>
<tr>
<td>Pride</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>LD</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Guilt</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>LD</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Shame</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>LD</td>
<td>10</td>
<td>2</td>
</tr>
</tbody>
</table>

The ceiling effects obtained above point towards the fact that participants had no difficulties with regard to making reference to action terms. Additionally, the task served as a check to note if
participants were attending to the task at hand and comprehended what was required of them. The results indicate that participants were indeed attending to and comprehending the task provided.

**Accuracy of action terms in response to questions 1 and 2**

These scores reflect the accuracy with which participants made reference to actions that the main character was engaged in, when asked to do so spontaneously (question 1) as well as when asked specifically (question 2). Results reveal that both groups tended to be more accurate when asked to do so specifically rather than spontaneously. In addition, both autistic and learning disabled participants seemed to find it easier to accurately identify action sequences in the pride and guilt conditions compared to the shame condition. In this regard there were striking similarities between groups and no significant differences emerged.

*Table 4.4: Accuracy of action terms*

<table>
<thead>
<tr>
<th>Condition 1</th>
<th>Spontaneous</th>
<th>condition 2</th>
<th>Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Accurate</td>
<td>Inaccurate</td>
<td>Accurate</td>
</tr>
<tr>
<td>Pride</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autism</td>
<td>10</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>LD</td>
<td>6</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Guilt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autism</td>
<td>9</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>LD</td>
<td>9</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Shame</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autism</td>
<td>4</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>LD</td>
<td>4</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

**Feeling Terms**

The scores for the principal feeling sequences reflect the ability of participants to mention feelings spontaneously, in response to the question ‘what happened there?’ (Question 1) as well as specifically in response to the question ‘what did s/he feel?’ (Question 2).
Reference to feeling terms for questions 1 and 2 (‘what happened there?’ and ‘what did s/he do?’)

These scores reflect the ability of participants to make reference to feelings that the main character might have been experiencing, when asked to do so spontaneously (question 1) as well as when asked specifically (question 2). The participants need not have been accurate with regard to the responses given. Results reveal that participants were more likely to mention feelings when asked to do so specifically rather than spontaneously. The ceiling effects obtained with regard to condition 2, when children were asked specifically to mention what the primary character felt, indicate that all participants had no difficulty mentioning a feeling even though they did not do so spontaneously. There were no significant differences between groups in this regard.

Table 4.5: Reference to feeling terms

<table>
<thead>
<tr>
<th>Condition</th>
<th>Autism</th>
<th>Number of participants referring to feeling terms</th>
<th>Number of participants not referring to feeling terms</th>
<th>Specific</th>
<th>Number of participants referring to feeling terms</th>
<th>Number of participants not referring to feeling terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pride</td>
<td>2</td>
<td>10</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>LD</td>
<td>6</td>
<td>6</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Guilt</td>
<td>6</td>
<td>6</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>LD</td>
<td>5</td>
<td>7</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Shame</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>LD</td>
<td>4</td>
<td>8</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
</tbody>
</table>

Accuracy of feeling terms in response to questions 1 and 2

These scores reflect the ability of participants to accurately refer to a main character’s feelings, when asked to do so spontaneously (question 1) as well as when asked specifically (question 2). Results reveal that not more that one participant in each group was accurate when spontaneously referring to feelings. However, groups seemed to be marginally more accurate when asked specifically to mention feelings that the main character was experiencing.
To be noted here is that basic emotions (such as happiness when asked about a situation meant to induce pride or sadness when asked about a situation meant to induce guilt or shame were scored as incorrect). A qualitative analysis revealed all children rated as inaccurate in both groups used basic emotion terms when asked what the principal character was feeling. The analysis revealed that these emotion terms were of a similar hedonic tone to the emotion in question. Thus a number of children responded saying the character felt ‘happy’ rather than proud and ‘sad’ or ‘unhappy’ rather than guilty and ashamed.

With regard to shame, the near floor effect obtained could be a function of children not comprehending the sequence of events as half of both groups did not accurately identify the principal action sequences when asked to do so.

**Choosing emotions to go with pictures: Results**

To reiterate, attempts to provide adequate opportunities for children to express their knowledge were seen to be extremely important in this study. This condition did so by actually providing children with the emotions themselves (printed on a card) as well as the stills from the video clips they watched. This was seen to alleviate any difficulties they might have had to do with retrieving the right response.
These results therefore reflect the ability of participants to match the right emotion terms with pictures shown. The results reveal that with regard to pride, both groups were able to accurately pick the right picture to go with the printed emotion. However, in the case of shame and guilt, both groups had difficulties matching emotions and pictures. They tended to pick shame when the still shown depicted guilt and vice versa. In this regard, there were no ceiling and floor effects and groups were closely similar in their responses.

Table 4.7: Choosing Emotions

<table>
<thead>
<tr>
<th></th>
<th>Choosing Emotions</th>
<th>Accurate</th>
<th>Inaccurate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pride</td>
<td>Autism</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>LD</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Guilt</td>
<td>Autism</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>LD</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Shame</td>
<td>Autism</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>LD</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

To summarise, the results reveal that both groups of children were relatively more accurate with regard to be able to both spontaneously and specifically recognise actions that the principal character was engaged in. However, while both groups of children were relatively inaccurate with regard to recognising feelings expressed by the principal character, when asked specifically what the character felt, both groups were able to respond with emotion terms that were of the same hedonic tone as the feelings expressed by the principal character.

Qualitative interpretation of results

While most children responded with basic emotional terms when asked what the principal character felt, a qualitative analysis shows that there was a tendency on the part of children with autism to use basic emotions terms such as ‘happy’ and ‘pleased’ when the target emotion was pride, and ‘sad’ and ‘unhappy’ and ‘upset’ when the target emotions were guilt or shame. Children with learning
disabilities, on the other hand, tended to be more descriptive in this regard. For example, when asked what the main character felt after knocking over a glass of water in the case of guilt, three of the five children with learning disabilities who responded spontaneously with an emotional term identified the accidental nature of the act suggesting they had a greater understanding of the emotional state of the main character than children with autism. For example, one of the participants reported: ‘She looks devastated there-she knocked it straight over-it was an accident’. Another participant responded ‘She felt sorry that she knocked something over by accident.’ Yet another responded that the main character was ‘Angry with herself’. On the other hand, most children with autism did not refer to the accidental nature of the main characters’ actions. They responded merely with a basic emotion term.

In the case of shame, three of the four participants with learning disabilities who responded spontaneously with an emotion term, responded with a range of different emotions that were more descriptive of the main characters’ emotional state than children with autism. For example, one participant said about the main characters emotional state in the case of shame that she was ‘sad and frightened’ rather than just ‘sad’ or ‘unhappy’ as most children with autism responded. Here again one can see a tendency on the part of a few children with learning disabilities to have a greater level of insight into the main characters’ emotional condition than is evidenced by children with autism.

This was also the case with pride where all 6 participants with learning disabilities who responded spontaneously with emotional terms, responded with a range of different emotions such as ‘amazed’, ‘excited’, ‘pleased with himself’, ‘impressed with himself’ ‘surprised and pleased’ and well as ‘glad’ while the two children with autism responded when asked both spontaneously to do so, with ‘happy’ or ‘pleased’.

Being descriptive with regard to emotional terms used, extended to questions concerning the actions the main character was engaged in as well. Hence when asked what the main character did, two learning disabled children referred to emotional expressions to accompany the main characters’ actions and one referred to the relationship the main character might have had with the second actor in the clip. In the case of shame for example, one of the participants replied ‘She started crying-very horrible’- choosing to reply in affective rather than purely action terms. In the case of pride, one participant
imitated the proud expression the main character displayed and said 'He just said ta da, look at this'. Another participant responded in relational terms saying that the main character 'Went to get his girlfriend to show her what he'd done with the cards' in the case of pride. However, the majority of children with learning disabilities used action terms to describe actions. None of the children with autism described actions in relational or affective terms. One could ask whether this difference could have been due to better language ability on the part of the children with learning disabilities. However, groups were matched on the British Picture Vocabulary Scale, which is admittedly a test of single word comprehension. This being so, the studies of Rutter and his colleagues (Bartak, Rutter and Cox, 1975; Lockyer and Rutter, 1970) indicate how the performance on this test compares with the verbal sub-tests of the Wechsler Scales of Intelligence where it is revealing of 'troughs' in the abilities of people with autism. Although it does not provide a comprehensive measure of all aspects of linguistic understanding, it does prove useful in a number of studies for establishing matched groups of autistic and non-autistic participants who then display similar levels of performance (although sometimes contrasting profiles of performance) on language-related tasks. It therefore seemed an appropriate matching procedure for the purposes of this study. In addition, groups were also matched on verbal productivity.

Given the BPVS score, it is clear that children with autism can match some words to objects- so the question would arise, why just in the case of emotions is there this difficulty? Additionally, it appears they do not express such emotions normally. In the interview study for example, it did not seem to be a word-selection problem, rather a difficulty in conceptualizing the emotions.

4.8 Discussion

The results reveal that there were no significant differences between groups in the study. Learning disabled children, when asked 'what happened there?' tended to respond like children with autism in terms of actions rather than feelings or attitudes. When asked specifically to describe the feelings of the main character, children with autism as well as non-autistic children tended to be inaccurate in their ability to do so. For example, many children with autism as well as children with learning disabilities tended to be inaccurate with regard to recognising pride, guilt and shame in others.
Thus the predictions for the study, namely that there will be a preponderance of responses that refer to what the person felt (attitudes) rather than to what the person did (actions) on the part of the matched control children relative to the children with autism were not supported by the results.

The results indicate that both groups were performed well with regard to responding accurately with action terms, but inadequately with regard to responding with accurate feeling terms. Both groups required an equal number of prompts with regard to responding with the accurate feeling terms. However, both groups were accurate with regard to choosing the right word to go with a photograph depicting pride but seemed relatively less accurate with regards to matching photographs and words depicting guilt and shame. Both groups seemed to use basic emotion terms to describe the main characters’ feelings rather than using self-conscious emotions to do so. One could therefore ask whether there was a difficulty on the part of the participants with regard to retrieving the right emotional term to describe the scenes they witnessed. One piece of supporting evidence for this claim comes from the observation that participants seemed to be able to retrieve the right response when actually presented with the word ‘pride’ when asked to match the still depicting pride with the word. However, participants seemed to confuse guilt and shame and tended to respond with the term ‘guilt’ instead of ‘shame’ and vice versa when asked to match the stills depicting these emotions with words.

The results therefore weigh against the hypothesis that a primary impairment in emotional engagement will lead to impairments in the development of self-conscious emotions. Children with autism as well as children with learning disabilities obtained similar low scores when asked to identify and recognize pride, guilt and shame in others. These similarities lead us to question whether the theoretical position adopted needs reformulating or whether the results could be due to methodological limitations.

The latter explanation seems to hold as the similarities obtained extended to action terms as well. One can see that children with autism as well as children with learning disabilities tended to be less accurate when asked specifically what the protagonist was doing. This result is especially highlighted when participants were asked to describe the actions the protagonist was engaged in in the shame condition. Thus the results obtained were not revealing of differences in emotion recognition specifically, rather
they revealed that participants had difficulties in providing subtle accounts of what they viewed on the videotapes in general.

The latter explanation seems to hold when one examine the results qualitatively. While the results reveal that participants seemed able to accurately identify emotions of the right hedonic tone to the target emotions, the qualitative analysis shows that there was a tendency on the part of children with autism to use basic emotions terms such as ‘happy’ and ‘pleased’ when the target emotion was pride, and ‘sad’ and ‘unhappy’ and ‘upset’ when the target emotions were guilt or shame. Children with learning disabilities, on the other hand, tended to be more descriptive in this regard. The qualitative analysis indicated that being descriptive with regard to emotional terms used, extended to questions concerning the actions the main character was engaged in as well. This could lead one to question the differing level of insight both groups possessed with regard to the emotions concerned. However, given that the majority of children with learning disabilities tended not to respond or respond inaccurately, this line of questioning remains purely speculative.

Thus methodologically, one could question whether the task provided could be modified to match the action and feeling sub tasks more effectively in terms of level of difficulty. One way to do this might be to present participants with the a range of emotion terms as well as action terms, immediately after they have watched the video clip and investigate whether they are able to choose the appropriate action and emotion. This might be more useful with regard to investigating group difference with regard to recognising emotions and actions.

In this regard, the ‘control task’, namely asking participants to recognise actions as well as emotions, functioned not so much as a control task, but rather a screening task that indicated whether a participant was being attentive to the task in hand. The ceiling effects obtained with regard to participants reporting action terms with a great degree of accuracy suggests that it performed this function effectively. However, as mentioned above, one could make the action and feeling subtasks more comparable to eliminate floor and ceiling effects.
The task did not assess the depth of understanding of participants either. Thus, an inability to retrieve a word could be mistakenly assumed to be due to a lack of experience with the particular emotion concerned. Depth of understanding could therefore provide a more accurate picture of the level of understanding a participant possessed with regard to various emotions. The interview in the next chapter provides a measure of this understanding. Thus the results from the interview, coupled with the results from this study would serve to provide a more penetrating investigation of the experience of pride, guilt and shame in autism.
Chapter 5: An Interview Study of the Expression of Pride, Guilt and Shame in Adolescents with Autism
5.1 Introduction

The following study aimed to investigate pride, guilt and shame in adolescents with autism by exploring whether they were able to discuss their own personal experiences with these emotions. The study used an interview to investigate the expression of these emotions.

As has been noted in earlier chapters, individuals with autism have a number of impairments in their ability to maintain social relationships. These impairments have been hypothesised to evolve from an innate impairment in the ability to engage emotionally with people in one's environment (Hobson, 1993). Affective engagement seems to be a prerequisite to initiating and maintaining social relationships, and children with autism seem to have profound difficulties in this area. In the previous chapters, parent reports seemed to confirm that children with autism seem to have unusual ways in which they interacted with others. Parent reports also indicated that children with autism expressed pride, guilt and shame in a less interpersonal way than non-autistic children. Their expressions seem to be more scripted and less personal than children without autism. The results from the previous chapter indicate that when children with autism were asked to recognise expressions of pride, guilt and shame in others, they were just as incapable as matched controls without autism to do so. A qualitative analysis of responses suggested that the responses of children with autism, with regard to feelings, were marginally less descriptive than the descriptions provided by learning disabled children. This observation that children with autism to be marginally more restricted with regard to the range and descriptiveness of emotions, seemed to be suggestive of limitations in the experience of these emotions. However, as significant differences were not obtained, this construal of the results remains speculative.

This chapter aims to investigate whether children with autism are able to express an understanding of pride, guilt and shame in a way that implies that they have had genuine personal experience of these emotions as opposed to expressing them in a way that suggests a learned response. Group differences, if obtained, can then clarify the results obtained in the previous chapter with regard to whether children with autism have difficulties in recognising emotions primarily because they have had limited experience of these emotions.
5.2 Participants

The same 12 children, who took part in the previous study, took part in this study. Thus their main characteristics will be summarised briefly. Twelve children with autism and 12 matched control children with learning disabilities but without autism took part in the study.

Sample of children with autism

The children with autism were in a special school for those with autism. They ranged in age from 12-16 years. Their initial diagnosis was confirmed using the Childhood Autism Rating Scale (CARS) and an autism checklist adapted from the DSM IV (American Psychological Association, 1994). The mean CARS score of this group of children was 33.0 (range 30.0-37.0).

Sample of children with learning disabilities

The children with learning disabilities similarly, were from a special school for children with learning disabilities. The children ranged in age from 11-19 years.

The groups were individually matched for chronological and verbal mental age. To obtain verbal mental age, both groups were given the British Picture Vocabulary Scale. The mean verbal mental age of children with autism was eight years and two months and the mean verbal mental age of matched controls was eight years and four months. Both groups were also given the Ravens Progressive Matrices to assess non verbal mental age.
5.3 Method

*General Introduction*

The study involved participants watching trained actors from the Royal Academy of Dramatic Arts, London, perform several scenes involving specific self-conscious emotions namely pride, guilt and shame.

While the previous chapter aimed to investigate the recognition of self-conscious emotions, this study involved engaging participants in an interview that aimed to explore whether the participants had had a genuine personal experience of the emotion in question or whether their experience had a certain 'learned' quality to it which might be revealed through more stereotypical patterns of responding.

The interview examined the same emotions as the first half of the study- namely happiness (which was used to familiarise the participant with the task and establish rapport and hence was not scored), pride, guilt and shame/embarrassment. The participant was shown four video clips of actors performing a sketch that depicted one of the emotions just mentioned. Each clip was approximately a minute long. There were again two versions of the set of clips-A and B and half of each group got version A and the other half version B in order to, as mentioned in the previous study, control for order effects.

*Introduction to video clips*

A brief description of each clip is provided below.

*Happiness:* The scene opens with two people—a lady and a man. The lady is writing or drawing and the man is reading. The lady finishes whatever she’s doing and shows it to the man. They both seem to be enjoying whatever it is because they both smile and seem very happy.

*Pride:* The scene opens in a bar or a restaurant. Seated on one table is a lady talking to some people. On the adjacent table, we see a man, stacking a deck of cards into a pyramid. He finishes and calls the
lady over to show her the pyramid of cards. His body language is expansive and he seems very proud.

The lady looks at the pyramid.

**Guilt:** The scene opens in a room with a door at one end. One sees a man seated, with his back towards a door, stacking a pile of cards into a pyramid. Another man walks through the door swinging a jacket. He isn’t looking at the seated figure. As he walks by, his jacket swings into the piled cards and upsets them. The seated figure is seen to be very annoyed. The main character seems to get distressed and is seen to possibly apologise. The seated figure is seen to ask him to go away. The main character walks away putting his hands to his head and with his head bowed.

**Shame:** This scene is set in a room with two people - a man and a woman standing beside a ladder. On the ceiling is a socket to which a bulb is to be fitted. One sees the man tentatively climb up the ladder – he seems nervous. He holds a bulb in his hand and his task is to fit the bulb in the socket. The lady watches him. As he gets to the top of the ladder, he hesitates and climbs back down. The lady has her hands on her hips and she shakes her head as if to say, ‘why can’t you do even a simple thing like fitting a bulb in a socket?’ he hands her the bulb. His head is bowed, he makes no eye contact and he looks terribly unhappy. His whole body language suggests that he is very ashamed. The lady climbs up the ladder, fixes the bulb and gestures to him and then the bulb as if to say ‘see it’s so easy’. The man doesn’t make eye contact and his head remains bowed.

The stills depicting pride, guilt and shame are shown below.

*Picture 4: Still depicting pride*
The main character is shown here apologising to a gentleman whose cards he knocked over by mistake. The gentleman seems to be annoyed.

The main character is shown here just after he has climbed down from a ladder because he has been unable to fix a light bulb. The lady has her hands on her hips and she seems annoyed. The main character’s head is bowed, he makes no eye contact and he looks terribly unhappy. His whole body language suggests that he is very ashamed.

Here again, as in the clips shown to participants in the previous study, the main characters’ behavioural expressions of pride, guilt and shame were designed to be prototypical.
After the participant watched each clip, s/he was shown a still from the clip. The still, like in the previous study, consisted of a colour picture captured from the video on to a computer and then printed onto an A4 sheet of paper. All the stills again, were the same size (10.5 X 8.5 centimetres) and they captured the actor performing the principal emotion (mentioned above). The first question put to the participant after s/he was shown the still was, in the case of pride, 'This man feels proud. Why does he feel proud?'

Questions were standardised and all participants received the same questions. Thus, these questions provided the participant with the emotion concerned and aimed to examine whether s/he comprehended the social situation that lead up to it. Hence they served to investigate a different aspect of emotional understanding from the previous study.

After the participant responded, the researcher said, in the case of pride, 'That's right this person feels proud because he built a big castle of cards and it's difficult to build a big castle of cards and so he's proud he did it.' By doing this, the researcher provided participants with the sort of social situation that might normally elicit the emotion in question in case they did not have this understanding already. This then primed them to think about similar situations that they might have been in where they had experienced a similar emotion.

The researcher then encouraged the participant to share a time when s/he had experienced that particular emotion by saying: 'Tell me a time when you've felt proud.' What then followed was an open-ended interview where the researcher aimed to explore whether the participant had had a genuine personal experience of the emotion concerned. The researcher aimed to do this by eliciting examples of situations that the participant had been in that elicited a particular emotion and trying to get the participant to talk about why s/he might have felt that way in that particular situation.

The researcher then went on to asking the participants about their experiences with guilt and shame in the same manner as the pride questions. On an average, these interviews lasted about 15 minutes. The participants were then thanked for their participation and the researcher answered any questions pertaining to the study.
All responses were audio-taped and later transcribed for rating.

5.4 Predictions and Scoring

Predictions

Again predictions of the study were made a priori and were:

• That when asked to describe the situations that led to self-conscious emotions in themselves, the children with autism would give less adequate (either more stereotyped or more idiosyncratic) responses than non-autistic children.

Scoring

Responses were rated by two raters, The author of this Ph.D. was the primary rater. The second rater was blind to the aims of the study as well as the diagnostic classification of the participants as transcripts were coded and did not contain the name or group membership-i.e. autistic or learning disabled, of the participant concerned. The second rater rated 40% of the transcripts. Inter-rater reliabilities were estimated as Kappa values.

Responses were rated by reading participants transcripts and rating whether they seemed to have had a genuine personal experience of the emotion concerned. As in previous chapters, initially, to represent results in a clear and precise manner, responses were rated categorically. In the first instance, responses were rated with regard to whether the rater believed that the participant had little sense of understanding of the emotion concerned an/or whether the participants’ responses seemed scripted or whether the rater believed that the participant had a genuine personal experience of the emotion concerned.

