

University of East London
Doctoral Degree in Clinical Psychology

Assessment Proforma

Please read the following candidate's declaration, and tick the adjacent boxes to confirm that you have complied with each statement. Then complete the cover sheet below in full. Failing to do either will result in your assessment being delayed and/or returned to you for resubmission. Please raise any queries regarding this form with your academic tutor well in advance of submission.

CANDIDATE'S DECLARATION

I confirm that no part of this submitted material, except where clearly quoted and referenced, has been copied from material belonging to any other person (e.g., from a book, article, lecture handout, web site, or another candidate). I am aware that it is a breach of university regulations to copy the work of another without clear acknowledgement, and that attempting to do so will render me liable to disciplinary proceedings.

Tick to
confirm

X

I confirm that, for Practical Reports, where appropriate and feasible, client consent for the writing up of clinical work has been sought and obtained. If consent has not been sought and/or obtained I confirm that the reasons for this have been addressed in the body of the report.

Tick to
confirm

NA

I confirm that the word count cited below is accurate, and within the limit allowed for this type of assessment. The count includes all words in the body of text, diagrams, tables and footnotes (though not the contents page, references or appendices). I have presented the assessed work with page margins, line spacing, font size and page numbers as required in the relevant section of the assessment handbook.

Tick to
confirm

X

COVER SHEET

UEL STUDENT NUMBER

u1037623

WORK TO BE ASSESSED
(e.g., Year 1 Essay, Practical Report 3, SRR)

Thesis

SUBMISSION DATE

27th November 2013

CURRENT ACADEMIC YEAR

2013-2014

YEAR OF TRAINEE AT TIME OF
SUBMISSION
(i.e. Year 1, Year 2 or Year 3)

Year 3

FOR PRs ONLY: YEAR OF TRAINEE
WHEN CLINICAL WORK WAS CARRIED OUT

WORD COUNT

31,993

**Reputation management and the 'Observer Effect'
in persons with high-functioning autism
and Asperger's Syndrome.**

Danielle Gaynor

A thesis submitted in partial fulfilment
of the requirements of the University of East London for the
Doctoral Degree in Clinical Psychology

ψ

November 2013

Word Count: 31,993

ABSTRACT

The literature suggests that opportunities for reputation enhancement can elicit pro-social behaviour. Public declarations of moral judgments can provide just such opportunities. Even subtle surveillance cues have been associated with more disapproval of anti-social behaviour in typically developed and intact adults (Bourrat, Baumard *et al.*, 2011). However this has not been tested in adults with autistic spectrum presentations.

The current qualitative study explored these questions using a semi-structured interview incorporating a Retrospective Verbal Protocol, based upon an on-line social evaluation survey, which was simultaneously piloted for potential future use in quantitative research. Two groups of adults, with and without diagnoses of autistic spectrum presentations, evaluated behaviours in four social domains ('moral', 'convention', 'disgust', and 'ambiguous'), using two sets of vignettes. One set had 'eyes' embedded in a logo (the other was plain). Qualitative and quantitative data were collected.

Thematic analysis and descriptive statistics suggest that both groups tended to perform similarly on the overall social evaluation tasks, with subtle differences appearing in some social domains and in consideration of some moderating factors. However, the qualitative data suggests that the groups did not always use comparable strategies to reach similar conclusions. The current study appears to support theoretical social domain distinctions and predictions (e.g. Nichols, 2002; Leslie *et al.*, 2006) that both explicit and implicit processing routes may be used in moral evaluation.

'Observer effect' quantitative results were inconclusive, indicating that the pilot survey tool is inadequate in its current form. However, an interesting finding was the similar performance by both groups on the tasks. Qualitative data suggests that participants from both groups were aware of and actively engage in reputation management. For the ASP group this appears to challenge Theory of Mind theories of autism and assumptions about reputation issues. These findings have potentially important theoretical and clinical implications.

CONTENTS

ABSTRACT	i
CONTENTS	ii
ACKNOWLEDGMENTS.....	vii
CHAPTER 1: INTRODUCTION.....	1
1.1 Background and epistemological framework	1
1.2 Autistic Spectrum Presentations.....	3
1.2.1 Historical background and concepts.....	3
1.2.1.1 Classic autism.....	3
1.2.1.2 Asperger's syndrome	5
1.2.2 Psychological theories	7
1.2.2.1 Mindblindness Theory	8
1.2.2.1.1 Challenges to Mindblindness Theory	8
1.2.2.2 Summary of psychological theories	10
1.3 Social cognition and the 'problem of other minds'	11
1.3.1 Reputation management	11
1.3.1.1 Reputation management in HFA/AS and comparison groups	12
1.3.1.2 The Observer Effect.....	13
1.3.1.2.1 The Observer Effect in HFA/AS and Comparison Groups	13
1.3.1.3 Summary of reputation management and the observer effect.....	14
1.3.2 Moral Judgement.....	15
1.3.2.1 Acquisition of the Moral-Conventional Distinction.....	16
1.3.2.1.1 Developmental theories.....	16
1.3.2.1.2 Constructivist Theories.....	17
1.3.2.1.3 'Sentimental Theory' – adding a 'disgust' domain	18
1.3.2.2 The Moral/Convention/Disgust Distinction in Persons with HFA or AS	19
1.4 Clinical and research implications	21
1.5 Research Questions	22
CHAPTER 2: METHODOLOGY.....	24
2.1 Epistemology.....	24
2.2. Recruitment	24

2.2.1 Participant Demographics	24
2.2.1.1 ASP group participants	25
2.2.1.2 Control group participants	25
2.2.1.3 The Autism Spectrum Quotient (Baron-Cohen, Wheelwright et al., 2001)	26
2.2.2 Inclusion and exclusion criteria	26
2.3 Design	27
2.3.1 Quantitative Elements	27
2.3.1.1 Cognitive battery	27
2.3.1.1.1 Verbal function	27
2.3.1.1.2 Short-term and working memories	28
2.3.1.1.3 Executive function	28
2.3.1.2 Action evaluation survey	28
2.3.1.2.1 Avoiding possible confounds	30
2.3.1.3 Use of new technology	31
2.3.2 Use of Qualitative Methods	31
2.4 Procedure	32
2.5 Data Analysis	34
2.5.1 Quantitative Evaluation of the pilot survey	34
2.5.1.1 Power and sampling for the social evaluation survey - pilot	34
2.5.2 Thematic Analysis	36
2.6 Ethical considerations	37
2.6.1 Informed consent	37
2.6.2 Participants' psychological welfare	38
2.6.3 Data protection	38
CHAPTER 3: RESULTS	39
3.1 Cognitive Test Battery	39
3.2 Action Evaluation Survey – Evaluation	40
3.2.1 Analysis of frequency data for each group, across domains	40
3.2.1.1 Analysis of frequency data for between and within groups, across domains (without moderating factors)	42
3.2.2 Analysis of Likert scale ratings for each group between domains (without moderating factors)	43

3.2.3 Analysis of frequency data between and within groups, within domains between moderating factors	44
3.2.3.1 Analysis of frequency data for each group, within domains between moderating factors – ‘Moral’ domain.....	44
3.2.3.2 Analysis of frequency data between and within groups, within domains between moderating factors – ‘Convention’ domain	45
3.2.3.3 Analysis of frequency data between and within groups, within domains between moderating factors – ‘Disgust’ domain.....	45
3.2.3.4 Analysis of frequency data between and within groups, within domains between moderating factors – ‘Ambiguous’ domain.....	46
3.2.4 Analysis of frequency ‘eyes/no eyes’ conditions, across domains	47
3.2.5 Analysis of rating scale data for acts with no moderating factors, across and within groups, across conditions.....	49
3.2.6 Summary of pilot findings	50
3.3 Thematic Analysis.....	53
3.3.1 Mitigating circumstances	54
3.3.1.1 Context.....	54
3.3.1.2 Motives.....	56
3.3.1.2.1 Self-defence	57
3.3.1.2.2. Benevolent or malevolent intentions	58
3.3.2 Consequences.....	58
3.3.2.1 Harm	59
3.3.2.2 Consequences to society	62
3.3.2.3 Consequences to others	62
3.3.2.4 Consequences to self	63
3.3.2.4.1 Reputation and impression management.....	65
3.3.3 Rules	67
3.3.3.1 Universal versus subjective	67
3.3.3.2 Rules applied	68
3.3.3.2.1 ‘Golden rule’	68
3.3.3.3 Conflicting rules	70
3.3.4 Hierarchy of Authority	71
3.3.5 Group Membership.....	74