A second analysis was also introduced in order to provide a subtler rating of this behaviour. Here, the domain was rated as a whole from 0-2. In this regard, 0 indicated that the rater judged the participant to have no sense of understanding regarding the emotion s/he was being interviewed about. If the rater
believed that the participant had some sense of understanding of the emotion concerned, the response was scored as 1 and if the rater believed that the participant had a genuine personal experience of the emotion concerned, the response was scored as 2. Thus responses rated as inaccurate in the first instance included 0 and 1 ratings and indicated that the rater believed that the participant had little sense of understanding of the emotion concerned and/or that the participants’ responses seemed scripted. Responses rated as accurate in the first instance included responses 2. Reliabilities were calculated on responses included in the second analysis.

To elucidate the scoring system, the following two excerpts from the interview study for pride seem qualitatively different with regard to demonstrating a genuine personal experience of pride.

Excerpt 1 (Y refers to the participant and G refers to the interviewer)

G: Tell me a time when you felt proud.
Y: When I did my homework right.
G: And why did you feel proud of this?
Y: Because sometimes I can’t do the homework
G: And so when you did the homework, you felt quite proud that you did it. Was it quite difficult, the homework?
Y: Yes
G: What did you do when you actually finished the homework, did you tell anyone?
Y: I felt proud and told my teacher.
G: And what happened when you told your teacher?
Y: He was happy I did it
G: How did you feel when he said he was happy that you did it?
Y: I just felt happy?
G: Did you tell anyone else?
Y: No, apart from my mum and my sister.
G: Did you want to tell them you’d finished?
Y: Yes
G: Why did you want to do that?
Y: Because I wanted to show them how good I am that’s why.
G: And do you think you will try and finish it again in the future?
Y: Yeah, if it’s not difficult.
G: Are there any other times you’ve felt proud?
Y: No, it’s just my homework and my work at school.
G: What sort of work are you proud of?
Y: Not sure-all of my work.

Excerpt 2 (C refers to the participant and G refers to the interviewer)

G: Tell me a time when you felt proud.
C: When I was playing out with my mates, we went to the library and someone suddenly come up—like a lady and a man and then this man said—is it ok if you turn that off and we all ran.
G: So you were in the library and a man and a lady came in and the man and the lady asked you to turn off the computer?
C: Because they’d been on it. That was the people who work there and we were upstairs where we shouldn’t have been.
G: I’m trying to understand why this made you proud?
C: Because it was fun—we weren’t supposed to be up there and in the computer we found loads of stuff. They were there and were writing stuff and everything.
G: So you felt proud because you did something you weren’t supposed to and you felt proud that you actually did it.
C: yeah
G: Do you think if your mates weren’t around, you would have felt proud?
C: yeah
G: So what about this whole thing made you especially proud?
C: About the whole thing?
G: Yes which part?
C. When we looked at all the stuff. Because there was a lot of writing. The lady was writing. There were e-mails and everything what she saved.

These two excerpts are qualitatively different in that the first excerpt seems scripted and circumscribed and one cannot be sure whether the person concerned has actually experienced pride. However the second excerpt seems to be born out of personal experience. In this case the participant singled out a specific situation in which he remembered having felt proud. A sense of achievement, in this instance derived from having possibly conformed to peer pressure and having done something forbidden and daring contributed to the participant feeling proud as well as (as revealed in a subsequent interview for guilt) guilty. Hence the complexity of the situation in part, indicates that the genuineness of the experience.

To confirm that the primary rater (the author of this Ph.D.) was not being biased in any way, another rater, who was blind to the aims of the study, was asked to rate 40% of the transcripts in addition to the ratings made by the primary rater. This rater was given transcripts that did not contain the names or group membership of the participants and was hence was blind to the diagnostic classification of the participants and aims and hypothesis of the study. Inter-rater reliability was then calculated.

5.5 Results

Inter rater reliabilities

Reliabilities were calculated for all the questions in each domain. The kappa scores ranged from 0.70 (shame); 0.80 (pride) and 0.95 (guilt). If one refers to the table in Chapter 2 (Landis and Koch, 1977), this indicates that the reliabilities range from substantial (shame and pride) to almost perfect (guilt).
Results, Pride, Guilt and Shame

These results were obtained by reading the participants transcripts and rating whether the participant seemed to have had a genuine personal experience of the emotion concerned.

**Pride**

The results reveal that while seven out of 12 children with autism were judged to express pride in an unusual manner, two out of 12 children with learning disabilities did so. Thus raters believed that children with autism provided responses that were indicative of a lack of a genuine personal experience of pride. Groups were significantly different in this regard.

*Table 5.1: Interview results for pride*

<table>
<thead>
<tr>
<th></th>
<th>genuine experience</th>
<th>unusual experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>LD</td>
<td>10</td>
<td>2</td>
</tr>
</tbody>
</table>

*Fisher’s Exact Test (one-tailed) P=0.04

**Guilt**

Results reveal that while 9 out 12 learning disabled children provided responses indicative of a genuine personal experience of pride, only three children with autism did so. Groups were significantly different in this regard.

*Table 5.2: Interview results for guilt*

<table>
<thead>
<tr>
<th></th>
<th>genuine experience</th>
<th>unusual experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>LD</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

* Fisher’s Exact Test (two-tailed) P= 0.04
Shame

Results reveal that while all children with autism interviewed expressed shame unusually, only four children with learning disabilities did so. There were significant group differences in this regard.

Table 5.3: Interview results for shame*

<table>
<thead>
<tr>
<th></th>
<th>genuine experience</th>
<th>unusual experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>LD</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

* Fishers Exact Test, (two-tailed) $P=0.001$

5.6 Discussion

The previous study demonstrated that while children with autism as well as children with learning disabilities seemed to be accurate with regard to comprehending and recognising actions that a main character was engaged in, they were largely inaccurate with regard to using appropriate feeling terms to describe the main characters’ emotional state. A qualitative analysis showed that children with learning disabilities had a marginally higher tendency towards using a greater range of emotional terms compared to children with autism and seemed to be marginally more descriptive of the main characters’ emotional state than children with autism. The question that this analysis posed was whether there might be a disparity between groups with regard to differential levels of insight they might possess with regard to these emotions.

The current study explored this issue by investigating pride, guilt and shame using an interview. The interview conducted was an open-ended, unstructured interview that aimed to investigate whether children with autism were able to demonstrate genuine personal experiences of self-conscious emotions relative to a matched group of children without autism. The study encouraged children to share these experiences by prompting them to talk about their experiences in as much detail as possible, with a view towards understanding whether their experiences seemed to stem from a genuine emotional experience or whether they had a learned quality to them suggestive of a different route with regards to understanding self-conscious emotions.
Children with autism seemed to respond to questions regarding their emotional experiences in an idiosyncratic or stereotyped manner or to avoid answering questions altogether. There were a few exceptions who provided descriptions of emotional experiences that were similar to experiences provided by children in the control group. The children in the control group, in contrast, provided descriptions of emotional experiences that seemed less stereotyped and wider in range (with regard to the variety of situations described) than children with autism. Their descriptions also contained fewer formulaic expressions such as ‘people feel guilty when they’ve done something bad’ than children with autism and greater instances of more personalised emotion provoking situations.

Pride

With regard to pride, most children with autism cited academic achievement as something that consistently made them proud. Most responded that they mainly felt proud when they did their homework right. They did not often refer to other people in their descriptions of pride, rather the emotion they experienced seemed to derive from the accomplishment of a goal rather than a positive evaluation of themselves in comparison to others or a desired societal norm or standard. There was no sense of wanting to share this sense of achievement with other people. When asked if they had shared their sense of pride on achieving their goals with someone, most children with autism responded that they had informed their parents or teachers but their motives for doing so might have been to either gain a reward or because they were expected to rather than because they felt that gaining their parents or teachers praise would add to their sense of achievement in any way. There were a few children with autism who responded with situations other than scholastic achievements when questioned about situations that engendered pride. But here again, their descriptions suggested that they did not seem to be proud because they had evaluated themselves positively against someone or a standard. For example, one child said he felt proud when he wrote a good poem. When asked why this made him proud, he responded that he thought he was a good poet. Another child said that he felt proud when he went swimming because swimming was fun. When asked about what he thought made other people proud generally, he responded ‘they’re proud when they go to Wolverhampton’. These responses therefore seemed to either have a stereotypical, learned quality to them or were rather idiosyncratic.
Learning disabled children however, seemed to have a wider range of situations in which they felt proud. These children described situations such as cleaning out a reptile tank successfully for a parent, scoring a goal at football, riding a bicycle, cutting grass ‘straight’ and as mentioned earlier doing something forbidden with friends. All the situations described had a distinctively socially evaluative feel to them. For example, one of the children who described feeling proud when he learnt to ride a bicycle said it made him proud ‘because everyone said when are you going to start riding a bike, I bet he can’t and then I did.’ Hence these experiences seemed to be drawn from a personal repertoire of emotional experiences involving others rather than from a seemingly learned list of situations where one was expected to feel proud.

**Guilt**

This difference in description of self-conscious emotions between children with autism and those with learning disabilities held true for other self-conscious emotions investigated too. With regard to guilt, most children with autism seemed unable to recall a time when they had felt guilty. When asked to describe when people normally felt guilty, most responded by saying that people normally felt guilty when they had done something bad and that they would resolve this guilt by apologising. There were also some idiosyncratic responses such as ‘I feel guilty when he swings his jacket and knocks my cards down’. This particular participant responded by referring to what had happened to the main character in the video clip depicting guilt- namely that he had been swinging his jacket around and accidentally knocked down a tower of cards someone else had built. Three of the participants however, seemed to have had genuine personal experiences of guilt. One of them said she felt guilty when she was ‘horrible’ to her sister and pulled her hair and she resolved this by apologising to her sister. Another participant said she felt guilty when she forgot to phone her father and resolved her guilt by calling him to apologise. However, in general, children with autism seemed, yet again, to be unable to discuss their own personal experiences with guilt.

Learning disabled children however, once again, were able to describe a range of situations that elicited guilt in them. The descriptions provided ranged from inadvertent mishaps such as breaking a vase, covering the floor with paint, watching something forbidden, or not doing the washing up to hurting
someone's feelings deliberately. One child summed up when people feel guilty by saying that generally people feel guilty when 'they've done something wrong that they didn't mean to'. These children also mostly responded by saying that they would resolve their guilt by apologising or 'owning up'. Hence, in comparison to children with autism, the social consequences and outcomes of their actions seemed to dominate their descriptions of guilt.

Shame

Similarly with regard to shame, a number of children with autism said they could not recall a time when they felt ashamed. However, the few that did responded idiosyncratically. For example, one of the participants said she was ashamed when she couldn't find her skirt and when asked why this was so, she said it was because it was her favourite. Another participant said he felt ashamed when 'I climbed the ladder to fix the light bulb.' Here again, the participant had watched the video clip depicting shame where a man felt ashamed as he was unable to fix a light bulb while someone else was able to do it very easily. A few participants provided responses that indicated that they believed shame to occur when 'something wrong' had happened and that this 'something wrong' would have negative repercussions for them in terms of someone being upset or annoyed with them. For example, one participant said he felt ashamed when he didn't help his mother as he believed that she was angry with him for not doing so. Another participant felt ashamed when she broke her sister's toy as she believed that her sister would get annoyed with her. Hence these participants seemed to be experiencing an emotion akin almost to fear or even guilt rather than shame, as shame is thought to be a more intense feeling than guilt where the whole self is put through painful negative scrutiny rather than the self's actions as is the case with guilt (Tangney, 1995). Also, as was the case with other self-conscious emotions, a few participants provided a general, formulaic description of how they thought people might feel when they were ashamed rather than provide this explanation by way of describing a personal incident they had experienced. For example, one of the participants said that when people feel ashamed, they 'think negatively about themselves' and another participant said that people feel ashamed about 'stuff they did wrong'.
In contrast to this, a number of learning disabled children responded with experiences that indicated a genuine experience of shame. For example, one of the participants said that ‘being slow’ made her ashamed of herself. Another said he felt ashamed of himself when he played ‘targets’ with his friends as he always missed the target. Yet another said that people feel shamed when they ‘....make promises and say I can do this when they can’t. Then the person says let me watch you do it and you can’t.’ he also added that people who were ashamed tended to ‘wander round on their own.’ Most participants tended to provide responses indicative of the whole self being negatively evaluated rather than the self’s actions being negatively reinforced as was the case with children with autism. Hence, other than few learning disabled children who did not seem comfortable talking about their shame experiences, most children seemed to be able to provide adequate responses with regard to shame.

Summary and Conclusions

To conclude therefore, the responses of children with autism, in this study, were in concordance with other studies on self-conscious emotions in children with autism described earlier in that although children with autism report experiencing self-conscious emotions as frequently as learning disabled children, their reports seem less personalised and more circumscribed than them. Children with autism seemed to have learnt to identify situations in which people come to experience various self-conscious emotions as revealed by the fact that they seem to be more comfortable providing generalised formulaic statements of when people feel proud, guilty, ashamed or self-conscious rather than drawing from their own personal experiences to do so. When they did report experiencing these emotions, they were mainly in a circumscribed set of situations rather than a wide range of situations as was the case with children with learning disabilities. Results from the previous study indicated that although children with autism were able to respond with an emotion term that was allied closely in hedonic tone to the target emotion, they used basic emotions terms to describe what the main character felt, while learning disabled children tended to be marginally more descriptive. It was suggested that this result revealed that children with autism might have limited insight with regard to these emotions. Given the nature of the responses of children with autism it might be possible that they come to learn to recognise emotions using, perhaps, a non affective route to do so. This has been proposed by the cognitive compensation hypothesis that states that children with autism might learn strategies to recognise
emotions due to the fact that they may not necessarily experience these emotions themselves (Kasari, Chamberlain and Bauminger, 2001).

Other theories, such as theories of amygdala dysfunction, have proposed more biologically based explanations of this phenomenon. The amygdala, a subcortical region in the anterior part of the temporal lobe has been shown to receive projections from the overlying temporal lobe, the orbitofrontal cortex as well as several subcortical areas. Certain groups of neurons in the amygdala respond to faces and are thought to be involved in the social and emotional responses to faces. Bilateral removal of the amygdale in monkeys may produce striking behavioural changes which include tameness, a lack of emotional responsiveness and excessive examination of objects, often with the mouth, and eating of previously rejected items such as meat (Rolls, 2000). In this regard it has been proposed that amygdala dysfunction in autism may contribute to an impaired ability to link visual perception of socially relevant stimuli with retrieval of social knowledge with elicitation of social behaviour (Adolphs, Sears & Piven, 2001).

The results from this study as well as the previous one, are in keeping with results from other studies by Moore, Hobson, and Lee (1997). As mentioned in Chapter 1, this set of studies analyzed whether there may be separable components to the human ability to perceive people as people who engage in actions and who have attitudes. In 3 experiments, matched groups of typically developing, autistic and non-autistic learning disabled children and adolescents were tested for the ability to recognize videotaped representations of "a person", a person's actions and a person's emotion-related attitudes and subjective states as manifest in moving point-light images of people. Autistic and non-autistic participants did not differ in the ability to recognize that a person was represented in very brief exposures of a walking point-light display. Autistic, learning disabled and typically developing participants were also equally able to recognize a person's actions. It was also shown that learning disabled and typically developing participants were similar in their propensity to notice a person's attitudes vis-à-vis the person's actions, and in their abilities to recognize actions and attitudes when asked. By comparison, however, autistic participants were impaired in attending to and discriminating people's attitudes and states. These results were revealing of the spared and impaired abilities in children with autism in that the interpersonal difficulties that stemmed from autistic individuals'
impaired ability to perceive and engage with people's attitudes might be somewhat mitigated by their relative ability to perceive the actions of others. The results from the two studies described in this chapter and the previous chapter are closely allied to the results obtained by Moore et. al. in that children with autism seem to be able to recognise actions that individuals engage in but not the emotions that accompany these actions. However, these actions, coupled with the behavioural expressions of emotions depicted by main characters, might help provide children with autism with a context in which they can then, perhaps in a non-affective manner, effectively deduce what emotion is being expressed.

The findings in this study therefore, taken together with the finding that children with autism are able to accurately recognise action sequences, as well as the results from the previous study, where parent reports indicated that self-conscious emotions were not present in many of their children with autism, and if they were, they were mostly manifested in an idiosyncratic manner, are suggestive of how impairments in affective engagement impact the development of the those aspects of the self that possibly derive from this capacity to be engaged. These results also suggest that a primary impairment in autism might be socio-affective in nature.

Although this study elaborated on previous research in the area in terms of providing a new method to study self-conscious emotions, this method did have certain limitations. First, one could question whether limitations in these contrived situations are revealing of real-life limitations. In this regard, Field and Walden (1982) reported that preschoolers who were more accurate at producing facial expressions of emotions in a structured laboratory task were also more emotionally expressive during free play situations and one would hope that this might hold true for other studies investigating emotions in more structured situations but this is still a valid criticism.

Second, the small sample size involved would mean that one has to be cautious when extrapolating the results to larger populations and studies using larger sample sizes are needed to verify the results obtained from the current study.
Third, here again, as the two excerpts in the scoring section indicate, rater judgement played an important role in interpreting responses. The primary rater was not blind to diagnosis and conducted the interview which could be a potential source of bias. However, the second rater was blind to diagnosis and substantial inter-rater reliability suggests that the results can be interpreted with some degree of confidence. However, future research should consider the importance of precise definition in this area and specifying the behavioural and subjective correlates of different emotions would assist in interpreting results with a greater degree of precision and confidence.

Fourth, a control condition where both groups discussed basic emotions, or a topic that did not involve self-conscious emotions, would have helped to further elucidate whether the differences obtained were specific to self-conscious emotions. In this regard, it is to be noted that, in the previous study, children with autism, like children with learning disabilities tended to describe what an actor was feeling using basic emotion terms which would suggest a greater familiarity with these emotions. However, this difference needs to be further examined.

Lastly, although the participants were matched on verbal IQ and were not significantly different with regard to their verbal productivity measured from responses in the previous study, this study was heavily verbally loaded and one could question whether an inability to articulate emotional experiences, on the part of the children with autism, might have arisen due to verbal difficulties or due to the fact that they had not experienced these emotions.

The next two studies investigate this possibility by trying to induce pride and guilt in children with autism and matched controls without autism. The studies eliminate the possibility that children with autism may not respond due to the fact that they might be verbally incapable of doing so and hence the results will demonstrate whether children with autism do experience these self-conscious emotions by observing their behavioural reactions in situations designed to elicit pride and guilt.
Chapter 6: An Investigation of the Expression of Pride and Guilt in Children with Autism
6.1 Introduction

Hypothesis and Aims of the study

The findings from the previous two chapters indicated that children with autism seemed unable to accurately recognise self-conscious emotions in others as well as discuss personal experiences of these emotions in ways that were not idiosyncratic or scripted. A question that arose in the previous study was whether the results obtained, were in part due to an inability, on the part of children with autism, to articulate emotional experiences (although groups were matched for verbal ability), or due to the fact that they had not experienced these emotions. The next two studies investigate this possibility by trying to induce pride, guilt and coyness in children with autism and matched controls without autism.

The aim of this study is to investigate the possibility that children with autism are limited with regard to their ability to express and perhaps experience pride and guilt. The study investigates this claim by observing the behavioural reactions of 12 children with autism compared to 12 learning disabled children matched for chronological and mental age, in situations intended to elicit pride and guilt. This study was granted ethical approval by the Joint University College London/University College London Hospitals Committees on the Ethics of Human Research.

As Chapter 2 introduced the literature on current research into pride and guilt in typically developing children and children with autism, the focus of this chapter will be the current study on the expression of guilt and shame in children with and without autism.
6.2 Participants

Twelve children with autism and 13 matched controls without autism took part in the study.

Sample of children with autism

The children with autism were from a special school for children with autism. They ranged in age from six to twelve years. Their diagnosis was confirmed using the Childhood Autism Rating Scale (CARS) and an autism checklist derived from the DSM IV (American Psychological Association, 1994) and adapted for use with children with autism by A. Lee, (personal correspondence). The information obtained was done so by using personal interviews with teachers. The mean CARS score of children with autism was 33.8 and the scores ranged from 30 to 40.5.

Sample of children with learning disabilities

The children with learning disabilities, similarly, were from a special school for children with learning disabilities. The children ranged in age from 7-12 years.

The two groups were group matched on verbal mental age. To obtain verbal mental age, both groups were given the British Picture Vocabulary Scale. They were given the Ravens Progressive Matrices to assess non verbal mental age.

These details are presented in tabular form below.
Table 6.1: Participant characteristics

<table>
<thead>
<tr>
<th></th>
<th>Chronological Age</th>
<th>Verbal Mental Age (BPVS)</th>
<th>Non Verbal IQ (CPM)*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean yr; mo</td>
<td>SD - mo</td>
<td>Range yr; mo</td>
</tr>
<tr>
<td>Autistic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 12</td>
<td>9;9</td>
<td>22;8</td>
<td>6;4-12;4</td>
</tr>
<tr>
<td>M: F=10:2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-autistic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 13</td>
<td>9;5</td>
<td>16;5</td>
<td>7;2-11;3</td>
</tr>
<tr>
<td>M: F=10:3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Coloured progressive Matrices

6.3 Method

General introduction to tasks

There were two tasks aimed to elicit guilt in the participants and two comparison tasks. There was a single pride task that aimed to induce pride in participants and a comparison task to the pride task. The ‘comparison’ tasks for guilt and pride were deemed as such as they were designed with the intention of divesting a sense of responsibility from the participant with regard to the tasks at hand (i.e. ‘breaking’ a pair of glasses or drawing a very good picture). The aim was to establish whether the children’s reactions were specific to the feeling induced or rather to the sequence of unfamiliar events. This will seem clearer in the light of the task methodology detailed below.