3.3.5.1 Abilities and needs	75
3.3.5.2 Explicit versus implicit learning	76
3.3.5.3 Thinking style	77
3.3.5.4 Thinking processes	79
3.3.6 Summary of thematic analysis	80
CHAPTER 4: DISCUSSION	81
4.2 Social evaluation results - How do individuals with and without diagnoses of HFA or AS perform on social evaluation tasks?	83
4.2.1 Quantitative findings – frequency data	83
4.2.2 Quantitative findings - acceptability scale data	85
4.2.3 Qualitative findings - question 1	86
4.2.3.1 Mitigating circumstances	86
4.2.3.2 Consequences	87
4.2.3.2.1 Harm	87
4.2.3.2.2.1 Consequences to society	88
4.2.3.2.2.2 ... to others	88
4.2.3.2.2.3 ... to self	89
4.2.3.3 Rules	90
4.2.3.3.1 Universal versus subjective	90
4.2.3.3.2 Rules applied	91
4.2.3.4 Hierarchy of authority	92
4.2.3.5 Conclusion: How do participants with and without diagnoses of ASPs perform and speak about social evaluation?	93
4.3 Do ‘eyes’ provide triggers to a moral judgement component of reputation management for individuals with and without ASPs and does the survey provide a useful tool for this line of investigation?	94
4.3.1 Quantitative and quantitative findings	94
4.3.2 Qualitative findings – ‘Observer effect’ and reputation management ...	96
4.3.2.1 Effects of observation on own performance	97
4.3.3 Conclusion – ‘Observer effect’, reputation management, and the survey pilot	98
4.4 Overarching theme: ‘group membership’	98
4.5 Conclusions	99

4.6 Limitations	100
4.6.1 Sample	100
4.6.2 Methods	101
4.6.2.1 The scope of the study	101
4.6.2.2 Social evaluation task	101
4.6.3 Analyses	102
4.7 Critical Review	103
4.7.1 Quality in qualitative research	103
4.7.1.1 Contribution	103
4.7.1.2 Credibility	104
4.7.1.3 Methodological Rigour	105
4.7.1.4 Transferability	106
4.8 Research implications	106
4.9 Clinical implications	107
4.10 Personal reflection	108
References	109
Appendix 1: Literature search strategy	116
Appendix 2: University of London Ethics Committee approval letter	117
Appendix 3: Participant information sheet	118
Appendix 4: Demographics questionnaire	120
Appendix 5a: Action Evaluation Survey – sample vignette – ‘eyes’	121
Appendix 5b: Action Evaluation Survey – sample vignette – ‘no eyes’	124
Appendix 6: Semi-structured debriefing interview schedule	127
Appendix 7: Consent form	128
Appendix 8: Worked transcript – sample (A2 pages 1 and 2)	129
Appendix 9: Audit trail of themes	131

ACKNOWLEDGMENTS

I would like to express my enduring gratitude to the following people:

... the volunteers who generously gave their time and energy to take part in this study. My debt to you cannot be overstated: without you this research would simply not exist. Speaking with you about the ways that you approached the tasks and about social interaction in general was fascinating, and I hope that this research will contribute to a widening of the overall narrative around autistic spectrum presentations.

... local support organisations (Daffodil; Edinburgh & Lothian Asperger Society) and my course mates who helped spread the word about this project to help with the difficulty of recruitment.

... my friends and family, who supported (and put up with!) me while I was pre-occupied with this long research process. Without your help I would not have come through to the other side, and I look forward to seeing a lot more of you all very soon! A very special thanks to my 'study buddies', Fiona P., Precious, and Niccie, who helped with motivation, perspective and proof reading, and to Charlotte, Rani, and Fiona S., who made sure I did other things, too!

... Dr. Chris Pawson, who stepped in to replace my secondary thesis supervisor when a departmental bereavement caused a supervision reshuffle at a late stage. His fresh perspective added interesting further considerations to the project.

... Dr. Matthew Jones Chesters, my endlessly patient and calming Director of Studies, who helped to shift my attention from detail to wider view. Your conceptual, epistemological, and methodological advice has been invaluable. Your sense of humour has been a fantastic bonus!

... my mother, without whom I would never been able to do this.

CHAPTER 1: INTRODUCTION

In this chapter, the background literature regarding the ‘autistic spectrum’ construct and epistemological framework for the study will be presented, followed by the principal psychological theories of autism. Two further areas of research are also relevant to the current study. Literature concerning social cognition will be examined, focusing on the areas of moral reasoning and reputation management. These areas will be drawn together and the rationale and research questions for the study will be presented.

1.1 Background and epistemological framework

Please see Appendix 1 for the literature search strategy.

Autistic spectrum presentations are defined as neuro-developmental conditions, in which the normal prenatal or early childhood development of neurological structures underlying particular functions is assumed to be disturbed by genetic or other biological factors. As such, these presentations are presumed to be constitutional and inherent to the person. Reflecting this view, the Diagnostic and Statistics Manual for Mental Disorders, 4th edition, text revision (DSM IV-TR) (American Psychiatric Association, 2000) describes a triad of core diagnostic features in ‘classic autism’: 1) delays and difficulties in social development; 2) delays in the development of communication; and 3) restricted, repetitive and stereotyped behaviour patterns, interests and activities. The DSM IV-TR uses the label ‘Autistic Spectrum Disorder’.

Naming autism as a “spectrum of disorders” confers an appearance of bio-medical solidity. However, the term actually describes a wide array of subjective experiences of autism (Jodlowski, 2009). Moreover, as Baron-Cohen (2008) points out, this deficits-focused approach misses strengths that may also be seen. Such an approach may also shut down other, more neutral or positive, enquiry and thinking. To reflect this heterogeneity of experience, the general term ‘autistic spectrum presentations’ (ASP) will be adopted in this thesis.

It has been proposed that scientific knowledge should be classified as a set of arguments, rather than as the enduring truth (Gross, 1990) and that diseases or conditions, like texts, are open to multiple interpretations (Morris, 1998), including those which highlight 'difference' rather than 'illness'. The mother of Amrit in New Delhi put it this way in her blog (Khurana, 2013):

"Autism is not something I have. It is integral to who I am. Autism is not a puzzle, nor a disease. Autism is a challenge. Autism is about having a pure heart and being very sensitive... It is about finding a way to survive in an overwhelming, confusing world... It is about developing differently, in a different pace and with different leaps".

So how do we, as clinicians and researchers, as fellow human beings, begin to think differently about autism, and more broadly, about what it means to be different? This research aims to build upon previous work (Bartlett, 2010) seeking to broaden the frame for understanding ASPs by adopting a critical realist epistemological position. Critical realism sits somewhere between the extremes of positivist and social constructionist stances, while drawing on both positions (Lopez & Potter, 2001). Epistemologically, critical realism avoids the partiality of other frameworks. Critical realism is also the least ontologically restrictive position (Bhaskar & Danermark, 2006), allowing for the assumption that there are 'things' which exist in the world, and that data may tell us something about these things, without being seen as mirroring them directly (Harper, 2011). It assumes that the precise nature of the objects of inquiry and the ways they interact may be discovered on a case-by-case basis and that there may be many levels to 'reality'. Thus, critical realism has been said to be 'maximally inclusive' through its ability to draw on the insights of other theoretical stances while avoiding their shortcomings. Methodologically, the critical realist stance allows the researcher to use ontological pluralism to move beyond reductionism and anti-reductionism by allowing reference to several levels of reality (Bhaskar & Danermark, 2006). For these reasons, Bhaskar and Danermark (2006) suggest that critical realism is a useful tool to move beyond the established reductionist view of 'disability' to "a more positive concept of the object of disability research" (p. 280).

Applied to the areas explored in this research, critical realism allows us to accept that a *thing* exists and has agentive qualities. These qualities lead to the behaviours and ways of being associated with the thing, which may only be investigated as manifested within a given context. Critical realism thus simultaneously allows for different meanings to become attached to the object¹ in question, depending upon the context within which the object is examined. In the current research, it is proposed that there are underlying processes, which shape the concepts of 'autism', 'reputation management', 'morality' and 'moral evaluation'. It is important to hold in mind, however, that definitions of these terms would necessarily fall within the bounds of language, culture and politics, all of which will affect how their manifestation, whether behavioural, linguistic or interactional, is understood.

The researcher's position is that individuals defined as having autistic spectrum presentations may receive and process social information differently, although such differences may be constructed as 'disability' within a contemporary Western society. Neither the extreme reductionist ('autism' as 'deficit') nor constructionist ('autism' as an artefact constructed by society) views would allow for the multiplicity of views, which enables the value of difference to emerge. Both may equally be seen as keeping to the search for 'normality', either through reduction or expansion. By holding a critical realist stance, the researcher aims to explore what may be underpinning processes, while leaving behind a polarised 'all or nothing' view. It is hoped that such a perspective will allow 'difference = disability' to become simply 'difference' in approaching this topic, by accepting human diversity.

1.2 Autistic Spectrum Presentations

1.2.1 Historical background and concepts

1.2.1.1 Classic autism

Parnas and Bovet (1991) wrote:

¹ 'object' here refers to any category of 'thing', whether physical objects or conceptual objects.

“When autism is conceptualised according to the objectivist descriptive model of medicine, it progressively disintegrates, because it defies any simple and operational formulation in this model” (p.18).

As will become apparent through this outline of the history of the concept, ‘autism’ appears elusive, regardless of the framework applied. Although some speculate that autism has existed for centuries (in various guises), the concept as we know it today emerged as a part of a wider debate between the competing psychoanalytic and bio-medical psychiatric research communities (Jodlowski, 2009). The term ‘autism’ was first coined in 1911 by Bleuler to describe the ‘aloneness’ he believed to underlie the experience of schizophrenia. Aspects of this ‘aloneness’ included isolation, emotional indifference, idiosyncratic beliefs and values, inappropriate behaviours and irrational thinking. The notion of autism as a ‘schizophrenic defence mechanism’ was adopted by the psychoanalytic research community and framed much of the early investigations and writing on the subject in the early 20th century. Vague operationalisation, however, such as ‘lack of natural attitude’ or ‘loss of the vital contact with reality’ hindered researchers’ efforts and led to difficulties in diagnosis (Parnas & Bovet, 1991, p. 13). It has been reported that it is unclear from Bleuler’s own writing whether he believed autism to be a symptom of schizophrenia or a disorder in its own right (Jodlowski, 2009).

A new direction for the concept of autism and autism research emerged when the term was later applied by Kanner (1943), and independently by Asperger (1944), to a particular behavioural phenotype seen in some of their paediatric patients. Both originally conceptualised what Kanner referred to as ‘infantile autism’ as a distinct personality disorder, rather than as a feature of schizophrenia. Kanner noted that among his patients the symptoms arose in conjunction with particularly cold and distant parents. This observation gave rise to the notion of the ‘refrigerator mother’, unable or unwilling to meet her child’s affective and attachment needs, championed by Bettelheim (1967) and others in the 1950s, as an aetiological explanation for autism. This hypothesis has since been largely rejected.

However, Kanner (1943) also proposed an alternative hypothesis, that of a biological aetiology, on the basis that the early developmental history of the children forced him

to assume that they were born with an innate inability to form the usual emotional bonds with other people (Kanner, 1943). In his follow-up of the children, Kanner (1971) reviewed his earlier thinking. In particular, he regretted that his biological hypothesis had been largely overlooked by the wider psychiatric community.

Asperger's own observations of four boys showing similar symptoms led to his identification of a condition, which he named 'autistic psychopathy'². Important differences, however, distinguish Asperger's description from that of Kanner. He reported an eccentricity or oddness (despite being socially capable) which gave the boys' behaviour a gauche quality in comparison with the norm (Asperger, 1944), reflecting the more able end of what is today seen as a spectrum of disorders.

Neither of the first two editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM) included autism as a distinct diagnostic category and to quote Kanner (1971, p. 141), "children so afflicted are offered item 295.80 ("Schizophrenia, childhood type") as the only available legitimate port of entry". With its inclusion in the DSM-III (American Psychiatric Association, 1980), 'infantile autism' achieved the status of an 'illness' in its own right, having the 'triad of impairments' of delayed language acquisition, difficulty in social interaction, and restricted or repetitive behaviour (Wing & Gould, 1979) as core diagnostic criteria. Autism became a 'pervasive developmental disorder' when the diagnostic category was expanded in DSM-IV (American Psychiatric Association, 1994) to cover a "spectrum" of disorders ranging in severity of impairment, with high functioning autism (HFA) and Asperger's syndrome (AS) at the mild end.

1.2.1.2 Asperger's syndrome

In the International Classification of Diseases, 10th edition (ICD-10) (World Health Organisation, 1992), AS is a distinct diagnostic category within the classification group of 'pervasive childhood disorders'. Diagnostic criteria for AS differ from those for classic autism in two key ways. First, the individual's intelligence quotient scores

² 'Autistic psychopathy' was later renamed Asperger's syndrome because the American psychiatric community had a different understanding of the term 'psychopathy' which they took to reflect criminal behaviour, rather than the symptoms described by Asperger (Wing, 1981).

must be at least average. Secondly, the individual must have no delays in the acquisition of language or age appropriate skills, cognitive development, or adaptive behaviour (other than in the social domain). People with AS are considered to show age appropriate curiosity about their environment. However, like those with classic autism, they are said to be affected by social processing difficulties (e.g. lack of intuitive understanding of and empathy for others' inner worlds) and therefore struggle in how they relate to others. Despite this conceptual distinction, there appears to be considerable overlap between AS and HFA, with both groups appearing frequently in the literature as a composite (Bogdashina, 2005).

Frith (1991, p. 20) states that if AS is to be considered a "subspecies of autism", then the hypothesis that they share an underpinning cognitive deficit must be taken seriously. If, however, the causal factors should prove to be different, this would need to be accommodated through a more complex model of autism and its variants. In the absence of any supporting evidence for the latter, she proposed that AS be conceptualised as a milder form of classic autism. However, the difficulty in making a differential diagnosis remains, as she herself recognised, and is complicated by the fact that the behavioural signs considered to be 'features' of autism or AS may have other causes.

Indeed, within DSM-5 (American Psychiatric Association, 2013) the conceptual distinction between classic autism and AS disappears, as the two are merged with 'pervasive developmental disorder' and 'childhood disintegrative disorder – non-specified' to form a singular 'autism spectrum disorder'. The new category also combines two elements of the triad of impairment (delayed language acquisition and difficulties in social interaction) to form a single criterion of deficits in "social communication and social interaction" (American Psychiatric Association, 2013, p. 50). Incontrovertible empirical support for the new grouped category remains elusive (Leckman & Pine, 2012), and many within the autism community fear that moving of the diagnostic bar may hinder their access to services and support.

The questions of whether individuals with a diagnosis of classic autism or AS should be considered to have the same or distinctly different conditions (with some individuals being given both diagnoses) (Ozonoff, Rogers *et al.*, 1991b; Rinehart,

Bradshaw *et al.*, 2002), or whether the triad of impairment is as clearly defined as assumed (Bogdashina, 2005; Sacks, 1995) remain open for debate. Extensive research has been conducted with children diagnosed with autism in attempt to better understand not only 'how they do what they do', but what that tells us about human cognitive function in general. Adults with diagnoses of HFA or AS, however, have been the subject of far less inquiry.