Each participant received four testing sessions. The sessions were a week apart to eliminate fatigue and boredom with tasks. Hence the participant received one guilt or pride inducing task per session. Half the participants received a guilt-inducing ‘doll’ task and the other half received a guilt inducing ‘glasses’ task. The participants who received the guilt inducing ‘doll’ task received, as a comparison
task, a ‘glasses’ task and the participants who received a guilt inducing ‘glasses’ received, as a comparison, a ‘doll’ task. All participants received the same pride and pride comparison tasks. The rationale for this, as well as the order in which the tasks were administered will be explained after an explanation of the tasks themselves.

Each session took about 10 minutes per participant. All sessions were video-taped.

**Guilt-inducing tasks**

The guilt task, as the name suggests, aimed to elicit guilt in the participants. This task was subdivided into two guilt inducing tasks. In one of these tasks, the researcher introduced three dolls to the participants. In the other task, the researcher introduced three pairs of glasses to the participants. As mentioned above, half the participants received the glasses task as the main guilt-inducing task and were given the doll task as a comparison task. The other half received the doll task as the main guilt-inducing task and received the glasses task as a comparison task.

**Glasses Task**

The glasses task involved presenting the child with three pairs of glasses (spectacles). The researcher introduced the glasses by saying, ‘I just bought three pairs of glasses. I have to wear one of them tomorrow.’ She picked up a white pair and said, ‘I like this white pair’ she then put down the white pair and picked up the next pair and said ‘and I do like this black pair’. She then put down black pair and picked up a pair of dark glasses and said ‘but I do like this pair of dark glasses the best.’ The researcher looked at them for about two seconds and then said to the participant, ‘Could you try them on for me while I look to see if I have any more?’

The participant was then given the last pair of glasses, which had already been broken surreptitiously so that when the participant opened up the arms of the glasses, one of the arms fell apart from the glasses. While this happened, the researcher had her back turned to the participant, looking in a bag for about five seconds. This was designed to give the participant enough time to ‘break’ the glasses. As
the participant did not know the glasses were already broken, s/he possibly presumed that s/he was responsible for ‘breaking’ the glasses when the arm fell off.

The researcher then turned around and said ‘the glasses are broken.’ She looked at the glasses with a blank expression for four more seconds. This was designed to give the participant sometime to react emotionally. This was a time when, if the participant was feeling guilty, s/he would exhibit signs of it, and the researcher’s silent staring at the broken glasses might have also caused a sense of unease. The researcher then reassured the participant by telling him/her that the glasses had already been broken and showed him/her what happened so as to ease the guilt if indeed any was present.

**Doll task**

The doll was similar to the glasses task in that it involved the researcher presenting the participant with three dolls rather than glasses saying ‘I just bought these three dolls and I need to give one of them to my sister tomorrow.’ The researcher then picked the first one up and said ‘This is John and I do like him’. She put the doll down and picked up the doll next to John and said, ‘This is Mary and I like her too.’ She then picked up the last doll and said ‘This is Sue and I think I like her the best. I think I’ll give her to my sister.’ The researcher then handed the doll over to the participant and said, ‘Can you make Sue sit down? I want to look in my bag to see if I have any more to show you.’ Sue’s leg had been designed to snap off if bent. However, the participant was not aware of this. The researcher then turned her back for five seconds and pretended to be looking for another doll in a bag. This was to give the participant sufficient time to ‘break’ the doll’s leg while attempting to sit it down. The researcher then turned around and looked at the doll saying ‘Sue’s leg is broken.’ She continued to look at the doll for four seconds to give the participant time to react guiltily if they were so inclined. The researcher then reassured the participant that Sue’s leg had already been broken and that it wasn’t the participant’s fault.

The study introduced two guilt inducing tasks because if a participant was given, for example, a task that involved him/her breaking a doll in the first task, s/he might be aware of this and be hesitant, at the very least, about performing the same task again another time. Hence if the participant was given
another object, it was presumed that s/he would not have any preconceptions about this object and would thus be able to be more amenable to handling it more naturally than an object s/he has handled and 'broken' in the past.

Comparison tasks for guilt

These comparison tasks were always administered after the participant had received a guilt – inducing task. Each participant always received a guilt inducing condition in the second testing situation. The order of the tasks was designed to maximise the inducement of guilt. To elaborate, if a participant received a situation in which s/he was exposed to something breaking (i.e. if s/he received a comparison task where s/he was exposed to something that had already been broken, as will be demonstrated below) s/he may not have felt any sense of guilt the second time s/he actually broke something as s/he might have assumed that it was in fact okay to break things or that things s/he received had already been broken. Hence a fixed order of tasks outweighed the benefits that might have been achieved by counterbalancing the tasks.

Comparison task for guilt inducing glasses

The comparison task for the guilt-inducing glasses task involved presenting the participant with three pairs of glasses. The researcher introduced the glasses in the same manner as the guilt-inducing glasses task. However, this time, when she handed over the glasses to participant to try on, she then opened them up and in the process of doing so, 'accidentally' broke them. She then drew the participant's attention to this by saying 'oops' while holding the broken pieces on her lap and looking at them for two seconds. She then fixed the glasses, closed them up and handed them over to the participant. The researcher then turned her back on the participant to do something for about five seconds. This was designed to give the participant enough time to 'break' the glasses again. The researcher then turned around and said 'The glasses are broken'. She kept looking at the glasses for four more seconds to give the participant time to react to what she said. Hence as mentioned earlier, this condition was not designed to elicit guilt because the participant was supposed to be aware that the glasses were broken.
before they were given to him/her and hence s/he was not responsible for breaking them. Nevertheless, the participant was reassured that s/he was not responsible for breaking the glasses after the task.

Comparison task for guilt inducing doll

The comparison task for the guilt inducing doll task involved the researcher presenting the participant with three dolls in the same manner as the previous guilt inducing dolls task. However, as in the comparison task for the guilt inducing glasses, when handing over the doll, the researcher 'accidentally' broke her leg before handing it to the participant. After this happened, the researcher said 'oops' loud enough for the participant to hear and held the broken pieces on her lap for two seconds for the participant to see. She then fixed the leg back and handed it to the participant saying 'Can you make Sue sit down?' She then turned her back for five seconds and pretended to be looking for something in a bag. This again was to give the participant sufficient time to 'break' the dolls leg while attempting to sit it down. The researcher then turned around and looked at the doll saying 'Sue's leg is broken.' She continued to look at the doll for four seconds to give the participant time to react. She then 'reassured' the participant by saying that Sue had a broken leg in the first place. In fact in this task, as the participant already knew that doll had a broken leg, it was expected that s/he should feel no guilt and indeed need no reassurance as such but reassurance was provided just the same.

Other than guilt task always being introduced in the second testing session, the remaining tasks were counterbalanced. It was thought that the inducement of pride would not be affected by preceding conditions in the same way as the guilt task.

Pride Inducing task

The pride inducing task involved a confederate being present in the room. The confederate was engaged in reading something and did not seem to be aware of what was going on. The researcher asked the participant to draw a house by saying 'Can you draw a house for me? A really good house?' She then turned her back towards the participant for about ten seconds or until the participant has finished drawing. The researcher then mixed the participant's drawing with two other pictures of houses
and said 'Can you pick out the house you drew?' After the participant did this, the researcher looked at the picture and compared it to the other two by placing it in front of them. She then said, 'I like this house and I do like this house as well, but I think I really like your house the best. Yes, that's a really good house. Can you show X (the confederate) your house?' X complimented the participant saying, 'That's a fantastic house.' If the participant did not spontaneously say that s/he drew the house, X then said, 'Who drew this house?'

The reason the design of the study involved the researcher asking the participant to pick out the house s/he drew was to instil a further sense of responsibility and ownership for an achievement. It was also designed to be comparable to the guilt conditions where the researcher compared three dolls or glasses to each other and chose the one she liked best.

Comparison task for pride

The comparison task for the pride inducing task involved the researcher telling the participant 'Watch this; I'm going to draw a house.' She then drew a house in front of the participant. When she finished drawing the house, she mixed it with two other pictures and then said, 'Can you show me the house I drew?' when the participant picked out the house, the researcher compared it to the other two houses by holding it in front of them and said 'I like this house and I do like this house as well, but I think I really like my house the best. Yes, that's a really good house. Can you show X (confederate) my house?' X then said to the participant, 'That's a fantastic house.' If the participant did not say, who drew the house, X then said, 'Who drew this house?'

In this part of the study, the participant was not expected to feel proud as s/he did not draw the picture him/her self.

Hence, in short the tasks were:

A. Guilt Inducing Glasses Task

A1. Comparison for Guilt Inducing Glasses Task

B. Guilt Inducing Doll Task
B1. Comparison for Guilt Inducing Doll Task

C. Pride Inducing Task

C1 Comparison for Pride Inducing Task

All responses were videotaped.

6.4 Predictions and Scoring

Predictions

We predicted that there would be significant differences between groups with regard to conditions in which pride and guilt were induced in that children with autism were expected to show fewer behavioural signs indicative of pride and guilt than children with learning disabilities. When pride or guilt was shown, we predicted that children with autism would display these two self-conscious emotions in a way that was less interpersonal than matched controls without autism.

We also predicted that children with autism would also express fewer contrasts in emotional states between guilt/pride and comparison conditions, relative to matched controls.

Scoring

All ratings were made by two raters blind to the aims and hypothesis of the study as well as diagnostic classification of participants. The first rater was the primary rater and the second rater served to provide reliability ratings in order to ensure that the primary raters’ ratings were not biased in any way.

Initial rating (verbal description of behaviour)

The raters were initially shown four video clips per participant, but were not told what emotion was being elicited. These clips showed the participant engaged in either the pride, guilt or comparison tasks. The clips were randomised. In the pride clips, the clips showed the participant showing the
drawing s/he drew or the drawing the researcher had drawn to the observer and the observers’ initial reaction to this drawing (i.e. the observer saying ‘that’s a fantastic house’) but not his/her subsequent prompt to the participant (i.e. the question ‘who drew this house?’). As this was a spontaneous, unbiased rating, it was thought that showing the raters the section of videotape that contained the child or researcher claiming ownership of the drawing might bias them towards saying that the child either did or did not feel pride. In the guilt clips the raters were shown the participant initially ‘breaking’ the glasses or doll as well as the participants reaction to the researchers comment ‘the glasses are broken’ or Sue’s leg’s broken’. They were not shown the initial part of the clip that showed the researcher breaking the doll’s leg as, again, this might have biased them to report that the child did not feel guilt.

The raters were then asked to judge, for each clip, what the participant was feeling. Hence they were told ‘You will be shown a series of clips. I’d like you to write down what you think the child is feeling in each of these clips.’ The raters responses were noted for each of the clips. These responses were noted verbatim but in addition to this, for the purposes of scoring, these ratings were then converted into numerical data. In order to do this, for the pride and pride comparison responses, initially these scores were expressed categorically. The categorical system represented whether the raters had judged a self-conscious emotion to be present or not (responses including basic emotions such as happiness, were considered as being inaccurate).

In addition, a subtler analysis was introduced where a rating from 0-2 was given for each of the responses where 0 indicated that no emotion was expressed, 1 indicated that an emotion other than a self-conscious emotion was expressed (such as happiness) 2 indicated that a self-conscious emotion was expressed (shy, embarrassed, proud). Thus an initial inaccurate response included 0 and 1 scores and an initial accurate response included responses scored as 2).

The guilt and guilt comparison tasks were scored in the same manner.

It is to be noted once again, that this initial rating was an unbiased judgement made by raters to ascertain what emotion a child was experiencing. This rating was unbiased in the sense that the raters did not know that the child was supposed to be feeling pride or guilt and were only informed later. Hence the raters responded with a number of adjectives to describe the child’s emotional state, as well
sometimes the degree to which the child might be experiencing these emotions (such as saying a child was ‘mildly embarrassed’ or ‘deeply guilty’).

Rating of pride and guilt

The raters were then shown pride, guilt and comparison clips again. This time the clips were randomised again but all the (randomised) guilt (and guilt comparison) clips were shown after the (randomised) pride (and pride comparison) clips. The raters were told to watch the clips and were told that in some of the clips, the child was expected to feel pride and in some of the clips the child was expected to feel guilt. The raters were asked to judge whether the clips indicated whether the participant felt proud or not, or whether the child’s behaviour in the clip was ambiguous in that one could not judge from the clip whether the child was clearly proud. Hence the instructions given to the raters were, ‘You’re going to be shown some more clips. In some of the first set of clips you will see, the child is expected to feel proud and in some of the second set of clips you will see, the child is expected to feel guilt. You will have to rate each of these clips as to whether you think the child displays:

(a) No indication of pride or guilt (b) A non specific indication of possible pride (eg. Happiness) or possible guilt (eg. Unhappiness) and (c) A clear indication of pride and guilt.’ This was later scored as 0, 1 and 2 respectively.

The guilt and ‘comparison for guilt’ clips remained unchanged from the clips shown to the raters for their initial ratings. However the pride clips showed, in addition to the observer’s reaction, the observers prompt i.e. ‘Who drew this house?’ and the participant’s reaction to this prompt. The rationale for not showing the whole clip the first time, as mentioned earlier, was in order not to bias the raters by giving them differential information with regard to pride and pride comparison scenarios.

This subtler rating system was incorporated into a categorical system to indicate whether or not a child had expressed pride or guilt. Thus results were reported as being clearly indicative of pride or guilt being expressed or not indicative of pride of guilt being expressed. Thus behaviour not indicative of
pride or guilt being expressed incorporated the initial 0 and 1 ratings and behaviour indicative of clear signs of pride and guilt being expressed incorporated the initial 2 ratings.

*Ratings for odd behaviour*

The raters were then asked to rate the same clips with regard to any odd behaviour they might have observed in the course of the child’s display of these emotions. ‘Odd’ behaviour was a general term employed to signify whether the raters thought that there was something unusual about the way a child might have displayed a certain emotion. For example, a child might have smiled on being told that s/he had drawn a lovely house but may have completely avoided looking at the researcher and might have stared straight ahead instead. In this case, the child might have been experiencing pride but displayed it in a way that was not normal. Or, in the case of guilt, a child might have displayed verbal signs of guilt (saying ‘oops’, ‘sorry’ etc.), but may have smiled while doing so in a way that suggested a certain ambiguity of feeling. Hence this rating was more often than not, a rough indication of something amiss with regard to the display of emotions that could indicate an unusual experience of the emotion.

Raters were instructed in the following way: ‘Could you say whether you think that there is anything odd about the way the child displayed these emotions?’

Please circle one of the two options provided

YES  NO

These yes/no ratings were then coded so that yes=1 and no=0 for purposes of analysis.

*Rating of direction of feeling*

The raters were then asked to rate the same clips with regard to whether the feeling expressed were directed towards another person. In other words, other-directedness indicated that the child was communicating with the researcher when expressing him/herself with a view, in some cases, towards communicating an emotional state to her or him. The raters were instructed in the following manner: ‘Could you now say whether you think the feelings displayed by the child were clearly directed at another person?’ please circle one of the options provided below:

YES  NO
These yes/no ratings were then coded so that yes=1 and no=0 for purposes of analysis.

*Ratings of Verbal / Non verbal Expressions of Emotion*

In an exploratory manner, raters were also asked how they came to make their judgements. They were asked whether they simply relied on non verbal expressions of behaviour or whether they also used verbal expressions of behaviour (e.g. saying ‘oops’ or ‘it’s broken’) to make their judgements or indeed whether they used both. They were also asked to indicate what sort of non verbal behaviour they thought was important in making their judgement. In this regard they were given the option of choosing from facial expressions of behaviour (e.g. smiles, eye contact or looking away), bodily expressions (e.g. raising hands) or both.

The rater had to answer yes or no with regard to whether s/he thought that the basis of his/her judgement originated in any of the above categories. These yes/no ratings were then coded so that yes=1 and no=0 for purposes of analysis.

The ratings were then analysed with regard to inter-rater reliability.

A point to be mentioned with regard to these is that there were no predictions based on them. It was thought that the information gained by this analysis would provide a very general indication of how children with autism expressed these emotions, at times when they did express them and whether they used gestures to express these emotions.

### 6.5 Results

*Inter rater reliability*

*Verbal descriptions*

Inter rater reliabilities were calculated for all the questions in the pride and guilt domains. The kappa scores were as follows: 0.68 for ratings of verbal expressions of pride and 0.50 for verbal descriptions.
of guilt. If one refers to Table 2.3 in Chapter 2 (Landis and Koch, 1977), this indicates that the reliabilities ranged from moderate to substantial.

**Indications of pride and guilt**

The kappa scores were as follows: 0.84 for ratings of pride and 0.84 for guilt. This indicates that the reliabilities ranged were almost perfect. Thus, when raters were asked explicitly to judge the expression of pride and guilt, they did so with a greater degree of reliability than when asked non-specifically for verbal descriptions of emotions.

**Yes No ratings of oddness**

The kappa scores were as follows: 0.76 for ratings of pride and 0.8 for guilt. This indicates that the reliabilities were substantial.

**Yes No ratings of Direction of feeling**

The kappa scores were as follows: 0.63 for ratings of pride and 0.88 for guilt. This indicates that the reliabilities ranged from substantial to perfect.

**Ratings of Verbal / Non verbal Expressions of Emotion**

Kappa scores here ranged from 0.47 (non verbal face, guilt) to 1.0 (non verbal body, pride; non verbal face, pride). Most scores were in the 0.61 to 0.80 range indicating substantial agreement. These scores are reported in the appendix.

**Results: Verbal description of behaviour**

This was, as mentioned earlier, an unbiased judgement made by raters to ascertain what emotion a child might have been experiencing.
Pride

To reiterate, to make this rating raters were initially shown four video clips per participant, but were not told what emotion was being elicited. These clips showed the participant engaged in either the pride, guilt or comparison tasks. The clips were randomised. Raters had to then judge what emotion was being expressed. Verbal responses provided were then classified as self-conscious emotions (such as pride, feeling good about oneself) or non self-conscious emotions (such as happy, amused) Results reveal that according to raters, approximately half the number of children in each group expressed pride. There were no significant differences between groups in this regard.

Table 6.2: Verbal descriptions, pride

<table>
<thead>
<tr>
<th></th>
<th>Self Conscious Emotion</th>
<th>Other/ No emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>LD</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

Pride comparison task

In comparison to this, with regard to performance of participants in the pride comparison task, 9 children with autism were judged to express pride, 3 more than in the main pride task and 7 children with learning disabilities were judged to express pride, 1 less than in the main pride task.

Indication of Pride Rating

As a second procedure, the raters were asked to judge whether the clips indicated if the participant felt proud or not. In this regard they had to judge whether the child’s behaviour in the clip was too ambiguous to make a judgement about whether s/he was clearly proud or whether the child clearly expressed pride. In other words, there was now a specific focus on the feeling of pride in comparison to the previous rating.
As can be seen in the table below, only a minority of children with autism showed pride whereas the majority of children with learning disabilities did so. Although the difference obtained was not significant, it bordered on being so.

Table 6.3: Pride rating

<table>
<thead>
<tr>
<th></th>
<th>Indication of pride</th>
<th>no indication of pride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>LD</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

Fischer's Exact Test (one-tailed) (ns): P=0.07

Pride comparison task

In comparison to this, in the pride comparison task, only a single child with autism was judged to have expressed pride and 2 children with learning disabilities were judged to have done so. Here it is notable that a number of children did react (with smiles), but were not judged to be expressing pride.

The pictures below provide one example of differential responding between a child with autism and a child with learning disabilities with regard to expressing pride. In this case, the child with learning disabilities was rated as clearly expressing pride and the child with autism as not expressing pride. A confederate is seated to the left of the child (not seen in the picture) and the child is shown answering the question ‘Who drew this picture?’ and then reacting to the praise provided by the confederate. The first two pictures show these reactions in a child with learning disabilities and the second two show these reactions in a child with autism.
Picture 7: ‘Who drew this house?’ Participant with learning disabilities

Picture 8: Reaction to praise: participant with learning disabilities
Guilt

Here again verbal responses provided by raters were classified as self-conscious emotions (such as guilt, feeling bad about one’s actions) or non self-conscious emotions (such as unhappy, mild concern)
In the case of guilt, while there were only 2 learning disabled children who were judged not to have expressed a self-conscious emotions, seven children with autism were judged not to have expressed a self-conscious emotions— a significant difference.

Table 6.4: Verbal descriptions, guilt*

<table>
<thead>
<tr>
<th></th>
<th>Self Conscious Emotion</th>
<th>Other/ No emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>LD</td>
<td>11</td>
<td>2</td>
</tr>
</tbody>
</table>

*Fisher's Exact Test (two-tailed), \( P = 0.04 \)

Guilt comparison task

In the guilt comparison task, 7 children with autism were judged to have expressed guilt, 2 more than in the main guilt task while 9 learning disabled children were judged to have expressed guilt, 2 fewer than in the main guilt task.

Indication of guilt rating

As with the pride rating, the guilt rating was introduced as a second procedure. The raters were asked to judge whether the clips indicated if the participant felt guilty or not or whether the child's behaviour in the clip was ambiguous in that one could not judge from the clip whether the child was clearly guilty. In other words, there was now a specific focus on the feeling of guilt.

Results reveal a marked difference between groups in this condition. While only a single child with autism was judged to have expressed guilt, a large majority of learning disabled children were judged to have done so. Thus groups were significantly different.
Table 6.5: Guilt rating*

<table>
<thead>
<tr>
<th></th>
<th>Indication of guilt</th>
<th>no indication of guilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>LD</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

*Fisher's Exact Test (two-tailed) $P = 0.001$

Guilt comparison task

In the guilt comparison task, none of the children with autism were judged to have expressed guilt while 4 learning disabled children were judged to have expressed guilt in this task.