1.2.2 Psychological theories

Until recently, the psychological literature regarding autism has been dominated by deficits models, such as the Executive Dysfunction Theory; Weak Central Coherence Theory and 'Mindblindness' and related theories. A comprehensive review of the literature regarding these three main theoretical areas is beyond the scope of this report. For this reason, I will outline the main hypotheses of the first two, while reserving a more thorough discussion for 'Mindblindness', which seeks to directly account for the specific cognitive characteristics reported in autism (i.e. impaired mentalizing capacity) that could result in a lack of awareness or care regarding one's reputation.

'Executive Dysfunction Theory' seeks to explain the repetitive behaviour, narrow range of interests and difficulty with transitions and change that are associated with autism in terms of impaired executive function (Ozonoff, Pennington *et al.*, 1991a; Ozonoff, Strayer *et al.*, 1994). While each of these features could be expected to contribute to social difficulties in the broadest sense, they do not seem likely to impede awareness of others' opinion regarding oneself.

'Weak Central Coherence (WCC) Theory' (Happé, 1999) argues that people with ASPs have a cognitive style biased toward detail-oriented information processing rather than 'broader picture' processing. WCC theory edges away from being a purely deficit-based account by highlighting intact and sometimes superior 'islets of ability' (including savant skills) often seen in individuals with ASPs, which might be supposed to be due to heightened attention to detail in a specific area. However, such 'islets' might also result in obsessive behaviour and pedantic discourse and lead to some of the social difficulties experienced by many people with ASPs. WCC

also aims to account for linguistic peculiarities often seen in individuals with ASPs. It might be argued that this theory has some explanatory power with regard to lack of concern for reputation, in that the person with autism might struggle to connect the elements of their behaviour with their effects on others to form a broader picture of others' opinions. The 'Mindblindness' theory of autism, however, directly addresses precisely this point.

1.2.2.1 Mindblindness Theory

A 'theory of mind' (ToM) deficit (Premack & Woodruff, 1978), or 'mindblindness' (Baron-Cohen, 1995), has been proposed to explain the social and communication difficulties seen in individuals with ASPs. ToM may be defined as an ability to know one's own mental states and those of others, and the ability to make behavioural attributions in terms of these mental states. This capacity would thus enable self-awareness and, by providing a basis for empathy for others' experience, could form a cornerstone for social judgement and interaction. According to this theory, as a consequence of mindblindness, individuals with an ASP find other people's behaviours bewildering, unpredictable and sometimes frightening. Moreover, Frith (1991, p. 25) argues that much of the socially unacceptable behaviour displayed by individuals with autism, may become understandable if seen as a failure to calculate the effects of their behaviour upon other people. Failure in this area would make reputation management difficult, if not impossible.

1.2.2.1.1 Challenges to Mindblindness Theory

A considerable challenge to the Mindblindness Theory is that it does not account for all of the core features said to comprise autism. For example, it misses the narrow focus of interests and perseverative, stereotyped behaviours, difficulty switching attention and accepting change – features which might be better explained by the Executive Dysfunction Theory. It also fails to explain the 'islets of ability' or savant skills which are better addressed by the Weak Central Coherence Theory.

Other challenges to the Mindblindness Theory may be seen from the fact that more able individuals with the diagnosis can pass first order 'false belief' tests³.

Individuals with an AS diagnosis, can pass second order tests (Bowler, 1992; Ozonoff *et al.*, 1991a; Ozonoff *et al.*, 1991b). Baron-Cohen and Jolliffe (1997) argue that the tools used are not complex tests of ToM, being designed to test 4 to 6 year olds' skills in this domain. As such they would not be suitable tests of fully functioning ToM in adults (including those with an ASP). Using a test designed for adults (the 'Reading the Mind in the Eyes' task), they found that participants with HFA or AS performed significantly less well than controls. However, they suggest that there may be more subtle deficits of ToM in individuals with autism than previously demonstrated, as opposed to a unitary impairment, which the theory predicts. Re-opening the question, Steele and colleagues (2003) used a longitudinal study to demonstrate that ToM can develop over time in children with ASP, and suggest a link to their evolving language skills.

It is important to note that the conceptualisation of 'theory of mind' is in itself problematic. As pointed out by Rajendran and Mitchell (2007) there has been considerable debate as to what it is: a folk theory (Wellman, Cross *et al.*, 2001), a cognitive module (Baron-Cohen, 1995), or style of social problem solving (Peterson & Bowler, 2000) have all been proposed.

Related to conceptual problems, challenges have also been made on ontological, epistemological and methodological grounds (Antaki, 2004; Costall & Leudar, 2004; Costall, Leudar *et al.*, 2006; Leudar & Costall, 2004, 2009; Leudar, Costall *et al.*, 2004). For example, on ontological grounds, Leudar and Costall (2009, p. 3) object that despite the existence of theoretical alternatives such as "simulation theories", ToM is now presented as "a relatively neutral, uncontroversial 'construct', or well established fact", the assumptions of which are also presented as facts. In particular, Leudar and Costall (2004) question the assumption of 'indirectness' (that in order for people to make sense of each other, they need to bridge a gulf between

³ First order false belief tests are designed to assess the ability to correctly say what another person is thinking. Second order tests involve saying what a second person thinks another is thinking.

what they can observe in others and what is 'going on in the others' minds'), and that of 'detour' (that this 'gulf' can only be bridged indirectly by inference or theorizing).

Leudar and Costell (2009) also challenge ToMists on methodological grounds, pointing to a conviction that it is only on the basis of experimentation that we can determine whether or not people are able to understand each other. This leads to contrived and unnatural test conditions having no ecological validity. These authors argue that people and their intentions need to be taken as relational and that observational studies could be a viable alternative to experiments.

However valid such critiques may be, from a critical realist perspective one may accept that the ToM construct has generated useful questions and further ideas about how humans approach the problem of other minds. As argued by Happé (1999), the Mindblindness Theory has been clinically useful in helping to understand and recognise some of the social and communication difficulties experienced by people with ASPs, as well as in helping to develop ways of addressing these difficulties.

1.2.2.2 Summary of psychological theories

A number of psychological theories have been proposed to account for the social and communication difficulties as well as the narrow focus of interest and repetitive behaviours, which as Happé and colleagues (2006, p. 1218) state, "mark out a highly recognizable and yet richly heterogeneous group of children and adults". However, no single theory has succeeded in providing a global or comprehensive account for all of these core diagnostic features. Happé and colleagues (2006) also argue that it might be more useful to consider the symptoms of autism and their behavioural correlates independently. The above review of evidence supports the utility of further fractioning of even the core features. How far such fractioning may need to go remains to be determined.

1.3 Social cognition and the ‘problem of other minds’

A range of other social-cognitive processes may have roles to play in the social difficulties of people with ASPs, which have more recently become subject to investigation. From among this range, the current report will focus on two key areas: social/moral evaluation and reputation management, through the lens of how people with and without an ASP approach such tasks.

Social cognition has been defined as “the sum of those processes that allow individuals from the same species (conspecifics) to interact with one another. Such interaction is a matter of survival, for individuals as well as for the species as a whole” (Frith & Frith, 2007, p. R724). It may be seen as encompassing the generation, transmission, reception and interpretation of signals, such as speech, facial expressions, body language, gestures. Such means may communicate information about the sender’s feelings, thinking or intentions, or about something in the environment he or she considers important. Social cognition has been hypothesised to be functionally modular (Karmiloff-Smith, Klima *et al.*, 1995), and mentalizing capabilities might be conceived as one element of an ‘interpretative component’ of social cognition.

1.3.1 Reputation management

As social beings, humans tend to be concerned with how their actions are seen and judged by others. Reputation management is crucial in complex social interactions such as the building of trust (King-Casas, Tomlin *et al.*, 2005). Deliberate reputation management would depend upon social cognition processes such as the awareness of the effects of our own social signals upon others. Accurate interpretation of signals received in return depends upon the ability to adopt another person’s point of view. Frith and Frith (2008b) suggest that successful reputation management requires a higher level of mentalization in which we represent not only the other person’s mental state, but also their representation of our own.

In line with Frith and Frith (2008a), King-Casas and colleagues (King-Casas *et al.*, 2005) suggest that such capacities mostly involve implicit, automatic processing, beyond normal awareness. However, these automatic processes can, in some

cases, be explicitly and consciously over-ridden when need be. For instance, humans tend to proactively manage their reputations, especially when they know that they are being observed by others (Wedekind & Milinski, 2000).

1.3.1.1 Reputation management in HFA/AS and comparison groups

Neuroscience research by Chiu, Kayali, Kishida and colleagues (2008) may support this implicit/explicit information processing distinction (Frith & Frith, 2008a; King-Casas *et al.*, 2005), as well as the notion that a lack of implicit, or intuitive, skills may be compensated through the use of explicit, conscious processes. (Chiu *et al.*, 2008) measured cerebral activity of male volunteers with HFA engaging in reciprocal generosity tasks. An “Investor” chooses a sum of money to give to a “Trustee”. The chosen amount is tripled, and the Trustee decides how much of the total to return to the Investor. Chiu *et al.* (2008) found that while participants’ behaviour matched that of TDI participants in earlier research, their cerebral activity did not. Unlike TDIs (who show increased activity in one area of the brain during the investment phase of the task and increases in other areas when they learn what sum has been repaid), participants with HFA did not show the characteristic increases during the investment phase. Typical cerebral activity resumes in HFA participants during the ‘other’ phase, when the amount of the Trustee’s repayment is revealed. The authors interpret these results as suggesting that people with HFA or AS may lack the ability to calculate how their actions may influence others’ perception of them, yet remain able to evaluate the effects of others’ behaviour upon them. These results also provide evidence that the mechanisms of social interaction may be more ‘modularised’ than previously thought, and, crucially, that more ‘sub-modules’ may be intact in persons with HFA than has been previously assumed.

Commenting on this study, Frith and Frith (2008a) speculate that the restriction of this anomaly to the investment or ‘self’ phase of the task (so called because it involves awareness of the *self* acting in a social context), might be due to participants with HFA focusing on making the investment, while remaining unaware that they are also gaining or losing reputation in their partner’s eyes. In the trust game, one is not only picking an amount of money to invest. Investors are also predicting how their investments will affect their partner’s behaviour. In the ‘other’

phase of the game, however, the Investor evaluates their partner's response, but this evaluation comes *a posteriori* and so no longer involves trying to build a reputation in the partner's eyes. Thus the 'self' phase could be conceived as involving adopting a future-oriented multi-layered ToM stance: you need to predict what the other person will think of you if you do X, and moreover, you want to win their trust. In the repayment phase, the social meta-cognitive task is to gauge your partner's view of you as the means to knowing the value of your own actions. Is the added 'predictive' element the proverbial 'straw' for participants with ASD?

From an evolutionary perspective, both implicit and explicit ToM-like abilities would be a considerable advantage, as building and maintaining one's reputation would be crucial in terms of inclusion and status within the group, and thus vital to survival and reproduction. ToM difficulties in persons with HFA and AS could mean that "such higher-order representations in fast on-line interaction are probably too difficult" (Frith & Frith, 2008b, p. 332).

1.3.1.2 The Observer Effect

As noted above, humans tend to pay close attention to the consequences of their behaviour upon their reputation. It has been found that charitable behaviour can be elicited by the presence of observers, and that this effect is enhanced when the observer looks directly at the donor (Bull & Gibson-Robinson, 1981). Findings by Bourrat, Baumard, and McKay (2011) suggest that mere surveillance cues (such as images of human eyes on a questionnaire) suffice to increase pro-social behaviour in TDIs. This effect has also been demonstrated in studies using stylised "eye spots" on computer screens (Haley & Fessler, 2005) or using a pair of eyes on a notice (Bateson, Nettle *et al.*, 2006; Ernest-Jones, Nettle *et al.*, 2011), a robot with human eyes on a computer screen (Burnham & Hare, 2007), or even cues as subtle as a three dot schematic representation of a face (Rigdon, Ishii *et al.*, 2009).

1.3.1.2.1 The Observer Effect in HFA/AS and Comparison Groups

To the knowledge of this researcher, only one study to date (Izuma *et al.*, (2011) has examined the effect of observation upon pro-social behaviours in individuals with a diagnosis of autism, but produced mixed results. In one part of their study they

found that an observer sitting behind the participant (with a cover story to explain their presence) did not influence reaction times or numbers of charitable donations made by participants with HFA. This contrasted to results from the control group, which showed an influence of the observer effect upon both measures. In their experimental design, the observer was not directly involved in the charitable transaction (itself carried out on a computer). This aimed to test the influence of a “more distant observer or ... the eyes of people more generally” (Izuma *et al.*, 2011, p. 17306), in contrast to previous studies involving trust games using live partners (where the behaviour of participants with ASD did not differ significantly to that of controls). These authors conclude from their findings that participants with ASD are impaired in their ability to take into account the impression they make on others. They do, however, acknowledge that this may be circumstantial. It may be, for instance, that in direct interaction, persons with HFA or AS are able to hold a conscious, meta-cognitive awareness of the other’s view of them, while under other circumstances (e.g. when the observer has no stake or direct involvement in the situation) they are not. It may also be that in the latter circumstance, they are aware but consider the other’s view irrelevant and thus do not attend to it. Either interpretation could be consistent with Chiu and colleagues (2008) and Frith and Frith (2008b) discussed above, in suggesting that reputation management (as has been previously suggested with ToM) may possibly be modular, consisting of implicit and explicit routes.

1.3.1.3 Summary of reputation management and the observer effect

In order to be effective, reputation management seems likely to require a capacity to calculate the effects of one’s behaviour upon others and to form mental representations of the opinions they form in response. Previous research in this area suggests that pro-social behaviours in TDI individuals increase in the presence of surveillance cues, which are presumed to trigger ‘reputation management’ behaviours. This also appears to be the case with persons with ASPs under some circumstances, especially those requiring direct interaction with other people. Commenting on findings by Chiu and colleagues (2008), Frith and Frith (2008b) highlight that similar results are not seen in trust games played against computers (where there is no actual reputation to be won or lost): this pattern is only seen in

games involving pairs of humans. Such differences raise the question of whether different hypothesised elements of reputation management pose varying degrees of difficulty to people with ASPs.

1.3.2 Moral Judgement

The demonstration of moral values may be another way to engage in trust and reputation building processes. In essence, publically taking a moral stance says, “Trust me. I believe in certain things and you can count on me to act accordingly.” One’s reputation could be put on the line by not doing so. Rates of second and third party moralistic punishment of trust violations have been reported to increase when observed or made public (Kurzban, DeScioli *et al.*, 2007; Piazza & Bering, 2008).

Moral sense and reasoning are important for the individual in his or her wider social context, as well as for society itself. The survival of social groups depends on the establishment of complex, often unstated heuristics that guide us in social interactions by dictating which behaviours are permissible and which will be deemed offensive or dangerous to social cohesion. The most basic of these rules appear to be those regarding ‘moral transgressions’ (those impinging upon the welfare or rights of individuals or groups) which are not deemed to be acceptable except perhaps in cases of proportional self-defence. Numerous studies suggest that these are shared across cultures (Hollos, Leis *et al.*, 1986; Snarey, Reimer *et al.*, 1985; Song, Smetana *et al.*, 1987).

Learning to take the perspective of a victim of a moral transgression has been proposed to be a key task in the development of moral judgement (Kohlberg, 1981). As such, moral judgement is another area of social cognition that would be likely to involve mentalizing processes (Smetana, Jambon *et al.*, 2012; Young, Cushman *et al.*, 2007).

The rules guiding social judgement may vary greatly with circumstances. In contrast to moral transgressions, which are deemed to result in harm to self or others, violations of social conventions have no tangible victim. How do we evaluate behaviour such as jay walking across an empty road or etiquette breaches? In such

'grey areas' different individuals may read the circumstances and behaviours differently, and evaluation will involve personal value judgements. Research has shown that while most individuals judge that transgressions in general are not permitted, violations of convention tend to be judged as less serious and more 'permissible' than moral violations (Smetana & Braeges, 1990). Indeed, moral transgressions are generally considered forbidden even in the absence of explicit rules, while conventional transgressions are seen as permissible unless there is explicit interdiction (Smetana, 1985). Moral transgressions are also perceived to be less authority contingent, whereas permission from an authority figure may make a breach of convention more acceptable (Turiel, 1983).