As in the last section, the pictures below show the participant’s reaction to the researcher saying ‘the glasses are broken’ as well as the participant’s consequent efforts to fix the glasses. The first set of pictures show the reactions of a child with learning disabilities when he realises the glasses are broken and his attempts at fixing them and the next set show the reactions of a child with autism doing the same.

*Picture 11: Reactions of participant to the statement ‘the glasses are broken’: Learning disabled participant*
Picture 12: Attempt to fix glasses: Learning disabled participant

Picture 13: Reactions of participant to the statement ‘the glasses are broken’: Autistic participant
The results for the main pride, guilt and comparison tasks are presented in the histogram below.

**IMPORTANT NOTE:** Groups were of different sizes (children with autism=12; children with learning disabilities=13)
Additionally, when comparing children’s performance in the index and comparison tasks, it is to be noted that index and comparison tasks were constructed to elicit differential emotional responding. While the index task was designed to induce pride or guilt, the comparison task was designed not to do so. Thus when comparing the performance of children in the index and comparison tasks, results from the control group provide provisional indication of the specificity of responding. In this regard, eight children were reported to have been rated as having expressed pride and ten children reported to have expressed guilt in the main pride and guilt tasks. In comparison, two and four children expressed pride and guilt respectively in the comparison pride and guilt tasks. In the groups of children with autism however, floor effects only corroborate their non-responsiveness in both pride and guilt conditions.

This demonstrates that while children with learning disabilities seemingly reacted differently to index and comparison tasks, children with autism performed similarly with regard to both these tasks which suggests a similar level of emotional response (or non response) to what other children considered to be differentially emotionally charged tasks.

*Results: Odd behaviour*

As in the previous study, what was most ‘odd’ about the response of children with autism to emotional situations was their lack of an emotional response. However, this rating reveals whether there were any other patterns of behaviour that were odd other than a non response.

While children with learning disabilities were judged to have expressed no odd behaviours in either of the comparison tasks, three out of the 8 children with learning disabilities who expressed pride, were judged to have expressed it in an odd manner while two out of 10 were judged to have expressed guilt oddly.

With regard to children with autism, two out of three children who were judged to have expressed pride, were judged to have expressed it in an odd manner and the one child who was judged to have expressed guilt, did so in an odd manner. With regard to the comparison tasks for pride, again the one
child who was judged to have expressed pride in this task, did so in an odd manner. None of the children with autism were judged to have expressed guilt in the guilt comparison task.

The nature of this odd behaviour will be discussed in the 'qualitative analysis' section but to be noted is that in terms of absolute numbers, an equal number of children in both groups seemed to have displayed odd behaviour. However, almost all the children with autism who expressed pride expressed it in an odd manner while this ratio was lower in the groups of children with learning disabilities. Similarly the one child who did express guilt did so in an odd manner while again this ratio was much lower in the group of children with learning disabilities. Thus, almost all the children with autism who expressed pride and guilt did so in an odd manner compared to the control group.

**Results: Other-Directedness**

These results represent whether the rater thought that the child’s behaviour was directed towards another when s/he expressed emotions. With regard to other directedness, all the children in both groups, who were judged to have expressed pride and guilt in both the pride and guilt comparison tasks, were judged to have expressed it in relation to another. In other words, while three children with autism were reported to have communicated their expressions of pride with the researcher, eight children with learning disabilities did. Although there were no significant differences obtained here, results revealed a greater tendency on the part of children with learning disabilities to communicate the pride experienced to the researcher relative to children with autism. In the pride comparison task, one child with autism and two children with learning disabilities directed their emotions towards the researcher.

In the same way, while one child with autism directed guilt towards the researcher, 10 children with learning disabilities did. In this condition significantly more children with learning disabilities were other directed relative to the children with autism (*Fisher's Exact Test (two-tailed) P< 0.005*). In the guilt comparison task, four children with learning disabilities directed their emotions towards the researcher.
Although, this rating did not provide an indication of the degree or quality of the way in which children communicated their emotion, when considered in conjunction with the 'oddness' rating, one can see that children with autism possibly engaged with the researcher in a qualitatively different manner than children with learning disabilities. Thus in addition to engaging with the researcher less frequently than children with learning disabilities, children with autism also tended to engage in an idiosyncratic manner relative to the control group.

*Results: Ratings of Verbal / Non verbal Expressions of Emotion*

The results below provide an informal description of how raters came to make the judgements they did.

*Pride*

The raters made their judgements regarding the expression of pride on the basis of the bodily and facial expressions of eleven children with autism and the same number of children with learning disabilities. Additionally, in ten children with autism and eight children with learning disabilities, raters also used verbal expressions to make their judgements regarding the expression of pride.

*Guilt*

Similarly in the guilt task, raters made their judgements on the basis of the bodily and facial expressions of 11 children with autism and 12 children with learning disabilities. Additionally, in ten children with autism and the same number of children with learning disabilities raters also used verbal expressions to make their judgements.

Thus, raters seemed to have made their judgements in a holistic manner, using both verbal and non verbal expressions of behaviour as guides to do so.
6.6 Qualitative Analysis of Results and Discussion

Pride

With regard to pride, results indicated that while there were no significant differences between groups, far fewer children with autism expressed this emotion relative to the control group. To elucidate this result further, when one considers the initial scoring system (where 0 = no indication of pride; 1 = a non specific indication of possible pride (e.g. happiness) and 2 = a clear indication of pride), while 8 children with learning disabilities showed a clear indication of pride (i.e. received a score of 2), only 3 children with autism did so. Five children with autism received a score of 0 compared with three children with learning disabilities. With regard to the 'comparison for pride' condition, both groups seemed to display, on an average, non specific indications of possible pride i.e. most children received a score of 1 (six children with autism and seven children with learning disabilities to be precise). To explain the results, the raters main comment regarding the performance of children with autism on the main pride task as well as children with learning disabilities on the 'comparison for pride' task was the level of 'disinterest' when complimented on the task displayed by the two groups in these two conditions. This was evidenced by children looking away or not reacting with smiles or verbal expressions of pride when praised by the researcher. While it seemed relatively more typical to behave in this manner on a task designed not to induce pride, it seems less typical not to express pride in the pride inducing task.

In the case of children with autism behaving in a disinterested manner on the pride-inducing task, one could always question whether the task itself was sufficient to induce a feeling of pride in these children, many of whom received positive motivational communication from teachers on a daily basis. Children could have also deemed the task too easy to be praiseworthy and therefore displayed disinterest when praised. However, as a majority of children with learning disabilities were judged to express pride on this task, one might have cause to doubt the validity of this explanation as children came from fairly similar academic backgrounds.

Disinterest could also have been expressed by both groups for different reasons in different tasks. This can be observed in the differential performance by children with learning disabilities on the main and
comparison tasks compared to children with autism. Fewer children with learning disabilities expressed pride in the comparison tasks compared to the index task. It might be possible that fewer children with learning disabilities displayed disinterest in the 'comparison for pride' task due to the task, quite rightly, not inspiring them to do so, as the task divested them of a sense of accomplishment for drawing a picture. However, a large majority of them clearly expressed pride when they felt a sense of accomplishment in the index pride task. As children with autism were largely non-responsive in both index and comparison tasks for pride, one could ask whether these children had the capacity to express or experience this emotion.

However, these arguments remain speculative and a solution could be to design tasks with degrees of difficulty to see if this has a differential effect on the display of pride.

**Guilt**

With regard to the expression of guilt, children with autism were significantly different from children with learning disabilities. The one child that did express guilt was seen to have shared this experience with another but in an idiosyncratic manner. In this regard, raters scoring the reactions of children with autism noted that they, as in the case of pride, seemed largely disinterested in the fact that they had broken someone's doll or pair of glasses. Although a large majority of them remarked on the broken glasses and doll, a number of them did so in a way that was remarkably devoid of behavioural signs of guilt. This was in stark contrast to the control group who reacted guiltily even in the guilt comparison condition where they had seen the pair of glasses or doll being broken by the researcher and hence could be sure that the act of breaking these objects wasn't attributable to them. It is interesting to note that while a large number of learning disabled children looked away from the researcher or looked down, when the researcher commented on the broken glasses or doll, children with autism did not show signs of deliberately wishing to avoid the researchers gaze. Some again made unusual comments such as 'it's my birthday soon' or 'are those bones?' (Pointing to a picture of the human body on the wall of the classroom), possibly indicative of disinterest in the emotional state of the researcher. Others tried to fix the doll or glasses in a way that did not suggest that they had any part in breaking them. Again, one could attribute this to the task not being sufficiently guilt-inducing but given that a large number of
learning disabled children displayed reactions that suggested that they were experiencing guilt, even in the condition designed not to provoke it, one could say that the conditions was sufficiently guilt provoking, at least for individuals who were inclined to feel guilty.

Oddities

With regard to oddities, this was a general term employed to signify whether the raters thought that there was something unusual about the way a child might have displayed a certain emotion. There were very few children in both groups who expressed emotions in an ‘odd’ way other than not expressing the emotion being induced. The other main oddity commented upon by the raters, for both groups was, as mentioned earlier, the level of disinterest displayed in the case of pride. However, there were a few cases where oddities signified something else. For example, as mentioned earlier, a raters’ comment on observing a child with autism in the pride task was that the child smiled on being told that he had drawn a lovely house but completely avoided looking at the researcher and stared straight ahead instead. In this case, the child might have been experiencing pride but displayed it in a way that was not normal. Another child with autism, on being praised, smiled and responded saying, ‘Winnie the Pooh is cute’. In the case of guilt, a raters’ comment for a child with learning disabilities was his verbal comment that the doll’s leg was broken but his disinterest in the researchers emotional state to being told this was the case. Here again, the raters felt that the child might have experienced guilt but expressed in a way that was odd. As mentioned earlier, a greater proportion of children with autism displayed pride and guilt in an odd manner compared to the control group. This result, coupled with the lower frequency of emotional expressiveness in children with autism, indicates that their experience of pride and guilt are possibly impaired.

Summary and Conclusions

To summarise therefore, results regarding the expression of guilt and pride in children with autism suggest that children with autism have difficulties expressing and perhaps experiencing these emotions relative to a matched group of learning disabled children. With regard to pride, results strongly suggested that children with autism were impaired with regard to expressing this emotion relative to
matched control children. However this area would benefit from additional research before any firm conclusions are reached. With regard to guilt, children with autism seemed significantly less able than children with learning disabilities to express guilt. Hence in keeping with previous research (Kasari Chamberlain and Bauminger, 2000) as well as the previous study in this thesis, using autobiographical narratives, this study indicated that children with autism might have difficulties experiencing guilt in interpersonal, empathic terms. The distribution of scores among different age ranges in this sample, as well as the previous sample of older adolescents with autism, suggests that this is not a developmental impairment, rather something more permanent. Studies in naturalistic settings would supplement and strengthen laboratory findings in this regard.

A methodological limitation of the current study was that although there was substantial rater agreement on most of the domains, future studies would benefit from a more precise definitional framework with regard to the emotions being measured. In this study, for example, when judgement criteria were more precise with regard to what raters were required to rate (i.e. as one moved from asking raters to rate verbal descriptions of emotion to asking them more precisely whether what they observed was pride or guilt), reliabilities become more substantial. This becomes important in the light of raters having different expectations with regard to the behavioural manifestations of pride or guilt due to cultural or experiential factors. However, as more research on self-conscious emotions accumulates, the behavioural, physiological, neural and subjective correlates of these emotions can be defined more precisely.
Chapter 7: An Exploratory Study Investigating Expressions of Coyness in Children with Autism
7.1 Introduction

Hypothesis and Aims

The findings from the previous three chapters indicated that children with autism seemed limited in their ability to recognise self-conscious emotions in others as well as discuss personal experiences of these emotions in ways that were not idiosyncratic or scripted. The results from the previous chapter demonstrated that children with autism were limited in their ability to express and perhaps experience pride and guilt relative to the control group, as judged by independent raters. The aim of this study is to investigate in an exploratory manner, participants' reactions to being the target of another's vision, touch and attitudes with a view towards investigating their capacity for coyness. The hypothesis is that children with autism will be significantly different from non-autistic children matched for chronological and mental age with regard to showing less coy behaviour when they are the target of another's attitudes.

This study is therefore a departure from the central theme of this thesis—namely an investigation into the recognition and expression of pride, guilt and shame in children with autism. The aim here is not to provide a comprehensive picture of the experience of coyness in children but merely to explore, in some depth, the conditions under which children with autism possibly express coyness and the manner in which they do so, if indeed, they do so at all. This will then provide a preliminary basis for further research in the area.

The current study investigated coyness by observing 12 children with autism compared to 13 children without autism who were matched on chronological and verbal mental age. Coyness is seen to encompass, for the purposes of this study, an emotional reaction as a result of an appreciation that one is the recipient of another’s attention and/or evaluation.

Presented below is a brief introduction to current research on expressions of coyness in typically developing children as well as children with autism.
Coy behaviour has been observed in typically developing children in the context of studies employing a mirror self-recognition paradigm. Self-awareness has long been studied in the context of mirror-self recognition paradigms in both naturalistic and non-naturalistic contexts (see Gallup, 1970 and Gallup, McClure and Bundy, 1971). Typically, in chimpanzees, a dye mark above the eyebrow was seen to have an effect on mirror viewing in terms of an increase in the amount of time spent viewing oneself. This was taken to be the result of a discrepancy between the way it normally looked and the change perceived due to the dye mark—an indication that the chimpanzee recognised itself. With human children, this paradigm typically involved the researcher surreptitiously applying a rouge mark to a child’s unmarked face (usually the nose) after which the child is asked to view him/her self in a mirror. The child normally views itself before and after rouge placement and reactions are then studied.

Typically developing children start reacting to these rouge marks from about 15 months of age, with about three-quarters of 18-20 month-olds showing a reaction to a mark (Lewis and Brooks-Gunn, 1979). These reactions seemed to encompass silly or coy behaviour in these 18-20 month-old infants, but not in those infants below 15 months of age. Hence at around 18 months, children seem not only able to recognise themselves as evidenced by noticing a change in their reflections, but also able to have an attitude regarding this change (hence the coy behaviour).

However, the adequacy of this paradigm as an index of self-recognition has been questioned in recent years. Mitchell (1993) for example suggests that the paradigm is more a test of an understanding of the properties of reflective surfaces than the self. In a similar vein Hobson (1993a) argues that a certain level of cognitive ability may be the most important factor in the development of mirror self-recognition. Therefore visual self-recognition might well be present before passing the mirror self-recognition test. However, despite these shortcomings, this paradigm does provide researchers with the opportunity to investigate reactions of participants to being the target of another’s attitudes and evaluations. Specifically, what is of interest especially for the purposes of this chapter is the ‘coy’ attitude a number of typically developing participants adopt to a change in their appearance. According
to Hobson, this kind of coyness, involves not only a recognition that one's embodied self is the object of another's evaluative attitudes, but that these attitudes matter.

In this regard, Amsterdam and Greenberg (1977) investigated four 10-month-olds, four 15-month-olds and four 20-month-olds in each of four conditions: watching their own live image; watching their own previously recorded image; watching the image of a control child and watching the image of an adult female stranger. Two blind raters judged the presence of four self-conscious reactions. These reactions included: appearing coy, where the child glanced at the image while smiling, or looking 'cute'; admiring the image where the child stood silently before the image glancing up and down showing reactions of delight; clowning, where the child appeared to be 'showing off' while apparently enjoying and approving of the image and appearing embarrassed and uncomfortable, indicated by turning away from the image and glancing furtively at it.

The researchers then collated all the data, combining the data on self-conscious emotions rather than presenting this information separately. The results revealed that none of the 10-month olds exhibited self-conscious behaviour. One 15-month-old showed this behaviour when watching his own live image; two did so when watching their own pre-recorded image and two children showed these reactions when watching the image of the control child. At 20-months however, all children showed self-conscious reactions to their own live image. In addition, two showed these reactions to the pre-recorded image and three to the control child image. The researchers concluded that at 20 months, a child responds to the simultaneous presentation of his own image with significantly greater self-consciousness than younger subjects of 10 and 15 months. They concluded that self-consciousness occurs initially as a diffuse response in the second year of life and then become more differentiated and limited to situations where one is acutely aware of being the focus of attention such as in situations where one is observing oneself.

A recent study however suggests that coy behaviour might emerge in infants as young as 2-3 months (Reddy 2000). Five infants between 7 and 20 weeks of age were video-taped in natural interactions in their homes once a week. Results from the analysis of these video-taped interactions show the presence of 'coy' smiles beginning at 2-3 months in infancy. This smile consisted of smiling with simultaneous
gaze and head aversion and curving arm movements. They were reported to occur in interactions with familiar adults, with strangers, as well as with the reflection of self in a mirror. The coy expressions used by these infants were found to be similar to those used by toddlers and adults and morphological and functional similarities between these infants, toddlers and adults were reported to be suggestive of a developmental continuity in these emotions. However, as the study used a very small sample size, these results should be interpreted cautiously and a lot more research is needed with regard to the developmental trajectory of coy behaviour.

The development of Coyness in Children with Autism

A number of studies of coy behaviour in children report that although children with autism are able to recognise their reflection in a mirror, using the mirror self-recognition paradigm, they do not show the coy or self-conscious affect expressed by other children in studies employing the same paradigm (Dawson and McKissick, 1984; Mundy and Sigman, 1989; Neuman and Hill, 1978; Spiker and Ricks, 1984). This lack of coyness might be the product of, as noted above, a limited appreciation of another’s evaluative attitude to one’s embodied self, due possibly to the limited capacity for emotional engagement with the other.

Spiker and Ricks (1984), employing the mirror procedure, tested 52 children with autism with a mean age of seven years and seven months. Of the 52 children, 36, (69%) showed evidence of mirror self-recognition. The authors noted however, that the mirror reactions of the children with autism showed a lack of affective expression before and after rouge placement. Hence even when children who indicated that they recognised themselves by wiping off the rouge, were replaced in front of the mirror, they ‘gave little indication of surprise or enjoyment in viewing the mirror image.’ There was also no evidence, the researchers noted, of the sort of embarrassed or coy behaviour reported in studies of normal children (e.g. Amsterdam and Greenberg, 1977).

Similarly, Neuman et al, (1978), studied 7 children with autism, with a mean age of 8.9 years and compared them to a group of 10 normal infants using a videotape ‘mirror image’, another method of
self-recognition. The authors observed that 6 of the 7 children with autism exhibited self-recognition. However, again, none of the children displayed coy reactions.

These studies therefore present a certain inconsistency with regard to the development and expression of the self in children with autism. While, on the one hand, children with autism seem not to have any problems recognising themselves in the mirror, they seem to have a limited ability to show coy affect in response to their changed appearance. Hence, under these circumstances the appropriateness of the paradigm as an effective measure of the development of the self is called into question. Even so, some researchers suggest that we cannot come to the conclusion that children with autism do not have a problem with the development of a sense of self (Loveland 1993). This researcher suggests that the self that children with autism recognise in the mirror is the ‘self-who-is-located-here’ akin to Neisser’s (1993) ‘ecological self’ and that the reason for the apparent inconsistency is that children with autism develop an impaired ‘interpersonal self’ (Neisser, 1988) which is why they do not express coy or coy behaviour when viewing themselves in the mirror.

Due to the criticisms of the mirror self-recognition paradigm, the study presented below, aims to induce shifting qualities of coyness in the context of a ‘game’ that the researcher plays with the child. This is explained in detail in the method section below.

### 7.2 Participants

The same twelve children with autism and 13 matched controls without autism who took part in the previous study took part in this study.

**Sample of children with autism**

The children with autism were from a special school for children with autism. They ranged in age from six – twelve years. Their diagnosis was confirmed using the Childhood Autism Rating Scale (CARS) and an autism checklist derived from the DSM IV (American Psychological Association, 1994) and adapted for use with children with autism by A. Lee (Personal correspondence). The
information obtained in this case was done so using personal interviews with teachers. The mean CARS score of children with autism was 33.79 and the scores ranged from 30.00 to 40.50.

*Sample of children with learning disabilities*

The children with learning disabilities, similarly, were from a special school for children with learning disabilities. The children ranged in age from seven to eleven years.

The two groups were matched on verbal mental age. To obtain verbal mental age, both groups were given the British Picture Vocabulary Scale. They were given the Ravens Progressive Matrices to assess non verbal mental age.

These details are presented below.

**Table 7.1: Participant Characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Chronological Age</th>
<th>Verbal Mental Age (BPVS)</th>
<th>Non Verbal IQ (CPM)*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean yr; mo</td>
<td>SD - mo</td>
<td>Range yr; mo</td>
</tr>
<tr>
<td>Autistic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M: F = 10:2</td>
<td>9;9</td>
<td>22;8</td>
<td>6;4-12;4</td>
</tr>
<tr>
<td>Non-autistic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 13</td>
<td>9;5</td>
<td>16;5</td>
<td>7;2-11;3</td>
</tr>
</tbody>
</table>

*Coloured progressive Matrices*
7.3 Method

The task involved the participant and the researcher sitting at a table. A ball was placed on the table opposite the participant. The researcher also placed a teddy bear in front of herself.

The researcher then said to the participant, ‘Let’s play a game’. She introduced the bear next to her saying ‘This is Teddy.’

Pre-test

The researcher then held a pencil in front of Teddy’s face and said, ‘What can Teddy see?’ This part of the task was labelled a pre-test because it served to investigate whether the participant was able to understand what was required of him or her with regard to comprehending that the game involved Teddy ‘looking’ at something. It also served to introduce the task to the participant. If the participant failed to comprehend the task at this stage, s/he was not included in the study. However, in this study, all participants were able to understand the task.

Eliciting a self-conscious emotion using Visual Gaze

The researcher then turned Teddy towards herself and asked the participant the following open-ended question: ‘Teddy can see....?’