1.3.2.1 Acquisition of the Moral-Conventional Distinction

The ability to distinguish between moral and 'conventional' violations is seen in typically developed children as young as three years of age (Smetana & Braeges, 1990). Competing theoretical camps have grown around the question of how we develop the ability to make such a distinction: developmental (e.g. Piaget, 1932; Kohlberg, 1977), 'constructivist' (e.g. Turiel, 1983; Smetana, 1985) and 'sentimentalist' (e.g. Nichols, 2002).

1.3.2.1.1 Developmental theories

Piaget (1932) made the early distinction between two types of moral evaluation. 'Moral realism', he suggested, dominates up to the age of about 10 years and involves evaluating another's actions in terms of the extent to which these conform to established rules and in terms of consequences for others and the actor (Is the victim harmed? Is the action punished?). Within this evaluation style, rules are deemed 'sacred' and 'unalterable' and the actor's intention is generally ignored. In contrast, 'autonomous morality' begins to be seen around 8 years of age and gradually becomes the dominant evaluation style. It involves the recognition that rules are established and maintained through social negotiation and agreement. Evaluations based upon 'autonomous morality' may be modified to fit prevailing social opinion. They also prioritise the intention of the actor over the material consequences of the behaviour. For Piaget these evaluation styles arise from two different socialisation experiences: 'moral realism' stems from rules that are

imposed by omnipotent adults, while 'autonomous morality' results from experiences with peers.

Based upon case analysis of boys ranging in age from 10 to 16 years, Kohlberg and colleagues (Kohlberg & Hersh, 1977; Rest, Turiel *et al.*, 1969; Snarey *et al.*, 1985) suggested that 'justice reasoning' develops in six qualitatively different stages that serve equivalent functions at successive points of development. These stages represent underlying thought organisation rather than specific responses determined by knowledge or familiarity with the situation, or situations like it. In contrast to Piaget, Kohlberg proposes that the stages are not a product of socialisation, but instead are constructed by the child in the process of thinking about and acting upon the world.

One difficulty with the above propositions is that they fail to account for the early development of the moral/conventional distinction observed in very young children.

1.3.2.1.2 Constructivist Theories

Similar to initial developmental theories advanced by Kohlberg, constructivist theorists (Rest *et al.*, 1969; Smetana, 1985) propose that there are different conceptual frameworks underlying moral and conventional domains. These are proposed to be *constructed by* (rather than being imposed upon) the child, through experience of qualitatively different types of events and interaction, and found that this occurs at a much earlier age than previously hypothesised (Smetana & Braeges, 1990; Turiel, 1983).

Turiel (1977) posits that individuals have a variety of means available to them for purposes of constructing their wider moral code including observation, communication, imitation, role-taking, the ability to consider personal past experience and counter-factual reasoning.

Blair (1992) argues various shortcomings in previous theories, Turiel's in particular. For instance, in applying personal past experience of being a victim it is understandable that a child would develop a rule against allowing him or herself to

be victimised, but why would this result in a general proscription against committing harm to others? Nor does Turiel explain why moral violations come to be judged more severely than conventional transgressions or considered less contingent upon circumstances or other moderating factors. To address the second of these points, Blair suggests that transgressions which produce victims produce an affective response, while 'convention' transgressions do not. Severity of transgressions would therefore be judged by the strength of the emotions triggered, which would serve as a guide as to whether circumstances or other factors might carry weight.

Drawing on the observations by ethologists that some animal species suppress aggressive behaviour in response to submission cues from con-specifics, Blair (1992) has proposed that humans may possess a functional analogue to this which may work alongside executive functions. He proposes an affect-triggered, cognitive 'violence inhibition mechanism' (VIM), which would cause distress cues to be experienced as aversive, as a prerequisite to the development of three elements of morality: moral emotions (e.g. sympathy, empathy⁴, guilt, remorse); the inhibition of aggressive behaviour; the 'moral/conventional' distinction. According to this model, neither ToM nor empathy are required precursors to moral emotions *per se*. However, he argues that ToM does come into play when constructing internally generated moral justifications (such as when tending to reputation management).

1.3.2.1.3 'Sentimental Theory' – adding a 'disgust' domain

Nichols (2002) challenges Blair's account by pointing out that there may be a number of events, such as natural disasters or tooth aches which might be classed as 'bad' on the basis of producing an aversive emotional response, but which could hardly be considered 'immoral'. As an alternative to Blair's (1992) VIM model, Nichols (2002) suggests that the ability to make the 'moral/conventional' distinction depends on having 'normative theories' concerning which actions are prohibited and why, *and* affective responses which confer greater or lesser degrees of importance upon the norms. Thus while both 'moral' and 'convention' transgressions depend on

⁴ Empathising has been said to involve 'role taking', which in turn depends upon 'mentalizing' [itself involving the ability to make a representation of the mental states of others – or ToM-like capabilities (Leslie, 1987)].

knowledge of rules ('normative theories'), only the 'moral' (harmful) transgressions would be expected to elicit emotional responses as well. To test his 'sentimental' theory, he asked 19 philosophy students to evaluate 'moral', 'convention' and 'disgust' (affect-triggering but not associated with distress cues) behaviours (such as drinking spit at a dinner party) on a number dimensions (permissability, seriousness, justification, authority contingency). His findings support the hypothesis that 'disgust' transgressions differ from 'convention' transgressions along the same normative and affective dimensions as 'moral' transgressions. Difference between the 'moral' and 'disgust' domains was seen in the justifications selected from a multiple choice set of options.

One weakness in Nichols (2002, p. 234) 'sentimental theory' is that it does not explain how "these different mechanisms conspire to enable" the distinction between 'moral' and 'disgust' transgressions. One possibility might be that affect related to 'disgust' evolved as an adaptive emotional response to hygiene threats to health, in contrast to affect related to distress signals from others. This question would merit further exploration.

1.3.2.2 The Moral/Convention/Disgust Distinction in Persons with HFA or AS

Frith (1991) notes that many individuals with AS show excessive concern with "doing the right thing" (p. 25). In support of his VIM model, Blair (1996) presents evidence that children with HFA are able to successfully distinguish between 'moral' versus 'conventional' transgressions, regardless of their ToM ability. Other studies of moral judgment in children with HFA have produced similar results (Leslie, Mallon *et al.*, 2006b).

As Blair predicted, such results are surprising if empathy or perspective-taking are indeed the basis for moral responses. Like Nichols (2002), Leslie and colleagues (2006b) suggest that moral judgements are not simply the reflexive result of recognising distress in others, but are likely to also involve both implicit and explicit moral reasoning. They further suggest that basic moral judgement and ToM may develop independently to some extent, but also interact. In experiments where the task is to judge transgressions such as lying, an understanding of intention is

important in forming a judgement (Siegal & Peterson, 1998), implying that cognitive processes may start with ToM and move to moral judgement. The contrary has also been found, with processes running from moral judgement to ToM (Leslie, Knobe *et al.*, 2006a).

Such a distinction is also supported by neuroimaging studies of TDI adults making moral judgements suggest that several cortical areas are shared by moral judgement and ToM-type processes (Greene & Haidt, 2002). Castelli, Frith *et al.* (2002) found that the same areas show little or no activity when participants with ASP engaged in ToM tasks.

Using the same protocol, Zalla and colleagues (2011) built upon the Nichols (2002) study with the addition of an comparison participant group composed of individuals with HFA or AS. Their findings suggest that adults with HFA or AS also make the 'moral/conventional' distinction in terms of whether the action is allowed, its degree of seriousness and its authority dependence. However, their participants failed to differentiate between moral and disgust transgressions regarding gravity and did not give welfare-based justifications for their moral judgments. They also judged conventional and disgust transgressions more harshly than did members of the comparison group. Statistical analysis showed a relationship between the seriousness rating and ToM impairment.