The researcher turned Teddy towards the ball and asked ‘Teddy can see....?’

The researcher then turned Teddy towards participant and asked ‘Teddy can see...?’

Eliciting a self-conscious emotion using Visual Gaze and Touch

B. The researcher made Teddy touch the ball and asked
‘Teddy touches.....?’

The researcher then touched the participant’s hand with Teddy’s paw and asked:
‘Teddy touches.....?’

The researcher then made Teddy touch her hand and asked
'Teddy touches.....?'

Eliciting Coyness using Visual Gaze, Touch and Affect

C. The researcher then took Teddy towards ball and touches it with Teddy's nose and asked ‘Teddy likes....?’
The researcher took Teddy towards herself and touched her neck with teddy's nose and asked, 'Teddy likes.....?'
The researcher finally took Teddy towards the participant and touched his/her neck with Teddy's nose saying ‘Teddy likes...?’

The final question the researcher asked was intended to induce coyness in the participant. Hence the researcher used a teasing manner by smiling at the participant and tried to make eye contact with him/her so the emotional tone of the questions changed from the previous conditions.

The visual and tactile conditions were designed to investigate, as mentioned earlier, whether the participant was aware that s/he was the target of another’s awareness (in this case the researcher’s, through Teddy as it were) and whether the participant indicated as such by responding with a personal pronoun (me or I) or a name (indicating a different quality of awareness of self) or with any other response (e.g. Teddy’s looking at the chair or Teddy’s looking at my eyes) which would again suggest different qualities of self-awareness. Eliciting coyness through the use of affect could only be possible if the participant was aware that s/he was the target of the researcher’s and/ or teddy’s attention in a manner that was qualitatively different from the previous tasks. The participant had to be aware of him/her self as the target of another’s emotional attention.

Hence the study investigated shifting qualities of coyness, through the use of visual gaze, touch and affect. The study did not employ any control conditions as there were internal controls in as much as conditions A and B were administered alternatively across participants. This then served to build up the participant’s awareness of the task as well as of him/her self as a target of another’s awareness so as to maximise the impact of Condition C. Hence Question C always came last and conditions were not
counterbalanced. The questions within each condition were, however, counterbalanced—except for condition C where the ‘Teddy likes...?’ Question was always asked last for the reasons mentioned earlier. However, the other two questions in the condition were alternated across participants.

Participants were videotaped taking part in the tasks.

7.4 Predictions and Scoring

Predictions

- Children with autism would display less behaviour indicative of coyness than matched controls. The scores would reflect an increasing level of coyness in the control group when compared to the group of children with autism which would be indicated by higher change and coyness ratings as the tasks progressed from visual to tactile to affective means of eliciting coyness. There would be significant differences between groups on affective elicitation of coyness with regard to both the change rating as well as the coyness rating.

Scoring

Two raters, blind to diagnosis of participants as well as the aims and hypothesis of the study, rated video clips of all the conditions. The raters were shown the video clips of the child engaged in each of the tasks in a randomised manner. Raters’ independent scores were correlated to get a kappa score for inter-rater reliability. Rater disagreements, were resolved through discussion and mutual agreement.

Both raters made two ratings for each of the three conditions namely the visual, tactile and affective conditions. The first rating was a ‘Change rating’. This rating indicated whether there was any change in the participant’s behaviour in response to the varying focus of the questions within each condition namely questions pertaining to teddy looking at, touching or liking the ball, researcher, or participant. Changes could include any behavioural change including smiling more, looking away, making more eye contact etc’. Thus at the end of each condition, raters had to judge whether there had been any
difference in the participants' behaviour when s/he was the focus of attention compared to when s/he was not. Results were reported in terms of the number of children expressing no change in behaviour and the number of children who expressed definite changes in behaviour (the child displayed a definitely differential pattern of responding to the being the focus of attention). Hence this rating represented any sort of behavioural changes the raters noted with regard to the participants' behaviour, as a result of a change in the focus of the researchers' attention from the ball or herself to the participant. The changes need not have reflected expressions of coyness as the rating was intended to be a purely behavioural one. It was designed therefore to provide an index into any changes in behaviour other than those changes that accompanied by coyness.

The second rating was a coyness rating. Here, the raters had to judge, at a more qualitative level, whether the child displayed a self-conscious emotion (in the visual and visuo-tactile conditions) or coyness (in the affect condition) when the researcher's attention was focused on him/her in each of the three conditions. Hence this rating aimed to capture the child's emotional state within an interpersonal situation. Here again the participant was rated with regard to whether or not s/he had clearly expressed coyness or not expressed coyness. Behaviours that might have betrayed that the child was coy might have included smiling, not looking at the researcher, giggling, trying to push the teddy away, getting slightly annoyed, saying 'stop it' and any other behaviour.

The ratings were then analysed using a non-parametric test (Fisher's Exact Test). Inter-rater reliability was also calculated.

7.5 Results

Inter-rater reliabilities

The results also revealed that inter-rater reliabilities reported as Kappa scores ranged from 0.62 (for eliciting coyness using touch) to 0.87 (for change rating with regard to eliciting coyness using affect). The full range of kappa values for all the conditions is reported in the appendix. These scores can be
interpreted, as before, using Landis' and Koch's (1977) table in Chapter 2. The rater agreement ranges therefore from moderate to almost perfect with most scores in the moderate and substantial range.

*Eliciting a Self-Conscious Emotion using Visual Gaze*

The majority of children in both groups seemed not to demonstrate behavioural changes or a self-conscious emotion in this condition. One could interpret this result to mean that visual gaze in itself was not sufficient to induce self-conscious behaviour in either group. There were no significant differences between groups in this condition.

*Table 7.2: Number of children displaying change and a self-conscious emotion as a result of visual gaze*

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Change Rating</th>
<th>Self-Conscious Emotion rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No change</td>
<td>Change</td>
</tr>
<tr>
<td>Coyness Elicited through Visual Gaze-Autism</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Coyness Elicited through Visual Gaze-Learning Disabilities</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

*Eliciting a Self-Conscious Emotion using Visual Gaze and Touch*

As with the previous condition, the majority of children in both groups seemed not to demonstrate behavioural changes or self-conscious emotions in this condition. Again one could interpret these results to indicate that visual gaze coupled with touching a child's hand did not seem to produce a self-conscious emotion in both groups of children. There were no significant differences between groups in this condition either.
Table 7.3: Number of children displaying change and a self-conscious emotion as a result of visual gaze and touch

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Change</th>
<th>Self-conscious emotion</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No change</td>
<td>Change</td>
<td>Self-conscious emotion Absent</td>
<td>Self-conscious emotion Present</td>
</tr>
<tr>
<td>Coyness Elicited through Touch-Autism</td>
<td>11</td>
<td>1</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Coyness Elicited through Touch-Learning Disabilities</td>
<td>11</td>
<td>2</td>
<td>11</td>
<td>2</td>
</tr>
</tbody>
</table>

Eliciting Coyness using Visual Gaze, Touch and Affect

In this condition, results reveal that while children with learning disabilities demonstrated both behavioural changes as well as coyness, the majority of children with autism did not do so. Thus it seems that emotional engagement might play a vital role in inducing self-conscious emotions in certain groups of children. There were significant differences between groups in this condition.

Table 7.4: Number of children displaying change and coyness as a result of visual gaze, touch and affect

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Change</th>
<th>Coyness</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No change</td>
<td>Change</td>
<td>Coyness Absent</td>
<td>Coyness Present</td>
</tr>
<tr>
<td>Coyness Elicited through Affect-Autism</td>
<td>9</td>
<td>3</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Coyness Elicited through Affect-Learning Disabilities</td>
<td>4</td>
<td>9</td>
<td>4</td>
<td>9</td>
</tr>
</tbody>
</table>

Fisher’s Exact Test (two-tailed), P=0.05 (change); Fisher’s Exact Test (two-tailed), P=0.004 (self-consciousness)

The histogram below reveals the number of children expressing coyness in the visual, tactile and affective conditions.
Additionally, the pictures below have been provided as examples to demonstrate reactions judged as coy and reactions judged as not coy in this last condition. They show the responses of two participants reacting to the last question, i.e. ‘Teddy likes...?’ The first participant is learning disabled and the second autistic. It is clear from these pictures that the child with autism is not expressing coyness while the learning disabled child clearly is.

Picture 15: Participant 1: Learning disabled
7.6 Qualitative Analysis of Results and Discussion

The results confirmed the prediction that there would be significant differences between groups when coyness was elicited using affect, with regard to both the change rating as well as the coyness rating. However the prediction that ratings would reflect an increasing level of coyness in the control group relative to the group of children with autism, indicated by higher change and coyness ratings, as tasks progress from visual to visuo-tactile to emotional awareness, was only partly fulfilled.

Results indicate that both groups registered very few change and coyness ratings in the visual and visuo-tactile change and coyness conditions. With regard to the affective elicitation of coyness ratings though, 75% of children with autism showed no behavioural changes and all but one showed no coyness. In comparison, 70% of children with learning disabilities showed evidence of behavioural change and coyness in this condition. In this regard, it is to be noted that showing no behavioural changes or expressions did not equate to a sort of emotional paralysis on the part of children with autism. So for example, they might have smiled at the outset of the task, but they did not show any change in this behaviour when they were the focus of another’s attention. The fact that children with
autism were not generally inexpressive is also confirmed by the results from the previous chapter where raters judged that children with autism did show some signs of pride and were no significantly different from learning disabled children in this regard (see table 6.2).

To examine these results further, beginning with the change ratings in the visual condition, most children with autism showed no behavioural changes or coyness as the questions progressed from teddy 'looking' at the ball and the researcher to teddy 'looking' at them and neither did matched control children. Additionally, children with autism responded with 'teddy can see me' when teddy faced them as did the children in the control group. Thus, for example, some children in both groups showed evidence that they thought the task was amusing and fun by smiling but not in a way that indicated that there were coy or self-conscious in any way.

The lack of coyness or self-consciousness at this stage on the part of the groups could be explained by positing that perhaps visual gaze was not a sufficient condition in itself to induce self-consciousness in the groups.

With regard to eliciting a self-conscious emotion through a combination of visual gaze and touch, the groups again were evenly matched with regard to behavioural changes as well as expressing self-conscious emotion. However, one has to ask whether the motivations for their apparent lack of self-conscious emotions could have been different. While the learning disabled groups might have not displayed self-conscious emotions due to the task not inspiring them to, children with autism might not have expressed these emotions due to an inability to do so, for reasons to be discussed shortly. Here again therefore, both groups of children seemed to show amusement and interest with the task, but did not show any behaviour that indicated they were coy or self-conscious.

This motivational hypothesis seems to hold true when one looks at the next set of results on eliciting of coy behaviour using visual gaze, touch and affect. Nine out of 12 children with autism showed no behavioural changes and all but one showed no coyness. In comparison, nine out of 13 children with learning disabilities showed evidence of behavioural change and coyness in this condition.
With regard to behavioural expressions and expressions of coyness, it is to be noted that in most cases there was not a dichotomy between the two. Hence a behavioural change, in most cases was seen to be an expression of coyness. However, a few children in each group tended to express behavioural changes that were not indicative of coyness. The two children with autism, who did show behavioural changes not indicative of coyness for example, smiled but were not rated as being coy or embarrassed. The separate ratings were introduced as mentioned earlier, to examine whether changes in behaviour were necessarily indicative of changes in coyness or whether one could have a dichotomy between the two. Children with learning disabilities however, indicated they were coy by either pushing Teddy away and smiling, averting their gaze with a shy smile or giggling.

Hence one can see from these results that children with learning disabilities needed to have, in addition to visual and tactile stimulation, an emotional engagement with another, in order to induce coyness. A large majority of children with autism only seemed to acknowledge the bid to emotionally engage them, on the part of the researcher, by smiling or being amused, rather than be emotionally affected by it, as revealed by acting really coy. Children with autism therefore seemed to be aware of being the target of another's attention, be it visual, tactile or emotional, and did react to it, but did not seem to be able to become emotionally engaged with it. In contrast, children with learning disabilities seemed both to be aware of another's attention and were emotionally engaged with the other in situations where the other acted in ways that solicited this engagement. However, as mentioned in previous chapters, in reality, one might act coy in reaction to being made aware that one is the target of another's visual attention and more ecologically valid studies need to be conducted to clarify the results obtained in this study.

Another observation was that most children with autism were able to respond with the personal pronoun 'me' in all three conditions. This was the case with matched controls as well. However, there were a few children in both groups who responded with 'my face' or 'my eyes' when asked what teddy was looking at and a number of children in both groups also responded with 'my hand' when asked what teddy was touching. In this respect, as the questions were open-ended in that the researcher said 'teddy can see....?' And 'teddy touches....?' they did not presume a noun or pronoun as a response. Therefore, as children with autism seemed to use personal pronouns appropriately they seemed to
demonstrate a certain level of self-awareness in the sense of being aware of themselves as unified entities that are potential targets of another's attention. However, their lack of coyness, points towards an inability to engage this self emotionally with another.

This lends validity to the claim that although other aspects of the self might develop normally in children with autism, the development of the interpersonal self will be impaired as this aspect of the self develops and grows through the process of becoming emotionally engaged with others in one's social environment.

Another observation was that children with autism seem to show a certain restraint with regard to displaying differential behaviour patterns in response to different situations with regard to both changes in behaviour and emotion in all three conditions. To examine whether they are able to react differentially at all, it would be productive to design a control condition in which, a qualitatively different mode of affective engagement is used to get a reaction from the child (surprising rather than teasing a child for example). If the child reacts, one could conclude that a lack of reaction with regard to the eliciting of coyness is specific to this mode of affective engagement.

Thus, as the study was exploratory it did have several methodological limitations. As mentioned earlier, more ecologically valid studies need to be conducted to clarify the results obtained in this study. Additionally, larger sample sizes need to be employed to aid generalisation of the results of the current study to larger populations.

While the present study employed internal controls, there were no control conditions as such and future studies might benefit from tighter control conditions. One effective control condition has already been mentioned in the context of response specificity. Another good control task would have been to have teddy touch the face of the participant in the tactile condition as well as the affect condition (in the current study teddy touched the hand of the participant in the tactile condition). This would have served to clarify whether results in the affect condition stemmed partly from a participants face being touched-a rather more intimate gesture than ones' hand being touched. However, it is also to be noted that the affective condition as a whole was designed with a view towards inducing a qualitatively different
emotional state than the previous two conditions. In this regard, one should also note that the verb 'like' was also different in connotation and quality from the verbs 'touch' and 'see' and a combination of all these factors made condition C especially emotionally provocative.

Another limitation was that although substantial inter-rater reliability was obtained, raters have different expectations of how coyness might be expressed which might potentially influence results. Hence care should be taken to define terms more precisely and further research is needed to elucidate the various facets of coyness.
Chapter 8: Summary and Conclusions
8.1 Synopsis

This thesis examined the recognition and expression of pride, guilt, shame and coyness in children with autism relative to non-autistic children matched for chronological and verbal mental age. The underlying hypothesis was that in the case of autism, a child's limited capacity for emotional engagement leads to impairments in the development of aspects of the self that develop through a process of social interaction. In this regard it was hypothesised that children with autism would have a limited ability to recognise and express self-conscious emotions. The thesis aimed to apply a range of methodologies to compare matched groups of children with and without autism, to examine this hypothesis. It was suggested that spared and impaired areas of emotional functioning in children with autism relative to the control group, could be illuminating with regard to a primary cause of the autistic syndrome.

Initially, to obtain information regarding socio-emotional functioning in children with autism, parents were interviewed using a semi-structured interview that was constructed specifically to provide a profile of spared and impaired areas of socio-emotional functioning in children with autism when compared to mental age matched controls. The aim of this method, outlined in Chapter 2, was to provide a complex and holistic picture of the self's functioning in relation to the other. Specific, theoretically driven predictions were made with regard to aspects of the interpersonal self that were expected to be spared and aspects expected to be impaired. This was done with a view to conducting further empirical investigations on reported areas of impairment, using varying methodologies.

The interview investigated children's behaviour in five domains of functioning: 'milestones', 'body-self', 'self-other relations', 'imitation', and 'emotions'. To obtain information in these domains, 10 parents of children with autism and 10 parents of a group of matched control children without autism were interviewed. The interview took the form of a guided conversation between the parent and the interviewer in a relaxed environment— the home of the parent being interviewed. The interview questions were used as guides to elicit detailed information, including examples, of children's behaviour from their parents.
The 'body-self' domain examined whether parents believed that there was anything unusual about their children's perceptions of their bodies; the 'imitation' domain investigated whether parents believed that there was anything unusual with regard to their child's ability to imitate other people; the 'self-other' domain investigated parents' perceptions of their child's interactions with other people in their environment and the 'emotions' domain investigated parents' understanding of their child's recognition and expression of 'basic' and 'self-conscious' emotions. Chapter 3 extended the investigation of self-conscious emotions initiated in Chapter 2, by examining pride, guilt and shame in the same two groups of children, using the same method. This was done with a view towards focusing exclusively on the recognition and expression of pride, guilt and shame - emotions that were the focus of this thesis.

Results from these parent reports revealed that children with autism differed significantly from children with learning disabilities in several areas of socio-emotional functioning. With regard to the 'body-self' domain, children with autism displayed unusual patterns of physical relatedness and seemed to experience their bodies in ways that were significantly different from children with learning disabilities. For instance, children with autism were reported to be less self-conscious of their bodies than non-autistic children, often undressing in front of other people regardless of who they were. They also seemed less concerned about their physical appearance. With regard to initiating physical contact with another, although both groups of children seemed to prefer to engage in physical contact on their own terms, non-autistic children were more likely to initiate contact in response to an emotional state (e.g., fear, happiness, sadness) than children with autism. It was suggested that a theme running through parent reports was that children with autism seemed to have a limited sense of the perspective of another person when engaged in physical contact with that person. This was made evident by the way in which children with autism physically interacted with others without being aware of the physical or social impact they seemed to make, as well as not being inclined to respond physically to emotional situations (for example, hugging or stroking someone who was emotionally aroused).

Results revealed that there were significant differences between groups with regard to imitative behaviour as well. The major difference between groups was that children with autism tended to
imitate characters from movies or cartoons so as to use this mainly as a script to interact with other people. Non-autistic children seemed to imitate 'real' people as well as people from the media but for different reasons. For example, they imitated they way other people dressed and talked, sometimes with a view towards being accepted but at other times to tease or impress other people. In other words, whereas children with autism seemed to use imitation as a learned and scripted means of engaging with others those with learning disabilities used imitation to enhance or modify their interactions with others in a qualitatively different manner, using their capacity for engagement to do so. However, there were certain similarities between the groups in that both groups of children imitated other people and were aware when other people imitated them and both groups reacted to other people imitating them by either being upset, angry or amused.

With regard to the 'self-other' domain, children with autism significantly differed from non-autistic children with regard to all the areas explored except physical demonstrativeness. The two groups of children showed certain similarities in this domain in that both groups seemed to be more comfortable in social situations where they were with people they knew, and felt uncomfortable or overwhelmed in situations that required them to interact with people they were not familiar with. Thus, not surprisingly, both groups of children felt most comfortable at school or at home. However, children with autism, in general, did not seem comfortable with group dynamics, preferring to play and work alone. They were also less spontaneous in social situations and hardly ever 'surprised' their parents, siblings or teachers by making cards for them or giving them presents. This might have stemmed from their limited ability to take the emotional perspective of another. Non-autistic children, for the most part, seemed relatively more comfortable in groups and seemed to derive pleasure from surprising individuals with whom they had intimate relationships with by being spontaneous with regard to cards and gifts.

Both groups also, at times, displayed socially inappropriate behaviour. In non-autistic children, these behaviours included physically interacting with others in a socially inappropriate manner, in an inadvertent way, where these children seemed to sometimes put their own needs before others with regards to social space. Children with autism differed from children with learning disabilities with regard to social rules and space in terms of the frequency of manifestation of their socially inappropriate behaviours and the severity of this manifestation. So for example, a number of children
upon learning that it was socially appropriate to maintain eye contact when interacting with someone, tried to do so by approaching a person, standing very close to him/her and staring at him/her while trying to engage him/her in a conversation. Here again, children with autism seemed to have had to learn what is socially appropriate, in an explicit manner rather than learning these rules in a more implicit manner by a process of emotional engagement. What lends weight to this argument is the finding that while non-autistic children did not seem to display any idiosyncratic behaviour patterns with regard to reacting to other people's opinions about themselves, children with autism did. They did so by either not reacting at all to others opinions (positive or negative) about them or in a distinctive way from other children. A number of children with autism seemed to be concerned about other's opinions only if they were perceived to be accompanied by a withdrawal of rewards. Hence they seemed to fear the repercussions of other's opinions rather than be emotionally affected by the opinion itself.

Most children with autism also had difficulties with the use of personal pronouns. A number of children, for example, used 'he', 'she' or their name rather than 'I' when referring to themselves. One child was distinctive in that he used to refer to himself as 'Thomas the Tank Engine' and 'Winnie the Pooh'. However, as these children grew older, they invariably learned to use pronouns more appropriately. This partially corroborates the notion that children with autism have specific problems with identity formation as implied in the imitation section.

Lastly, parents reported that children with autism did not seem to 'feel' for other people. They seemed to be unaffected by other people's moods and attitudes. If they did notice a change in mood, they seemed to react to it in idiosyncratic ways such as being disruptive, engaging in challenging behaviours, getting upset or getting excited. One parent attributed their inability to cope with other people's mood shifts as a need for sameness, but equally, it might have primarily stemmed from a lack of an ability to engage emotionally with others from very early on.