In a mixed methods study, Bartlett (2010) explored how individuals with and without diagnoses of HFA or AS weigh intention against outcome in moral evaluation tasks. Her statistical analysis indicates that the two groups' evaluations of the scenarios under different intentionality and outcome conditions were similar and that 'intentionality' had the biggest impact on judgment ratings, regardless of the protagonist's honesty. A semi-structured interview was used to explore participants' reasoning when rating the protagonists and their actions. Bartlett identified similarities and differences between the groups with regard to knowledge applied by participants when forming their judgments. Both groups drew on knowledge of situational context and social relational rules in their reasoning. However, while control participants were more likely to draw on social knowledge when evaluating negative intention scenarios, comments from ASP participants reflected increased

personal identification with the protagonist and decreased reliance upon social rules in judging these scenarios.

As with reputation management/trust-building tasks, moral judgements by TDIs also appear to be moderated by surveillance cues. In an experiment by (Bourrat *et al.*, 2011) two moral transgression vignettes were used to elicit 1 – 9 ratings of moral acceptability with images of either eyes or flowers printed on the papers between the stories and the associated Likert scales. Participants were randomly allocated to one of the two conditions (eyes = 43; flowers = 48). Harsher judgements correlated with the presence of eyes images than with the presence of flower images. Whether this would also be the case with people with HFA or AS has yet to be investigated.

1.4 Clinical and research implications

In sum, the literature suggests that opportunities for reputation enhancement can contribute to sustaining prosocial behaviour. Public declarations of moral judgments can provide just such opportunities. As discussed above, even subtle surveillance cues during moral judgement tasks have been found to increase moral condemnation in TDIs (Bourrat *et al.*, 2011). However this has not been tested in participants with HFA or AS.

Adults with ASPs are generally assumed to be oblivious or indifferent to the impression they make on others (Chevalier, Molesworth *et al.*, 2012; Izuma *et al.*, 2011; Kanner, 1943). ToM theories predict that such an indifference would be due to an inability to see from the other's perspective and therefore to see the need, much less notice opportunities, for reputation enhancement. The research discussed above, however, suggests that people with ASPs may not be *indifferent* to reputation management, but may struggle to manage all of the tasks involved under certain circumstances such as when a predictive component is added (Frith & Frith, 2008b). Although both public moral judgement and generosity both provide opportunities for reputation enhancement, as well as the building of trust, they are not, in and of themselves, equivalent. As other aspects of social cognition would appear to be modular, this may be discovered to be the case with reputation management as well.

The current study has implications both clinically and scientifically:

1. Increasing evidence suggests that social cognition may not be a unitary phenomenon, but rather that there may be dedicated mechanisms for an array of faculties. Our current understanding is that people with ASD or Asperger's syndrome have social difficulties. The exact nature and cause of these difficulties, however, have yet to be identified with certainty. There is thus scope for refining our models of these social difficulties and the theories explaining them. Developing a more accurate theoretical picture of ASPs may also enable us to develop increasingly finely tuned screening tools, and eventually better interventions to improve function in the social domain.
2. From a practical perspective, within the current frameworks for educating individuals with autistic presentations, we may be neglecting socially important abilities, which may be intact and could therefore be reinforced. By helping to map these areas, this research may aid in the development of better interventions to enhance their interactions with the wider social world.
3. Many people with HFA or AS suffer from social anxiety (Kuusikko, Pollock-Wurman *et al.*, 2008) as well as poor social understanding and skills. Better understanding of reputation management abilities in this group may also lead to the development of psychological interventions to help in this area, as well.

1.5 Research Questions

The question therefore does not concern whether or not social evaluation and reputation management remain as intact, unitary functions in persons with HFA or AS, but how do individuals with and without ASPs approach social evaluation and reputation management tasks?

Adopting a critical realist position that individuals are able to put thoughts and beliefs to words which mirror their individual truth, the primary research question to be addressed in this study is:

How do members of each group talk about their social evaluation decisions and issues of reputation?

Areas of further interest for this study are social evaluation behaviour, the 'observer effect' and the question of what types of information might serve as inputs to activate which components of reputation management. A modular view of reputation management invites thinking about abilities as well as deficits. Before attempting to answer such questions, however, it would be useful to pilot a research tool developed for this purpose. Therefore, a second question to be explored within this study concerns:

Does a survey questionnaire adapted from previous research provide an appropriate tool to assess social evaluation behaviours and the 'observer effect'?

CHAPTER 2: METHODOLOGY

2.1 Epistemology

As stated previously, a critical realist (e.g. Lopez and Potter, 2005) stance was adopted for this research.

2.2. Recruitment

Following ethical approval from the Research Ethics Committee of the School of the School of Psychology, University of East London (UEL) (Appendix 2), three participants with HFA or AS were recruited from among a group taking part in on-going research at UEL. Another five participants were recruited via personal contacts of the researcher, and by sending invitations to national and local organisations. All organisations were informed that they could contact the researcher at any point with questions, concerns, and that the researcher could attend any group meetings, if this was deemed helpful and appropriate.

Those who expressed interest were sent the information sheet (Appendix 3) and asked to contact the researcher if they wished to take part. Volunteers were given the option of meeting the researcher at the Stratford Campus of the University of East London (UEL), or other location convenient to them, or to take part remotely via the internet and Skype or telephone. All participants who opted for face-to-face participation choose to come to UEL.

Control group participants were recruited from a convenience sample of UEL students, as well as friends and colleagues of the researcher. Control participants were matched for age and sex to the experimental group.

2.2.1 Participant Demographics

Eight participants were recruited for each group, resulting in a sample of 16 individuals. Demographic information was gathered (Appendix 4), regarding age, sex, nationality, cultural background and primary language. Table 2.1 shows that the groups were matched for sex, age, nationality, primary language, faith group and years of formal education.

Table 2.1: Demographics: Control⁵ and ASP group members.

		Control Group	ASP Group
Sex	Male	7	7
	Female	1	1
Diagnosis	HFA	n/a	1
	AS	n/a	8
Age at diagnosis	(Mean)	n/a	27.3
Age at testing	(Mean)	39.0	37.6
Nationality	British	8	8
Primary language	English	8	8
Religion or faith group	Atheist	2	3
	Christian	1	3
	Hindu	1	0
	None	4	2
Years of formal education	(Mean)	18	15.9

2.2.1.1 ASP group participants

Participants in the ASP group ranged in age from 20 to 71 years. The male to female ratio in the ASP group would be expected to be 2.25:1 on the basis of diagnosis rates (Rinehart *et al.*, 2002). Therefore the current group was not representative in this regard. Participants in this group had been formally diagnosed by multi-disciplinary clinics, between the ages of 4 and 67 years. This range is not typical of the average age range of diagnosis, which has been reported to be 5 to 11 years of age (Howlin & Asgharian, 1999). All participants had been given a diagnosis of AS, although one participant had an additional diagnosis of HFA.

2.2.1.2 Control group participants

The control group comprised eight typically developed and intact individuals, ranging in age from 23 to 69 years. The male-to-female ratio matched that of the ASP group at 7:1, not typical of the general population.

⁵ The term 'control', rather than TDI, will be used throughout in reference to participants without a diagnosis of an ASD, as the latter term implies assumptions of normality and anticipated categorical differences between the groups which are not supported by the current evidence base (Saxe, 2006).

2.2.1.3 The Autism Spectrum Quotient (Baron-Cohen, Wheelwright et al., 2001)

Both groups were screened for autistic spectrum traits using the Autism-Spectrum Quotient (AQ), as the presence of such traits in comparison participants would be a confounding variable [see Baron-Cohen, *et al.* (2001) for reliability and validity]. An AQ score of 32+ is considered by the authors to be the cut-off point in discriminating between groups, as this point would result in as few false positives as possible. One ASP participant scored below this point, although their score of 22 is considered by the authors to be an intermediate level score (score range 20 – 31). One comparison group participant also scored within this intermediate level (AQ score = 21).