Thus a complex picture of socio-emotional functioning in children with autism emerged from responses in this domain. With regard to spared socio-emotional functioning, the manner in which children with autism expressed themselves socially seemed to be revealing of certain underlying
impairments. Hence, results revealed that while children with autism were not spontaneous with regard to giving presents and gifts to others, they could be prompted to do so. Rather than being unaware of social rules (such as maintaining eye contact and social space), they interacted in ways that suggested an awareness of rules that might have been learned explicitly. They also demonstrated an awareness of the opinions of other people, and these opinions did seem to affect them emotionally, but they only seemed to do so if they were seen to have material repercussions in terms of rewards and punishments. Lastly, they did react to other people's moods in ways that were suggestive of an impaired sense of understanding of the emotional roots of these moods, tending instead to focus on the disruption of equilibrium changes in mood caused. Given the manner in which children with autism seem to respond socially, it seems that they might have come to learn to interact 'appropriately' in an explicit manner relative to the control group of children. In other words, children with learning disabilities seem to use their capacity for engagement with others to absorb socially and emotionally appropriate ways of interacting, while children with autism, who are hypothesised to be limited in their capacity for engagement, find other, perhaps more cognitive means to do so.

This lack of engagement, on the part of children with autism, is further demonstrated by their limited ability to perhaps experience and certainly express certain self-conscious emotions.

In this thesis, self-conscious emotions referred to a number of emotions that involved a consciousness of self in relation to another and an ability to evaluate, both emotionally and intellectually, another's feelings and judgements about oneself. The results from Chapter 2 as well as Chapter 3 revealed that children with autism were significantly different from non-autistic children with regard to the presence of certain self-conscious emotions, namely showing -off, embarrassment, flirting, guilt and shame. However, a qualitative analysis revealed that although parent reports suggested that a small number of self-conscious emotions were present in children with autism, they were expressed in ways that were unusual and different from non-autistic children. In other words, children with autism seemed to express fewer self-conscious emotions than non-autistic children and also seemed to express these emotions, when they did, in a more unusual manner than matched controls in the sense of these emotions being expressed in a more scripted and learned manner. A few emotions such as jealousy and possessiveness were also expressed in a more circumscribed way relative to the control group of
children. Therefore, as with the previous domain, the picture that emerged revealed that children with autism were able to express certain emotions, but did so in a manner that suggested that they might have had a different motive or bias to one of being socially engaged with others relative to children without autism.

With regard to basic emotions, emotions that are thought to originate independently of social relationships but develop using them (Parker, 1998), while children with autism were not significantly different from the control group with regard to the reported presence of these emotions, they were significantly different from this group with regard to the manner in which they expressed these emotions. Broadly speaking, children with autism seemed to express these emotions only in a limited range of situations and, at times, more intensely than circumstances warranted. The manner in which they expressed these emotions was also at times suggestive of a limited ability to see another person’s emotional perspective. For instance, children with autism did express surprise, but hardly ever surprised someone else. In the case of disgust, some children found it difficult to take another person’s perspective with regard to understanding why a certain event was disgusting. Thus the pattern of results here again is suggestive of a deeper underlying impairment in the capacity of children with autism to engage emotionally.

To summarise therefore, results from Chapter 2 and 3 suggested that children with autism, when compared to a matched group of children without autism, had impairments with those aspects of the self that developed through a process of social interaction. The findings that children with autism had difficulties with pronoun use taken together with their distinctive imitative patterns, where they were often found to take on aspects of characters from popular media and use this to communicate with others, suggested certain impairments in the development of the interpersonal self, an aspect of the self that develops through the interaction with others (Neisser, 1991). The remarkable absence of certain self-conscious emotions from their emotional repertoire as well their seeming lack of awareness of others’ emotional perspectives when in physical as well as psychological interaction with them, seemed to indicate that a primary impairment in autism might be a lack of intersubjective engagement. As parent reports were seen to have certain possible limitations with regard to unconscious falsification and lack of insight, pride, guilt and shame were investigated using other methods.
Chapter 4 examined the recognition of pride, guilt and shame by means of a method using video clips depicting trained actors simulating various emotional scenarios. Twelve adolescents with autism and 12 adolescents with learning disabilities who were matched for chronological and verbal mental age took part in the study. They were asked to watch actors simulating situations in which they felt pride, guilt or shame and were examined with regard to the recognition of pride, guilt and shame in a variety of different ways. Initially, they were required to respond spontaneously to the scene they had watched unfold. The study then became more specific in what it required of the participants by asking them specifically what the main character did and felt. As the study aimed to understand self-conscious emotions in children with autism, attempts at providing adequate opportunities for children to express their knowledge were seen to be extremely important. The study provided these opportunities to the children by prompting them initially with the sequence of events that lead up to the experiencing the emotion in question and then later by actually providing them with the emotions themselves. Hence this last part of the study provided the participants with cards upon which the names of the emotions concerned were printed. They were then required to match the cards with a still depicting the emotion concerned. Thus this eliminated any difficulties they might have had to do with retrieving the right response.

The results showed that there were no significant differences between groups in the study. They indicated that both groups were able to report actions that the main character performed as well as feelings that the main character might have experienced. They were also equally accurate with regard to reporting actions that the main character was engaged in. However, both groups were inaccurate with regard to the specific feelings expressed by the actors but responded with feelings of the right hedonic tone as the feelings expressed by the main character (e.g. a number responded with 'happy' for pride and 'sad' or 'feeling bad' for guilt and shame). Thus, both groups seemed to use basic emotion terms to describe the main characters' feelings rather than using self-conscious emotion terms to do so. This raised the question of whether there might have been some difficulty on the part of the participants with regard to retrieving the right emotional term to describe the scenes they witnessed. One piece of supporting evidence for this claim came from the observation that participants seemed to be able to retrieve the right response when actually presented with the word 'pride' when asked to match the still depicting pride with the word. However, participants seemed to confuse guilt and shame and tended to
respond with the term 'guilt' instead of 'shame' and vice versa when asked to match the stills depicting these emotions with words.

A qualitative analysis however showed that while there was a tendency on the part of children with autism to use basic emotions terms such as 'happy' and 'pleased' when the target emotion was pride and 'sad' and 'unhappy' and 'upset' when the target emotions were guilt or shame, children with learning disabilities tended to be more marginally more descriptive and varied in this regard. Being descriptive with regard to emotional terms used, extended to questions concerning the actions the main character was engaged in as well. Hence when asked what the main character did, a few learning disabled children referred to emotional expressions to accompany the main characters' actions or referred to the relationship the main character might have had with the second actor in the clip while children with autism did not use emotional or relational terms while describing actions. A question that arose from this study as well as the previous study was whether children with autism had had genuine personal experiences of the emotions concerned, or, whether they had come to understand these emotions through more cognitive rather than socially mediated pathways.

Chapter 5 examined this issue in the context of expressions of pride, guilt and shame in adolescents with autism. The study used the same participants and the same method as the previous study. However, while the previous study aimed to investigate the recognition of self-conscious emotions, this study involved engaging participants in an interview that aimed to explore whether the participants had had a genuine personal experience of the emotion in question or whether their experience had a certain 'learned' quality to it which might be revealed through more stereotypical patterns of responding. In order to investigate this, participants watched video clips of actors engaged in simulating scenarios of pride, guilt and shame. This time however, participants were told what emotion the actor was simulating and were asked, in an open-ended interview, if, and under what circumstances, they had experienced the same emotions. The interview aimed at eliciting examples in order to ascertain the level of insight participants demonstrated which would then help determine whether the participant had genuinely experienced the emotion concerned or whether the participants' responses suggested an alternative way of understanding these emotions.
Results indicated that children with autism were significantly different from children with learning disabilities with regard to expressing pride, guilt and shame. Children with autism seemed to have learnt to identify situations in which people come to experience various self-conscious emotions as revealed by the fact that they seemed to be more comfortable providing generalised, formulaic statements of when people feel proud, guilty or ashamed rather than drawing from their own personal experiences to do so. When they did report experiencing these emotions, they were mainly in a circumscribed set of situations rather than a wide range of situations as was the case with children with learning disabilities. These results correspond with the results from Chapter 3, where parent reports suggested that children with autism interacted in more scripted and circumscribed ways relative to non-autistic children. Given the nature of responses of children with autism in this study as well as the previous study, it is suggested that they might come to learn to recognise emotions using, perhaps, a non-affective route to do so. This was alluded to by Hermelin and O'Connor (1985) when proposing their logico-affective hypothesis. Hermelin and O'Connor suggested that children with autism might come to learn strategies to recognise and express emotions that come to be experienced more naturally by other children (Kasari, Chamberlain and Bauminger, 2001). The cognitive compensation hypothesis similarly states that children with autism might learn strategies to recognise emotions even though they may not necessarily experience these emotions themselves (Kasari, Chamberlain and Bauminger, 2001).

The combined results from Chapters 4 and 5 demonstrate a dichotomy in person awareness in individuals with autism. While they are accurate with regard to the awareness of certain aspects of people (viz. their actions), as demonstrated in Chapter 4, they are less accurate with regard to the understanding of other aspects (viz. attitudes), as demonstrated in Chapter 5, compared to individuals without autism. This profile of spared and impaired functioning demonstrates certain fundamental difficulties that these individuals face when interacting with people. In this regard it is suggested that a primary impairment in emotional engagement could be posited to explain this complex picture of social and emotional functioning in autism.

However the two studies described above were seen to be heavily verbally loaded and a question that arose was whether the results could be a product of this loading. Thus Chapter 6 investigated the
expression of pride and guilt using a less verbally loaded technique. Participants were 12 children with autism and 13 children with learning disabilities matched on chronological and verbal mental age. The tasks involved eliciting pride and guilt in participants. The guilt tasks presented participants with either pairs of glasses or dolls which, unbeknownst to the participant, were broken. Invariably, when the participant handled these objects, they fell apart as if the participant had broken them. The reactions of the participants were then recorded. The pride task attempted to elicit pride by complimenting participants on drawings they completed. Comparison tasks that aimed not to induce pride and guilt by divesting participants of a sense of responsibility for glasses breaking or pictures drawn were matched with the pride and guilt inducing tasks. These tasks were constructed in order to induce task-specific responses and it was believed that differences between main and comparison tasks could be elicited only if the participant had had a genuine experience of the emotion concerned. Responding in the same manner to both main and comparison tasks was then taken to be one indication of an impairment in the understanding and possible experience of the emotion concerned.

The results indicated that children with autism were significantly less likely to express guilt than children with learning disabilities. The results with regard to the expression of pride revealed that although there were no significant differences obtained, children with autism showed a strong tendency to express fewer behavioural signs of pride than children without autism. Both groups of children were not significantly different in terms of expressing pride or guilt in an odd manner, although a greater number of children with autism who did express pride expressed it an odd manner relative to non-autistic children. The groups were also significantly different with regard to directing these emotions towards another in the case of guilt. In this regard, significantly fewer children with autism seemed engaged with the researcher than children with learning disabilities. Similarly, in the case of pride, children with autism seemed less likely to engage with the researcher although no significant differences were obtained in this case. An exploratory analysis suggests that both groups of children used verbal and non verbal modes of expression in the pride and guilt tasks. However, while in children with learning disabilities, these expressions were used in a way that suggested an emotional involvement with the researcher concerned, this was not the case with the children with autism as demonstrated by the ‘other-directedness’ results. Hence in keeping with previous research (Kasari Chamberlain and Bauminger, 2000) as well as the previous study investigating autobiographical
accounts of pride, guilt and shame, the results from this study indicated that children with autism probably have limitations with regard to experiencing guilt and possibly pride, in interpersonal terms.

Thus Chapters 2, 3, 4, 5 and 6 used diverse but complementary methods to investigate pride, guilt and shame in children with autism. What emerged was a complex profile of spared and impaired socio-emotional abilities. In this regard, while both groups were similar with regard to their ability to accurately recognise actions in other individuals, they were inaccurate with regard to accurately identifying feelings. However, both groups responded with emotions closely allied in hedonic tone to the emotions individuals were meant to be experiencing. In contrast to this, the groups were significantly different according to parent reports as well as autobiographical accounts with regard to the manner in which the expressed pride, guilt and shame. Children with autism tended to express these emotions in a relatively more scripted, circumscribed and formulaic way suggestive of a non-affective route to understanding these emotions. The last study added to this complex picture as children with autism were shown to express fewer behavioural signs of pride and guilt than non-autistic children.

Additionally, parent reports revealed that an unusual manner of responding extended to other areas of social functioning in children with autism such as physical and social relatedness and imitation. Here again, a primary difference between children with autism and non-autistic children related to a limited ability to take another’s emotional perspective when in physical and psychological contact with them and sometimes a circumscribed and scripted way of responding socially.

A theoretical position that could explain this complex socio-emotional profile in children with autism is the view that these children have a limited capacity to engage emotionally with others. This then leads to impairments in the ability to take another’s perspective emotionally and to impairments in aspects of the self that feed off this capacity to develop. Thus this might explain why children with autism display a dichotomy in their perception of people, perceiving their actions and not their attitudes, and why they have impairments in their ability to recognise and express self-conscious emotions such as pride, guilt and shame. The manner in which they do express these emotions is thought to reveal that children with autism, at least high functioning children with autism, might use a cognitively mediated pathway to come to an understanding of these emotions.
Chapter 7 provided an exploratory conclusion to this thesis. In it is investigated coyness in 12 children with autism and 13 children with learning disabilities matched on chronological and verbal mental age. The task used to investigate coyness took the form of a game that the researcher played with the participant where the researcher introduced a teddy bear to the participant. The teddy bear was then used to induce coyness by making the participant the subject of its (as well as the researcher’s) vision, touch and attitudes. The hypothesis investigated was that children with autism would be significantly different from non-autistic children matched for chronological and verbal mental age with regard to showing less evidence of coy behaviour when they were the target of another person’s attitudes.

The results indicated that this was indeed the case and children with autism seemed limited in their ability to express coyness relative to matched controls. In this regard while these children seemed to be aware of being the target of another’s attention, be it visual, tactile or emotional, and did react to it, they did not seem to be able to become emotionally engaged with it. In contrast, children with learning disabilities seemed both be aware of another’s attention and were emotionally engaged with the other in situations where the other acted in ways that solicited this engagement. However, children with autism seemed to use personal pronouns appropriately, responding with ‘me’ or ‘I’ when asked who teddy saw, touched or liked. Thus they seemed to demonstrate a certain level of self-awareness in the sense of being aware of themselves as unified entities that were potential targets of another’s attention. However, their lack of coyness, pointed towards an inability to engage this self emotionally with another. Thus, the results from this study were in keeping with the results from previous studies in this thesis which demonstrated that children with autism were limited in their ability to express certain self-conscious emotions. However, this study would benefit from tighter control conditions before results are extrapolated to larger populations.

8.2 Methodological limitations

The studies presented in this thesis were revealing of several spared and impaired areas of socio-emotional functioning in children with autism. However, the results should be viewed with a certain degree of caution in the light of the presence of certain methodological limitations. As these limitations have been discussed in detail in the individual chapters, only the main ones will be summarised here.
First, the small sample size in all the studies described implies that extrapolating these results to a larger population needs to be undertaken with caution.

Second, the method used in chapters 2 and 3 i.e. parent interviews, could be questioned with regard to unconscious falsification, lack of insight and memory failures that might have occurred when parents responded to questions. It was also suggested that parents, at times, might have inadvertently not recognised certain emotions in their children, either because they did not expect to, or because they were present in a form that was extremely different to what they normally might have been given to expect. However the results from this study were supported by results from other studies in the thesis, with regard to the expression of pride, guilt and shame in children with autism, which lends validity to these reports.

Third, the use of autobiographical narratives as a method, used in Chapter 5, has certain limitations as verbal factors might have had an important role to play in influencing the results. In other words, although both groups were matched for verbal level, one could ask whether children with autism were more scripted and restricted in their language because they were unable to retrieve the right response to describe experiences they had had, or whether they were unable to retrieve the right response because they had not had the requisite emotional experiences. Similar productivity scores (table 4.2) suggest that the latter explanation might be a more suitable one in this case.

Chapter 6 indicates that the latter might be the case because this study was not heavily verbally loaded and even under these circumstances, children with autism seemed limited in their ability to express guilt and showed a strong tendency to be limited in their ability to express pride.

All studies used rater reliability to judge and confirm the results obtained. Although most studies obtained substantial rater agreement, future studies on emotions would benefit from a more precise definitional framework with regard to emotions being measured. In Chapter 6, for example, when judgement criteria were more precise with regard to what raters were required to rate (i.e. as one moved from asking raters to rate verbal descriptions of emotion to asking them more precisely whether what they observed was pride or guilt), reliabilities became more substantial. This becomes important in the
light of raters having different expectations with regard to the behavioural manifestations of pride or
guilt due to cultural or experiential factors. However, as more research on self-conscious emotions
accumulates, the behavioural, physiological, neural and subjective correlates of these emotions can be
defined more precisely.

Another limitation that was common to a number of studies investigating emotions was one of artifice.
Due to the nature of the area being investigated, studies in naturalistic environments would possibly
yield more ecologically valid results. However, these studies have to be carefully designed in order to
eliminate a number of other confounding factors that could be present in these more naturalistic
environments.

Definitional factors also might have had a role to play in influencing results. For example, as
mentioned above, the way one defines pride or guilt, might influence the results one gets. As research
on emotions progresses, definitions of emotions are constantly being revised and broadened. The
studies in this thesis used definitions that are currently employed in research on self-conscious
emotions. However, as more research is conducted on the various correlates of these emotions, one
could employ more informed definitional frameworks when investigating the emotions concerned.

Ethical factors also play a role in how one investigates emotions. Eliciting certain emotions could have
potentially long lasting and damaging consequences and research has to be mindful of this. However,
due to this, one is restricted in the manner in which one conducts one's research. Thus, for example,
this series of studies did not include any measures to elicit shame in Chapter 6 due to ethical
considerations. In these situations, autobiographical accounts as well as parent reports might prove to
be the most appropriate means of investigation.

Hence, as one can see, the studies did suffer from a number of limitations. However, as research into
the recognition and expression of self-conscious emotions in children with autism is at a nascent stage,
this set of studies can be seen as presenting new methods of exploring the issues at hand as well as
pointing out how future research could be carried out in a way that is mindful of the limitations
described.
8.3 Implications of research findings and future directions

Theoretical Implications

The hypothesis behind this thesis was that in the case of autism, a child's limited capacity for emotional engagement leads to impairments in the development of aspects of the self that develop through a process of social interaction. In this regard it was hypothesised that children with autism would be have a limited ability to recognise and express self-conscious emotions. The thesis aimed to apply a range of methodologies to compare matched groups of children with and without autism, to examine this hypothesis. It was suggested that spared and impaired areas of emotional functioning in children with autism relative to the control group, could be illuminating with regard to the pathogenesis of the autistic syndrome. The series of studies presented in this thesis showed that children with autism were limited in their ability to recognise and express pride, guilt, shame and coyness. In the light of these findings, it seems appropriate to discuss how these results offer qualified support for the theoretical stance adopted and how this in turn might inform our understanding of autism.

Chapters 3, 5, 6 and 7 examined the expression of pride, guilt and shame in children with autism and whether there was anything unusual in the way they expressed these emotions. The results from Chapter 3 indicated that children with autism were significantly different from children with learning disabilities with regard to expressing shame and guilt but not pride. A majority of parents of children with autism reported that they had very rarely seen their children express shame and guilt. On the other hand, with regard to pride, a majority of parents reported that their children expressed pride. However, a qualitative analysis of parent transcripts revealed that although children with autism seemed to express pride just as frequently as Learning disabled children, the way in which they did so was different from these children. Parents reported that they had seen their children expressing pride in a restricted range of situations and mainly as a response to their interest rather than spontaneously. In this regard, one could ask whether there are broadly two kinds of pride—a socially mediated pride and a more primitive form of pride, akin to happiness in relation to one’s accomplishments or activities that does not require social mediation. One could then ask whether children with autism, might experience the latter form of pride. However, this is post hoc reasoning and was not predicted before the study was conducted.
With regard to guilt, parent reports suggested that on the rare occasion that their children expressed this emotion, it was expressed as a result of a fear of repercussions of their actions rather than the potential harm their action might cause another person, as was the case with shame. Thus these emotions seemed to be expressed significantly less frequently and less interpersonally than in children with learning disabilities.

The results from Chapter 5 added to these results as they indicated that children with autism were significantly different from children with learning disabilities with regard to expressing pride, guilt and shame. A qualitative analysis of transcripts indicated that children with autism seemed to have been unusual in the way they learnt to identify situations in which people come to experience various self-conscious emotions as revealed by the fact that they seemed to be more comfortable providing generalised, formulaic statements of when people feel proud, guilty or ashamed rather than drawing from their own personal experiences to do so. When they did report experiencing these emotions, this was mainly in a circumscribed set of situations rather than a wide range of situations as was the case with children with learning disabilities. These results correspond with the results from Chapter 3, where parent reports suggest that children with autism interact in more scripted and circumscribed ways relative to non-autistic children. Thus these results are in keeping with the prediction that a primary impairment in engagement leads to impairments in the expression of self-conscious emotions such as pride, guilt and shame.

In addition, the results from Chapter 6 and 7 offer further support for this position. They indicate that children with autism are significantly less likely to express guilt than children with learning disabilities. The results with regard to the expression of pride reveal that children with autism showed a tendency to express fewer behavioural signs of pride than children without autism, although the differences obtained were not significant. In the use of guilt, the groups were also significantly different with regard to directing these emotions towards another person. In this regard, significantly fewer children with autism seemed engaged with the researcher than children with learning disabilities. Similarly, in the case of pride, children with autism seemed less likely to engage with the researcher although no significant differences were obtained in this case. The results from this study, coupled with the results
from Chapter 5, indicate that children with autism probably have limitations with regard to experiencing guilt and possibly pride, in interpersonal terms.

The results from Chapter 7, in keeping with the results from the previous chapters, indicate that children with autism also seem limited in their ability to express coyness relative to matched controls. In this regard, while these children seemed to be aware of being the target of another’s attention, be it visual, tactile or emotional, and did react to it, they did not seem to be able to become emotionally engaged with the other person’s attentiveness. In contrast, children with learning disabilities seemed both to be aware of another’s attention and were emotionally engaged with the other in situations where the other acted in ways that solicited this engagement.

Thus, the results from a series of studies investigating the expression of pride, guilt, shame and coyness, using varying methodologies, seem to indicate that children with autism are limited in their ability to express these emotions. These results support the theoretical stance that self-conscious emotions are restricted in children with autism. However, the results with regard to pride need to be investigated further. While they seem to suggest idiosyncrasies in the way in which children with autism might experience this emotion (as children with autism seem to express pride in a restricted range of situations and in a less spontaneous and formulaic way), the non significant results advocate cautious interpretation. In this regard, as mentioned earlier, one could ask whether there are two kinds of pride—a socially mediated pride that is expressed in the context of interpersonal situations and a more primitive pride that can be experienced in a non interpersonal way, motivated by happiness regarding accomplishments or achieving goals.

Another set of results that do not seemingly support the hypothesis are the results from Chapter 4. The results indicated that there were no significant differences between groups in the study with regard to both recognising actions and feelings that actors were engaged in. While both groups were accurate with regard to the actions that the main character performed they were often inaccurate with regard to the specific feelings expressed by the actors. However, both groups of children responded with feelings of a hedonic in keeping with the feelings expressed by the main character (e.g. a number responded with ‘happy’ for pride and ‘sad’ or ‘feeling bad’ for guilt and shame). Thus, both groups seemed to use
basic emotion terms to describe the main characters' feelings rather than using self-conscious emotion terms to do so.

The results obtained in this study therefore weigh against the hypothesis that a primary impairment in emotional engagement will lead to impairments in the development of self-conscious emotions. Children with autism as well as children with learning disabilities obtained similar low scores when asked to identify and recognize pride, guilt and shame in others. These similarities lead us to question whether the theoretical position adopted needs reformulating or whether the results could be due to methodological limitations.

These results make it necessary for us to examine the theoretical position and methodology adopted in order to understand whether the theoretical position needs reformulation or whether the methodology could be revised in order to clarify the results.

These results could have arisen due to the fact that these impairments are not specific to children with autism, in which case the theoretical position would need reformulation. However, these results could have also arisen because the method adopted in the study did not adequately explore, in depth, the differences between groups. To explore methodological weaknesses in the current study, one could start by asking whether similar pattern of impairments in both groups could be due to different underlying causes, and whether the methodology was sensitive enough to reveal these differences. One indication that this might be the case can be found in the qualitative analysis of results. This analysis reveals that while both groups of children seemed able to accurately identify emotions of the right hedonic tone to the target emotions when providing a response, there was a tendency on the part of children with autism to use basic emotions terms such as 'happy' and 'pleased' when the target emotion was pride, and 'sad' and 'unhappy' and 'upset' when the target emotions were guilt or shame while children with learning disabilities, on the other hand, tended to be more descriptive in this regard. The qualitative analysis indicated that being descriptive with regard to emotional terms used, extended to questions concerning the actions the main character was engaged in as well. This could lead one to question the differing level of insight both groups possessed with regard to the emotions concerned. One could ask whether the pattern of results in learning disabled children were due to an inability to
retrieve the right response for cognitive reasons while children with autism failed to retrieve the right response due to more affective reasons, perhaps because they had not fully experienced these emotions. However, given that the majority of children with learning disabilities tended not to respond or respond inaccurately, this line of questioning remains purely speculative.

Thus, a more effective way of constructing future studies in order to examine whether impairments are due to different underlying causes, might be to design a task that matched the action and feeling tasks more effectively in terms of level of difficulty. One way to do this might be to present participants with a range of emotion terms as well as action terms, immediately after they have watched the video clip, and investigate whether they are able to choose the appropriate action and emotion. This might be more useful with regard to investigating group difference with regard to recognizing emotions and actions and eliminate problems to do with retrieval.

Thus one could also ask whether asking participants to label emotions in this was the most appropriate way of measuring group differences with regard to recognition of self-conscious emotions. This is because, in certain cases, one could mistake differences in the ability to retrieve the right emotion term for differences in the ability to experience these emotions. Thus, in addition to measures that require a participant to label emotions, on also need a more detailed and comprehensive measure of participants' understanding of these emotions to elucidate where impairments lie. This will enable one to eliminate whether impairments are indeed due to retrieval difficulties or due to experiential factors.

Thus the critical issue exposed by the results from this study is whether 'knowing' emotions in this way is what matters for children with autism. As the present series of studies have shown, especially through discrepancies between 'emotion recognition' studies employing non naturalistic evidence gathered from experimental studies and parental reports and as studies employing semi-structured interviews, is that true 'understanding' and 'awareness' of self-conscious emotions amounts to more than correct labelling. It remains plausible that something like a full understanding entails appropriate forms of engagement with others.
This study also exposes a distinction between forms of self-awareness in children with autism. While children with autism seem able to recognize people as people who engage in actions, they seem less able to recognize people as those who engage emotionally. This dichotomy in awareness is also exposed in Chapter 7 investigating coyness. In this study, children with autism seemed to use personal pronouns appropriately in that they were able to respond with 'me' or 'I' when asked who teddy saw, touched or liked. Thus, here again, they seemed to demonstrate a certain level of self-awareness in the sense of being aware of themselves as unified entities that were potential targets of another's attention. However, their lack of coyness, pointed towards an inability to engage this self emotionally with another.

Thus it seems that certain forms of person and social awareness are intact in autism, such as the ability to be aware of the actions people engage in with one another. Parents also report seeing their children with autism express basic emotions as frequently as parents of non autistic children, albeit in a less personal and more restricted manner. However, as the series of studies in this thesis show, emotions that are thought to evolve through interpersonal relatedness and that require a pre-reflective ability to engage emotionally with another, seem to be impaired in children with autism.

Thus, as mentioned earlier, a theoretical position that could explain this complex socio-emotional profile in children with autism is the view that these children have a limited capacity to engage emotionally with others. This then leads to impairments in the ability to take another's perspective emotionally and to impairments in aspects of the self that feed off this capacity. Thus this might explain why children with autism display a dichotomy in their perception of people, perceiving their actions more accurately than their attitudes, and why they have impairments in their ability to recognize and express self-conscious emotions such as pride, guilt and shame. The manner in which they do express these emotions is thought to reveal that children with autism, at least high functioning children with autism, might use a cognitively mediated pathway to come to an understanding of these emotions.

Although the studies presented in this thesis used diverse methods to investigate the theoretical position adopted, certain methodological limitations and the small sample sizes used mean that the results obtained need to be interpreted with a certain degree of caution. However, they do provide an impetus
for future research in the area. Future studies could build on the methods used in this thesis to explore various other facets of pride, guilt and shame.

In this regard, as the results obtained with pride were not as clear as the results obtained with guilt and shame, future studies intending to investigate pride might benefit from exploring various different kinds of pride-inducing scenarios to explore group differences. For example, one could explore expressions of pride in competitive scenarios, collaborative scenarios and in scenarios involving an individual successfully achieving a pre-set goal. One could also vary the level of difficulty within these tasks to see what impact this might have to the inducement of pride. One would assume that participants would feel a greater sense of achievement on completing a more difficult task than a task they do not find challenging. Hence, tasks like these would be enable one to study one individual emotion in a detailed manner and outline, more precisely, the circumstances under which children with autism do or do not express pride. This could then shed further light on the nature and developmental pathways of these emotions in children with autism. In addition, studies detailing the circumstances under which children with autism do and do not express pride could have therapeutic implications.

In the same way, one could also further investigate the expression of guilt. For example, one could investigate facets of guilt such as the expression of guilt as a consequence of having caused emotional harm, the expression of guilt as a consequence of having caused physical harm, the expression of guilt when one has cause physical or emotional harm intentionally and the effect of guilt when one has caused this harm accidentally. An understanding of possible impairments and the circumstances under which they occur, could have therapeutic implications in terms of being useful to individuals who might have a limited understanding with regard to these emotions.

Longitudinal studies of pride and guilt would also be very useful with regard to charting the development of these emotions in different age groups and enabling more precise ways of talking about these emotions in children with autism. Therapeutic intervention could also then be applied more precisely and effectively. One possibility in this regard would be to construct a reliable, valid and comprehensive questionnaire that could be presented to matched groups of children (individually matched on verbal mental age, sex and chronological age) at different age levels to chart the
development of these emotions. The questionnaire could cover facets of pride and guilt in various situations such as those described above and could initially be given to parents to fill in every six months. One could also provide a version of this questionnaire, that investigates the experience of pride and guilt, to children above the age of 12, and see if there is a correspondence between the reports of parents and their children. This would provide one with an indication of whether parent expectations have a role to play in the way they perceive their children’s behaviour and capacity for engagement. One could also correlate this questionnaire with measures of social development such as aspects of the Vineland Adaptive Behaviour Scale (Sparrow, Balla and Cicchetti, 1984) in relation to non social cognitive development such as Piagetian sensori-motor development.

However, until more research is conducted on the development of these emotions in typically developing children, it will prove difficult to state with any degree of confidence how aberrant the development of these emotions are in children with autism. In this regard, longitudinal as well as cross-sectional studies of self-conscious emotions are needed to chart more precisely the developmental pathways of these emotions. Additionally, defining the behavioural correlates of these emotions within and between cultures will make research in this area more comprehensive. The subjective components of these emotions need to be investigated more thoroughly as well in order to enrich our knowledge with regard to the phenomenology of these emotions and also in order to make more fruitful comparisons between typical development and psychopathology.

The results from the studies also implied that certain children with autism might use more cognitively mediated routes to come to understand and express self-conscious emotions. One implication of these results, in terms of intervention strategies, would be that children with autism might be able to be taught certain emotion concepts explicitly. This has indeed been carried out in a study where children with autism were taught certain emotional concepts as well as how to recognise emotional expressions (Stafford, 2000). This study used behavioural intervention techniques to teach the concepts of emotions and emotional expression recognition to a low-functioning, non-verbal, autistic 9-yr-old male. Over a 6-month period, 4 emotions were gradually introduced through the use of visual cues taught within an existing home-based behavioural intervention programme. These emotions were happy, angry, sad and surprised, and were taught using photographs of known people. The participant was tested using novel
photographs of familiar and unfamiliar people, to see whether he could generalize a learned concept to the novel photographs. The results show that the 4 emotions had been learned, with successful generalization to the novel photographs. However, this might prove to be more difficult in the case of self-conscious emotions such as pride, guilt and shame as these emotions do not have the universally recognisable facial expressions that basic emotions do. Another problem with this method is that generalising what is learnt to more naturalistic situations could prove to be difficult. An alternative to this, especially for older, higher functioning children with autism could be to use video clips (such as the ones used in Chapters 4 and 5), to acquaint participants with the situations in which people normally experience these emotions, accompanied by detailed and explicit discussions of participants own experiences and uncertainties regarding these emotions, in a structured and relaxed manner.

Additionally, in order to help children understand engagement with others at a deeper level, treatment regimes that could be structured to provide, at a more experiential level, forms of relatedness that children with autism could talk about, explore and perhaps practice, in a secure and ordered environment, could be designed and implemented. This might then reveal whether understanding and the ability to talk about feelings increases when the children's experience of such feelings appears to be enhanced, or whether cognitive limitations still constrain such understanding.

### 8.4 Conclusions

This thesis investigated the recognition and expression of pride, guilt shame and coyness in children with autism. The series of studies conducted, using varying and complementary methods, provided evidence with regard to spared and impaired aspects of the development of these emotions in children with autism. The results suggest that children with autism express pride, guilt and shame in ways suggestive of a limited ability to apprehend others attitudes and engage emotionally with these attitudes. Parent reports of the socio-emotional development of children with autism, coupled with investigations with children with autism themselves, suggest that these children have profound limitations in their ability to recognise, express and possibly experience self-conscious emotions. This research will hopefully justify future efforts to investigate these, as well as other self-conscious emotions both in children with autism as well as typically developing children.


241


Self-Conscious Emotions: The Psychology of Shame, Guilt, Embarrassment and Pride (pp. 114-139). New York: Guilford


Appendix 2.2 Diagnostic criteria for autistic disorder

Diagnostic and Statistical Manual of Mental Disorders, 4th edition. A.P.A. (1994); Adapted by A. Lee (personal correspondence)

1. A total of six (or more) items from A, B, and C, with at least two from A, and one each from B and C.

A. Qualitative impairment in social interaction, as manifest by at least two of the following:

i. marked impairment in the use of multiple non-verbal behaviours such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction

ii. failure to develop peer relationships appropriate to developmental level

iii. a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest)

iv. lack of social or emotional reciprocity

B. Qualitative impairments in communication, as manifest by at least one of the following:

i. delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes such as gesture or mime)

ii. in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others

iii. stereotyped and repetitive use of language or idiosyncratic language

iv. lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level
C. Restricted repetitive and stereotyped patterns of behaviour, interests, and activities, as manifest by at least one of the following:

\[ i \] encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus

\[ ii \] apparently inflexible adherence to specific, non-functional routines or rituals

\[ iii \] stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)

\[ iv \] persistent preoccupation with parts of objects

2. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years:
\[ (a) \] social interaction; \[ (b) \] language as used in social communication; or \[ (c) \] symbolic or imaginative play.

3. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder.
### Appendix 2.2: Parent Characteristics (Applies to appendix 3.2 as well)

**Parent characteristics: Children with Autism**

<table>
<thead>
<tr>
<th>Date of interview (d/m/y)</th>
<th>29/06/00</th>
<th>03/07/00</th>
<th>11/07/00</th>
<th>25/07/00</th>
<th>08/08/00</th>
<th>14/09/00</th>
<th>05/10/00</th>
<th>18/12/00</th>
<th>13/03/01</th>
<th>04/04/01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H (male)</td>
<td>I</td>
<td>J</td>
</tr>
<tr>
<td>DoB</td>
<td>03/10/56</td>
<td>17/07/56</td>
<td>19/05/69</td>
<td>21/07/62</td>
<td>27/04/58</td>
<td>10/08/65</td>
<td>16/10/58</td>
<td>21/12/961</td>
<td>18/05/66</td>
<td>19/01/61</td>
</tr>
<tr>
<td>School leaving Age</td>
<td>17</td>
<td>18</td>
<td>18</td>
<td>16</td>
<td>18</td>
<td>16</td>
<td>(didn't say)</td>
<td>17 1/2</td>
<td>18</td>
<td>17</td>
</tr>
<tr>
<td>Levels</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Levels</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Attended university</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>University degree</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Afro Caribbean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>White</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>Brazilian</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lhabiting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lmarried</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Widowed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation (most recent)</td>
<td>Psychotherapist</td>
<td>Secretary/RA</td>
<td>Wages Clerk</td>
<td>Technical publisher</td>
<td>Management consultant</td>
<td>Child minder</td>
<td>Play leader for council</td>
<td>Project manager</td>
<td>Social worker</td>
<td>Sales assistant</td>
</tr>
<tr>
<td>Occupation partner of child</td>
<td>Psychotherapist</td>
<td>Computer Controller</td>
<td>Car Mechanic</td>
<td>Didn't say</td>
<td>Management consultant</td>
<td>Didn't know</td>
<td>Carpenter</td>
<td>Auxiliary Nurse</td>
<td>Social worker</td>
<td>Company director</td>
</tr>
<tr>
<td>No. of children</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2nd order child with autism</td>
<td>Second second</td>
<td>first</td>
<td>Second</td>
<td>second (both children have autism)</td>
<td>Third</td>
<td>First (both children have autism)</td>
<td>first</td>
<td>first</td>
<td>first</td>
<td></td>
</tr>
</tbody>
</table>
### Parent Characteristics: Children with Learning Disabilities

<table>
<thead>
<tr>
<th>Date of Interview (d/m/y)</th>
<th>Code</th>
<th>DoB</th>
<th>School Leaving Age</th>
<th>O Levels</th>
<th>A Levels</th>
<th>Attended University</th>
<th>University Degree</th>
<th>Post Graduate Degree</th>
<th>Afro Caribbean</th>
<th>Asian</th>
<th>White</th>
<th>Other (specify)</th>
<th>Habitual</th>
<th>Divorced</th>
<th>Married</th>
<th>Single</th>
<th>Widowed</th>
<th>Occupation (most recent)</th>
<th>No. of Children</th>
<th>Birth order of child with learning disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>04/12/00</td>
<td>L(A)</td>
<td>26/08/56</td>
<td>17</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Reflexologist (alternative therapist)</td>
<td>2</td>
<td>Second</td>
</tr>
<tr>
<td>04/12/00</td>
<td>L(B)</td>
<td>09/09/53</td>
<td>17</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Agency nursing</td>
<td>5</td>
<td>Third</td>
</tr>
<tr>
<td>09/01/01</td>
<td>L (C)</td>
<td>08/12/60</td>
<td>16</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Banana factory worker</td>
<td>3</td>
<td>Third</td>
</tr>
<tr>
<td>10/01/01</td>
<td>L (D)</td>
<td>09/07/51</td>
<td>16</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Housewife</td>
<td>3</td>
<td>Third</td>
</tr>
<tr>
<td>15/01/01</td>
<td>L (E)</td>
<td>08/10/66</td>
<td>16</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Welder</td>
<td>3</td>
<td>Second</td>
</tr>
<tr>
<td>20/02/01</td>
<td>L(F)</td>
<td>24/03/62</td>
<td>16</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Housewife</td>
<td>2</td>
<td>First</td>
</tr>
<tr>
<td>30th October 2001</td>
<td>L(G)</td>
<td>01/06/63</td>
<td>16 years</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Made BT Cabinets</td>
<td>2</td>
<td>First</td>
</tr>
<tr>
<td>March 2001</td>
<td>L(H)</td>
<td>March 1962</td>
<td>16 years</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Housewife</td>
<td>2</td>
<td>First</td>
</tr>
<tr>
<td>Jan 22, 2002</td>
<td>L(I)</td>
<td>09 Sep 1963</td>
<td>16 years</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Registered Nurse</td>
<td>2</td>
<td>First</td>
</tr>
<tr>
<td>29/01/01</td>
<td>L(J)</td>
<td>13/12/64</td>
<td>17 years</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Manager of training company</td>
<td>4</td>
<td>Fourth</td>
</tr>
</tbody>
</table>

255
Appendix 2.3: The Interview Schedule (Including questions on pride, guilt and shame for appendix 3.2)

**Milestones**

1. At what age (approximately) did you child begin to walk?

2. Did you encounter any problems toilet training your child?

3. Did you have any problems with early feeding?

**Body-Self**

1. Have you noticed anything unusual about your child’s sensory abilities? For example, have you ever noticed anything unusual about the way your child reacts to pain? (some parents have reported that while their children are sensitive to more or less painless things like brushing hair, they are not as sensitive to pain when they fall down and hurt themselves) similarly, is your child exceptionally sensitive to sound, light, temperature or touch?

2. Is there anything unusual about the way your child perceives his/her body? For example, it’s physical condition or functioning?

3. Is your child able to dress him/herself? If not, what about dressing him/herself does your child find difficult? For example, does s/he put his/her clothes on back to front, wear shoes on the wrong feet etc. In other contexts does your child tend to confuse directions (up/down, left/right, back/front)?

4. Would you say your child enjoys body contact such as rough and tumble? What sort of contact does your child enjoy? For example, does he/she enjoy caressing, tickling, stroking etc? does your
child seek to initiate any of these activities? When does he/she normally seek to initiate these activities? Eg when happy, sad, scared angry etc?

5. Does your child tend to have many ‘accidents’? What is your child’s normal reaction to these accidents? For example, does he/she cry, ignore them etc? When do these accidents tend to happen and where? For example, do they tend to happen when your child is distressed or in an unfamiliar place?

**Imitation**

1. Have you ever noticed your child copying what you do in terms of facial expressions or gestures? What kind of things does he/she copy? Does this require a lot of encouragement, or is imitation spontaneous? Is there anything unusual about the way your child imitates?

2. Have you ever noticed your child imitating you after a period of time - a day or a week etc?

3. Does your child tend to imitate your mannerisms or other peoples’ mannerisms - the way they talk or gesture etc?

4. Does your child ever imitate people he/she sees on television? For example does your child ever imitate the way someone dresses or speaks etc.?

5. Do you think your child imitates you only in certain circumstances (i.e. to get something he/she wants)? For example, do you think your child imitates you opening a cupboard with a view towards getting the cookies inside or does your child imitate with a view towards having fun, learning etc?

6. Of all the above, what sort of imitation does your child engage in most frequently? i.e. copying facial gestures, mannerisms, mode of dress, way of speaking or action in order to get something?

7. Do you think your child would notice if you imitated him/her?
Self-Other

1. What sort of social situations make your child feel most comfortable or uncomfortable?

2. Is there anything unusual in the way your child reacts to you physically? For example, does your child ever treat you or part of you as if you were an object?

3. Would you say your child is physically demonstrative? For example, does s/he hug you or seek to initiate physical contact with you? When does your child normally seek to initiate physical contact with you...when s/he is happy, sad, scared excited?

4. Would you say your child finds it difficult to follow social rules such as those of personal space? For example, does she/he stand too close to someone when talking to them, does she/he know not to stare at people etc?

5. Would you say your child is possessive towards people? If so how does this express itself?

6. Would you say that other peoples opinions affect your child greatly? For example, does s/he tend to be pleased when someone says she/he is good looking or upset if someone says they're naughty etc.? If this is so, what kind of opinions tend to affect your child the most- opinions about the way she/he looks, his/her personality, his/her possessions etc. Does she/he ask you about how attractive she/he is-if she/he is tall, fat, ugly, pretty etc?

7. Is your child competitive with regard to his/her physical attributes? For example, have you ever heard your child say that she/he is prettier/more handsome or more fashionable than his/her friends?

8. Does your child use the pronouns 'I' or 'me' when referring to him/herself? Does he/she refer to 'we' or 'us'? Is there anything unusual about the way your child refers to him/her self?
9. Does your child enjoy working in a group? For example, does your child enjoy sharing his
toys/work/knowledge with other people? Does he appeal for help if he needs it?

10. Does your child like making things for other people? For example, does your child like giving
other people presents, cards? Does he do so voluntarily or does he have to be prompted to do so?
Does your child like receiving gifts?

11. Would you say your child 'feels' for other people? For example, is his mood affected by other
peoples moods or is he normally unaffected by other peoples moods/feelings etc?

Emotions

1. Could you say a little about the way in which the following emotions are expressed by your child?

a) Jealousy: When have you observed jealousy in your child? (i.e. resenting the attention you or
someone else is giving to other individuals)?

b) Envy: What about other people make your child envious? For example, their physical attributes,
their personality, how clever they are etc. Is your child ever envious about other peoples
possessions? For example, their books, toys, clothes etc.

c) Shame: What in your opinion would make your child ashamed? Having been mean or rude to
someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a
social situation?

d) Guilt: Do you think your child feels guilt? What sort of situations do you think make your child
feel guilty?

e) Showing off: Have you ever noticed your child showing off? What does s/he normally show off?
For example, his/her toys; personality or physical attributes etc.
f) **Embarrassment:** Would you say your child is easily embarrassed? What sort of situations tend to embarrass your child? For example, lack of an ability to do something, embarrassment about his/her body etc.

g) **Possessiveness towards objects:** Was this conspicuous in your child? What kind of objects were the targets of possessiveness and how does this possessiveness manifest itself?

h) **Cyness:** What sort of situations make your child shy?

i) **Flirting:** Has your child ever been attracted to someone and made this evident by flirting with them?

j) **Concern:** Does your child show concern for the feelings of others? How does your child normally demonstrate this concern? Is your child consistent in his/her demonstration of concern?

k) **Sadness and loss:** Do you think you have observed sadness in your child, especially in response to loss?

l) **Pride:** What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

m) **Pity:** Does your child ever feel pity in relation to people/animals/other things in his/her environment?

n) **'Non personal' feelings:** Does your child feel such as happiness, unhappiness, anger, surprise, fear and disgust? (ask one by one elicit situational examples)
Appendix 2.5: Range of reliabilities for chapter 2 *(Includes reliabilities for pride, guilt and shame, Chapter 3, section 3.5)*

Interview Study: Chapter 3: Interview Study: Rater 2 judged 4 participants with autism and 4 participants with learning disabilities

<table>
<thead>
<tr>
<th>Kappa Coefficients</th>
<th>Kappa Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body self</td>
<td>0.8103</td>
</tr>
<tr>
<td>Imitation</td>
<td>0.8978</td>
</tr>
<tr>
<td>Self-other (of 12 items)</td>
<td>0.8541</td>
</tr>
<tr>
<td>Jealousy</td>
<td>0.5882</td>
</tr>
<tr>
<td>Envy</td>
<td>0.8590</td>
</tr>
<tr>
<td>Competitiveness</td>
<td>1.0000</td>
</tr>
<tr>
<td>Shame</td>
<td>0.6508</td>
</tr>
<tr>
<td>Guilt score</td>
<td>0.9442</td>
</tr>
<tr>
<td>Showing off score</td>
<td>0.8866</td>
</tr>
<tr>
<td>Embarrassment score</td>
<td>1.0000</td>
</tr>
<tr>
<td>Possessiveness</td>
<td>1.0000</td>
</tr>
<tr>
<td>Coyness</td>
<td>0.9220</td>
</tr>
<tr>
<td>Flirting</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kappa Coefficients</th>
<th>Kappa Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern score</td>
<td>1.0000</td>
</tr>
<tr>
<td>Sadness and loss score</td>
<td>0.9060</td>
</tr>
<tr>
<td>Pride score</td>
<td>0.8932</td>
</tr>
<tr>
<td>Pity</td>
<td>1.0000</td>
</tr>
<tr>
<td>Self conscious emotion - overall</td>
<td>0.9230</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basic Emotions</th>
<th>Kappa Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happiness</td>
<td>0.8533</td>
</tr>
<tr>
<td>Unhappiness</td>
<td>0.9120</td>
</tr>
<tr>
<td>Anger</td>
<td>1.0000</td>
</tr>
<tr>
<td>Surprise</td>
<td>1.0000</td>
</tr>
<tr>
<td>Fear</td>
<td>0.9053</td>
</tr>
<tr>
<td>Disgust</td>
<td>0.8878</td>
</tr>
<tr>
<td>Basic emotions - overall</td>
<td>0.9028</td>
</tr>
</tbody>
</table>

261
Interpretation of Kappa Coefficients

Although agreement may be regarded as a special case of association, a measure of association is not necessarily a measure of agreement. Percentage, or proportion, of agreement is not a good measure of agreement as the degree of chance agreement has not been partitioned out.

Kappa measures the agreement between the evaluations of two raters when both are rating the same object. The difference between the observed proportion of cases in which the raters agree and the proportion expected by chance is divided by the maximum difference possible between the observed and expected proportions, given the marginal totals. A value of 1 indicates perfect agreement. A value of 0 indicates that agreement is no better than chance.

### Interpretation of Kappa Coefficient

<table>
<thead>
<tr>
<th>Kappa Statistic</th>
<th>Strength of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;0.00</td>
<td>Poor</td>
</tr>
<tr>
<td>0.00 - 0.20</td>
<td>Slight</td>
</tr>
<tr>
<td>0.21 - 0.40</td>
<td>Fair</td>
</tr>
<tr>
<td>0.41 - 0.60</td>
<td>Moderate</td>
</tr>
<tr>
<td>0.61 - 0.80</td>
<td>Substantial</td>
</tr>
<tr>
<td>0.81 - 1.00</td>
<td>Almost Perfect</td>
</tr>
</tbody>
</table>

Appendix 3.41: Parent Transcripts

Chapter 3: Interview Study: Rater 2 judged 4 participants with autism and 4 participants with learning disabilities

Autism

F

*Pride:* What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

'Oh, yeah, “I’ve done it” “I’m good aren’t I, mum” I say “yes, you’re marvellous”. I think pride for a child with a disability... it’s more tricky, I think it’s more being proud than pride.

G: Is it more being happy about what he’s done or is it more pride?

F: It’s very hard, I do not know, I would say it’s happy.’

*Guilt:* Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

'No, I don’t think he’d understand the concept of guilt.’

*Shame:* What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'I think if he knows that he’s hurt someone, he’ll get like a frightened look, you can tell by his eyes and you can tell he’s sorry, he’ll always say “I’m sorry” also if he knows he’s done something wrong, I’ll tell him off, he’ll say “I’m sorry.”

E

*Pride:* What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?
'If she dresses up well and you say she looks pretty, then yes, then she’ll get that sense of pride from that, yeah she’ll love that, if someone else other than in the family will say she’s done something really well, like she’s into cooking and she’ll make a cake, “oh, that’s lovely” she’ll really swell with pride at that too. Yes, she does get a really positive buzz from a sense of achievement and being, in that way.'

G: ‘Would you say she feels proud of people, e.g. if her brother did something would she be proud of him?’

E: ‘She’ll be proud of him just for being her brother, and on the occasions when he comes to (school), she’ll be terribly proud and say “this is my brother”, even though she’ll kick several days out of him at home, she’ll be very proud of him outside. Likewise with me and my husband, she’ll be very proud of us being her parents, if we turn up to an event she’s really proud that we’ve come.’

G: ‘But if you told her you’ve got this certificate, would she be proud of your achievement, or is that too intellectual for her to understand?’

E: ‘No, because we’ve had it, last year I got my Masters, she was just stunned that one still went to school when you’re as old as I was. No, she didn’t take that on, maybe because she’s so young. I think it’s for people who she cares about, for what they are, she’ll be very concerned that I dress in a way she wants to, turning up wearing …this has been from quite an early age, that if I’m coming to school I must wear a nice dress, and I must wear make-up and I must look smart, and I must wash my hair that day, especially if it’s something like a school event, the play etc. and she’ll actually choose the clothes for me to wear and make me promise that I’ll wear what she’s asked. Or we’ll be going out and she’ll say, “Oh, Mum you’re not wearing that are you?” so I’ll have to go and change.’

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

‘I’ve never seen her guilty.’
Shame: What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'Yes, I think the problem she has with being told off or with that negative emotional...that is a shame, is a sense of shame, that's where her low self esteem comes along and wanting to punish herself, she'll call herself stupid or whatever, she'll hit her head and say “I’m stupid, I’m stupid, I hate myself” and I think that is all actually an exhibition of shame.'

G: 'But she’ll never say, gosh I’m really ashamed to have done that?'

E: 'I don’t think she knows the word, actually. No.'

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

'When he’s helping with the cooking he does feel pride, when it comes the result of it. The way he expresses it is very subtle, I just know he’s proud. It’s just by the face, he doesn’t say anything. He wouldn’t feel proud for me as it’s difficult for him to put himself in other people’s shoes.'

Shame: What, if anything, in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'I think he does have a little bit of that but it’s very slight, it’s not very strong either. He doesn’t really have the awareness of having been mean to some one and feeling sorry.'
Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

'He doesn't feel guilty.'

H

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

'She feels proud of her drawings and she'll come and show us. I don't think she'd proud for other people really and no she isn't proud of the way she looks or anything like that. In fact I'm not really sure that she's actually proud of her drawings. Perhaps it's just happiness not pride.'

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

'No, I don't think I've ever noticed her feeling guilty ever.'

Shame: What, if anything, in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'She does feel bad if she's been a little bit naughty but I'm not sure about shame. I think sometimes she might be worried about what might happen next -like she might get told off.'

B

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?
'He's pretty proud of his climbing, generally, I think it's pride, say if I got him dressed in new clothes or something, he wouldn't say "oh, I look nice", but I'd say to him "don't you look smart" and then he'd say "yes, I do look smart" but then he's just agreeing with me rather than feeling it. I think he's proud of things he can achieve, particularly the climbing, then he would draw attention to you, if we go anywhere new, he would try and get to the highest point and he'll go "mum! Mum!" yeah.'

G: 'Do you think he's ever proud of other people, like you or his brother?'

B: 'I don't think so, I don't see it. He might...if you point out the achievement of someone else, he might acknowledge it but I don't think he'll feel particularly proud of it. No.'

Shame: What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'Yeah, he doesn't like...like going to the toilet, if he's made a bit of a mess or whatever, sometimes, he hasn't wiped himself properly or something like that, then he does get a bit annoyed, or angry, when you notice, he'll sort of pull the trousers away for you. He doesn't really like anything to do with his bottom. If he's been really mean, and you say, "That's really not nice" I think he understands that, he does seem a bit chastened.'

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

'No, you couldn't call it guilty, he just sort of knows that he's done wrong. I could say that he just acknowledges that it was wrong, but no, I don't think so, not guilt as such.'
Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

'I don't know whether she feels pride. Sometimes I've found certificates in her bag and she hasn't shown them to me. She showed me her swimming certificate the other day though. But I think that was because she wanted to show me that she was being good at school after yelling at that boy. She doesn't feel proud of other people. Her sister been chosen for a Millennium show at Ealing Town Hall and we asked X if she wanted to go but she said no. But L went to Xs school play and was really excited about the whole thing and stood up and clapped for X really often.'

Shame: What, if anything, in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'Not really. The incident with boy (the participant spoke earlier about her daughter having sworn at a boy in school. The teachers informed her of her daughter’s behaviour). She was fine when she got off the bus- she didn’t think she’d done anything she should be ashamed of-when I told her, she got upset, but she was fine when I left the room. Her sister feels ashamed –I know because she talks to me about it.'

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

'Not really-again she gets upset but only if I tell her.'

I

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?
'I think there a certain amount of achievement sense. It’s not showing off pride, it’s just taking pleasure in what you can do. Definitely bike riding, when he got the hang of it, he was very pleased with himself and when he started to get better at writing and stuff, he is able to see changes in himself. But if you say he’s writing really well, he doesn’t kind of glow or kind of think, oh I’m clever. It always comes from him, if he’s done something he’s wanted to do, he’s pleased, if you say you think something is really good, he doesn’t think oh-was it? He’s done some pictures recently and he expects us to be pleased with all of them. He doesn’t make a distinction as to how good they are, he wants us to say they’re good whether they’re good or not. If we say we’re really pleased with one, that doesn’t matter to him although he might remember we’ve said that and show it again.’

Shame: What, if anything, in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

‘He says sorry but I don’t think he actually feels any shame or remorse. He knows there might be repercussions in terms of us being angry that makes him say that.’

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

‘Yes I think-he’ll say- it was an accident stressing quite a lot even though you try and explain to him that it wasn’t an accident but he will rush to get a cloth and clean anything up. I think he probably does because he’ll do something odd and you’ll wonder why he’s behaving odd. You’ll ask what happened and then you’ll get the fact that’s he done something he’s trying to hide. But again I think it has a lot to do with the repercussion of something.’
Learning Disabled

A

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

‘Yes. An achievement at school or whatever, badges at Cubs, took it in to show in Assembly, very proud, yes.’

G: ‘And do you think he'd be proud of you?’

A: ‘I don’t know if he would associate it at all, to be honest. If I turn up at school, he's always so pleased to see me and says “this is my mum”, so yes possibly he is. But I don't know if he would necessarily relate to the fact that I had had an achievement. So if I'd done something, he wouldn't be proud of my achievement because he wouldn't understand it, but he'd possible be proud of me being his mum, because when I get to school he will say “this is my mum”.'

Shame: What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

‘Yes, I've seen that in his face but I'm not sure he'd understand what that feeling was, no. He's done things and I'll say to him “What have you done? And why have you done it, and how does that make you feel and how do you think Mrs. F (his teacher) would react if she knew you did that?” and he will go (indicating) so he will get sad but I don't think he will understand that as being shame. But I think it is perhaps?’

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?
'No, if you tell him off he will feel guilty perhaps, but then again that might just be sadness because you're telling him off. I don't think as he's doing something he necessarily realises it's wrong, I don't think he's got that immediate comprehension of good and bad and right and wrong. He knows what's right but I'm not sure if he knows what's wrong. I don't think he would understand that guilt feeling as feeling guilty, again if I catch him drinking something and I tell him off or shout at him or whatever I do, I don't think it's a guilt feeling I think it is sadness because he's being told off.'

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

'Oh, she's very proud when she does well at school and she's proud of us sometimes in school- she'll take us around you know.'

Shame: What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

'Well, I have seen her ashamed. Not very often but when she pushed this other girl- I don't think she meant any harm really-it's just what children do sometimes but it was at a party and I was a little annoyed with her and I could see that she was ashamed.'

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

'Yes this too. Sometime, not very often, she's naughty, and I know she does feel guilty. She'll run off to her room or hide behind the curtain but she usually says sorry and it doesn't happen that often.'
D

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

‘Yes, he is to a certain extent but if he gets praised too much, he doesn't like to be made an example of. They were doing some things with some books, they were trying to encourage them to be in competition with each other to read, and he read quite a few books in however many weeks, and he was one of the ones that read the most books, and they mentioned it in assembly, but he doesn't like that. He shies away from that, he doesn't like the embarrassing...he doesn't like me or his Nan or anybody like that going to the assemblies to go and watch the school plays, he doesn't like us being at the school at all, it's so strange. All the other kids go up to their mums and go "oh, hello mum" but X, we don't see him, he shies away from it all.’

G: ‘So have you seen pride in him?’

D: ‘Yes certainly but he's also shy.’

Shame: What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

‘Well we try to make him ashamed, and he gets upset but what he's actually feeling, I don't know. I think he knows he's done wrong and he knows he shouldn't do things. We had a case on holiday where he'd actually met somebody else on a campsite and they were riding their bikes there and I 'm sure they'd put him up to it because he's quite sensible, and they were pinching stuff from the shop. Well as soon as we found out, we marched him up the shop and his dad said to the man behind the counter "...he's been stealing things from your shop, what are you going to do about it" and I think he was generally upset and ashamed at what he'd done, but then he did it again, a bit later on. But yes, I think at the time he was very ashamed of his behaviour.’

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?
‘Yes, I think so. The time at the shop, he was also very guilty about his dad, about the man.’ (see previous incident)

C

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

‘Oh yeah he does, if he's done something good he smiles- yeah he does feel pride yeah.’

G: ‘What sort of good things?’

C: ‘Anything really that’s he’s good at. Also he’s proud when he makes us happy.’

Shame: What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

‘Yeah. He’ll always apologise- if he's done something naughty, in the end he always comes and says sorry. Sorry mum. And he goes, sorry mum, can I have a cuddle? And I say yes, course you can have a cuddle and then he has a cuddle and then he's alright. Then he's happy again.’

G: ‘Perhaps that’s when he’s guilty? What about shame?’

C: ‘Yes, he has been ashamed as well. When he’s hurt us-yes he’s ashamed.’

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

‘Yeah definitely yeah.’

E

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?
‘Oh yeah, he’s proud of his things, toys and coats and things, he’ll show off. He will do that. Things he’s done at school too, he will come later on and get his folder and try pulling it out and say “look”. Yes he’s proud of all sorts of things.’

Shame: What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

‘Yes, he will go red. And go ‘Oh, I didn’t do that’ he will argue back on that one. It’s because he’s ashamed.’

Guilt: Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

‘Yes, it’s just a look. You can always know when he’s supposed to have done something, either that or he will blame it on someone else, he’s very good at that and all.’

F

Pride: What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

‘Yes especially when he makes those Christmas cards on the computer at school, he comes home and says ‘look what I’ve done’ –I think he’s proud about that. He doesn’t care about things so much, he’s happy with what he’s got. But he like showing off to us and he’s proud.’

Shame: What, if anything, in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

‘I think he was ashamed when he hurt his mum once.’
**Guilt:** Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

‘Yes. He knows when he’s done something wrong. Sometimes I get the giggles from him and other times he disappears quickly- he knows what will happen to him in the next 5 minutes after he's done it. But sometimes, I really don’t know- I think he finds it very hard to sort of express that. He does get a very guilty expression on his face sometimes depending on what he has done. And then he knows not to do it.’

**Pride:** What kind of situations engender this feeling in your child? What sort of things is your child proud of? Is he/she proud of his/her achievements; people he/she likes or admires; his/her possessions?

‘Well of course if he does well at school or sports you know and his friends.’

**Shame:** What in your opinion would make your child ashamed? Having been mean or rude to someone? Having broken a rule? Having broken a toy? Not having behaved appropriately in a social situation?

‘Yes I have seen him being ashamed. I know from his face when he's ashamed when he's done something wrong.’

**Guilt:** Do you think your child feels guilt? What sort of situations do you think make your child feel guilty?

‘Yes, yes-he sort of smiles you know- I know when he's guilty and he knows he's guilty.’
Appendix 4.7: Range of reliabilities for chapter 4

**RADA task**
Kappa Coefficients

Rater 2 judged 12 participants (6 autistic / 6 learning disabled)

<table>
<thead>
<tr>
<th></th>
<th>Reference to Action terms</th>
<th>Accuracy Action Terms</th>
<th>Reference to Feeling terms</th>
<th>Accuracy Feeling terms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRIDE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>0.8966</td>
</tr>
<tr>
<td><strong>GUILT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.0000</td>
<td>1.0000</td>
<td>0.8966</td>
<td>0.8571</td>
</tr>
<tr>
<td><strong>SHAME</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.0000</td>
<td>0.9286</td>
<td>1.0000</td>
<td>0.9286</td>
</tr>
</tbody>
</table>


### Appendix 6.5: Ratings of Verbal/Non verbal Expressions of Behaviour

#### Kappa Scores for Chapter 6

Participants rated: 12 children with autism and 13 children with learning disabilities

<table>
<thead>
<tr>
<th></th>
<th>non verbal body</th>
<th>non verbal face</th>
<th>verbal expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pride</td>
<td>1.000</td>
<td>1.000</td>
<td>0.818</td>
</tr>
<tr>
<td>Pride Comparison</td>
<td>0.834</td>
<td>0.648</td>
<td>0.679</td>
</tr>
<tr>
<td>Guilt</td>
<td>0.627</td>
<td>0.468</td>
<td>0.706</td>
</tr>
<tr>
<td>Guilt Comparison</td>
<td>0.752</td>
<td>0.651</td>
<td>0.688</td>
</tr>
</tbody>
</table>
## Appendix 7.5: Range of reliabilities for chapter 7

**Cyness Study**  
Kappa Coefficients  
Rater 2 judged 25 participants (12 autistic / 13 learning disabled)

<table>
<thead>
<tr>
<th>SELF-CONSCIOUS EMOTIONS</th>
<th>Kappa Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eliciting a self-conscious emotion through visual gaze</td>
<td></td>
</tr>
<tr>
<td>Reliability for Change rating</td>
<td>0.737</td>
</tr>
<tr>
<td>Reliability for cyness rating</td>
<td>0.737</td>
</tr>
<tr>
<td>Eliciting a self-conscious emotion through visual gaze and touch</td>
<td></td>
</tr>
<tr>
<td>Reliability for Change rating</td>
<td>0.621</td>
</tr>
<tr>
<td>Reliability for cyness rating</td>
<td>0.779</td>
</tr>
<tr>
<td>Eliciting cyness through visual gaze, touch and affect</td>
<td></td>
</tr>
<tr>
<td>Reliability for Change rating</td>
<td>0.867</td>
</tr>
<tr>
<td>Reliability for cyness rating</td>
<td>0.620</td>
</tr>
</tbody>
</table>