The mean AQ score for the TDI group, which was 10.25, contrasted to the mean score for the ASP group score of 36.25. Because of the small sample size, the means were compared using a Mann-Whitney U Test of difference (non-parametric equivalent to the T-test). A significant difference between the groups was found ($U = .000$; $Z = -3.366$; Exact Sig. (two-tailed) = .000). This is consistent with previous research (Baron-Cohen *et al.*, 2001).

2.2.2 Inclusion and exclusion criteria

In order for participants to consider whether participation in this study would be appropriate for them, they were sent the information sheet at the earliest stages of contact. The primary inclusion criteria were set out in the recruitment material and information sheet:

- A diagnosis of High Functioning Autism or Asperger's syndrome (or no diagnosis for controls);
- Adults, aged 18 years and older.

As the experimental and distractor tasks would require reading (instructions and the vignettes) and the ability to communicate answers in written form, other inclusion criteria included:

- Good English language comprehension and expression;
- No diagnosis of a learning difficulty or WRAT-3 score in the range of 'borderline to impaired' (scaled score of 5 or below).

Conformity to these criteria was assessed by the demographics questionnaire at the beginning of the testing session. The Wide Range Achievement Test (WRAT-3) (Wilkinson, 1993) was used as a screening tool for level of intellectual and verbal functioning. If results from the WRAT-3 or demographics indicated that the participant would not meet the inclusion criteria, it was planned that testing would be stopped and the reasons for this explained to the participant in a debriefing session. No participant was excluded from the study.

2.3 Design

A qualitative design was used, with a semi-structured interview supplemented by a Retrospective Verbal Protocol (RVP), which generated further qualitative data concerning participants' performance of social evaluation tasks and reputation management. Use of the social evaluation survey (described below, p. 35) was also piloted as a potential tool to gather quantitative data in future research.

2.3.1 Quantitative Elements

2.3.1.1 Cognitive battery

A broad range of cognitive functions is believed to underpin social cognition. In order to ascertain that all participants had intact cognitive functioning in the relevant domains, a selection of neuropsychological tests was used so that the data collected could be considered reliable and valid. Test items selected were of established reliability and validity (Strauss, Sherman *et al.*, 2006) and considered to be most relevant in relation to the experimental task of 'action evaluation'.

2.3.1.1.1 Verbal function

The reading sub-test from the WRAT-3 (Wilkinson, 1993) has been shown to correlate well with intellectual functioning (Strauss *et al.*, 2006) and was used to establish a baseline estimate of the level of overall intellection functioning of each participant. This test consists of a list of 42 increasingly difficult words, which participants are required to read aloud.

2.3.1.1.2 Short-term and working memories

Participants' attention and working memory were assessed using the working memory sub-test of the Wechsler Adult Intelligence Scale (WAIS-III) (Wechsler, 1997). To test short-term memory stores, participants were asked to remember and repeat back increasingly long strings of numbers, which had been dictated to them. Working memory was tested by having participants repeat number sequences in reverse order.

2.3.1.1.3 Executive function

The Delis Kaplan Executive Functioning System (DKEFS) (Delis, Kaplan *et al.*, 2001) verbal fluency subtest was used to assess both verbal fluency and executive functioning through increasing the cognitive effort needed for the tasks. Tasks required participants to monitor their selection and articulation by listing as many words as possible beginning with the letters F, A and S, within one minute for each. They were then given one minute to name a maximum of animals and another minute to say as many boys' names as possible. The categories task is more demanding, requiring participants to switch between categories (fruits and furniture) for another minute, soliciting both monitoring and inhibition capabilities. DKEFS tests have also been shown to be of good reliability and validity (Strauss *et al.*, 2006).

2.3.1.2 Action evaluation survey

A pilot on-line survey (Appendix 5) was created to present tasks drawn from previous research (Nichols, 2002; Zalla *et al.*, 2011) investigating 'moral judgment' - conceptualised here as one aspect of reputation management – and whether participants distinguish between 'moral', 'conventional', and 'disgust' transgressions. Vignettes from previous research tended to be oriented toward children and were adapted for this study to use with adults. Anachronistic vignettes were updated, and a novel element (a drawing of human eyes) was included in the header of half of the vignettes presented to each participant.

A preliminary version of the on-line survey was tested for clarity, ease of use and face validity with five colleagues and relations of the researcher. A fourth domain

was added, combining moral and conventional transgressions (referred to as 'ambiguous' below), due to concerns that vignettes from the three original domains were likely to be universally condemned, and result in data with little to no variation.

Six versions of the action evaluation survey were used to collect data regarding the experimental conditions. The survey comprised eight vignettes describing hypothetical violations of common 'moral', 'conventional', 'disgust' and 'ambiguous' rules. Other than the setting of the vignette and names of the characters involved, no contextual information was provided, with the aim of focussing participants' attention upon the act itself with no moderating factors.

Examples:

('moral' domain)

Rob and John are exercising at the gym. Suddenly, John punches Rob in the face.

(conventional domain)

Mary is at a dinner party. She picks up her bowl of soup and drinks it.

(disgust domain)

Mark found some rotting meat in the refrigerator and ate it raw.

(ambiguous domain)

Al went to a picnic with his family. He told his aunt that her hat made her look ugly.

Each version of the survey contained the same eight items, the order of which was varied according to a balanced Latin square. Half of the versions had the 'eyes' condition in the first part of the task and 'no eyes' in the second part, the other half had the "no eyes" condition first.

The aim was to replicate previous research investigating whether individuals having diagnoses of HFA or AS are able to access the rules enabling the moral-

conventional-disgust distinction (Zalla *et al.*, 2011), and to explore responses from participants from both groups in 'eyes'/'no eyes' conditions.

Participants were asked to read each vignette carefully and to judge each action in terms of:

- Whether it was alright or not;
- The degree of acceptability;
- Why they felt it was alright or not;
- Whether it might be alright if explicitly permitted by an authority figure;
- Whether a lack of witnesses would make it alright;
- How they made their judgements.

An additional question reflecting the observer effect was included. Questions assessing participants' opinions were presented in the same order for each vignette.

Qualitative data from the open questions was expanded upon during the semi-structured interview (Appendix 6), using an RVP.

2.3.1.2.1 Avoiding possible confounds

The existence and duration of a possible priming effect ensuing from the presence of the eyes image is unknown. Baron-Cohen and colleagues' (2001) 50 item AQ was included between the 'eyes' and 'no eyes' sections of the survey to serve as a distractor task between conditions. The aim was to address this potential confounding effect when the 'eyes' vignettes were presented first. The AQ was also included to screen for autistic spectrum traits among control participants.

Example:

20. When I'm reading a story, I find it difficult to work out the characters' intentions.

2.3.1.3 Use of new technology

To avoid the presence of the researcher during the action evaluation tasks (another potential confounding variable), on-line survey technology was used in order for the survey tasks to be self-administered by participants. To broaden the recruitment pool to potential participants unavailable during standard working hours or located outside of the UK, entirely remote access participation was offered, using Skype or over the telephone.

2.3.2 Use of Qualitative Methods

Previous unpublished doctoral studies (Bartlett, 2010; Caffrey, 2006) in related areas have incorporated a qualitative element with an aim to generate another level of information about how individuals with ASPs manage the rules involved in social interaction. However, use of this methodology remains rare, leaving a gap in the published literature. In the current study, qualitative data was sought regarding the reasons why the behaviours in the vignettes were, or were not, felt to be acceptable; how participants found doing the task and how they reached their 'acceptability' ratings. The aim was to explore whether all participants draw on comparable social knowledge to make these distinctions.

Two open answer questions were embedded within the survey itself. For example:

Please say a little about why you think was it okay, or not, for John to punch Rob?

Further qualitative data was collected using a semi-structured interview upon completion of the survey, as per related studies (Bartlett, 2010; Caffrey, 2006; Husbands, 2008). The interview also incorporated an RVP, allowing the opportunity to review and expand participants' action evaluation survey responses with them.

Verbal protocols ('concurrent' and 'retrospective') have been used since at least the latter half of the 20th Century within market research and psychology as a means of studying consumer behaviour and other forms of decision making. The objective of RVP is to trace thought processes involved in decision making, such as the kinds of knowledge and considerations participants draw upon during social evaluation. RVP

asks participants to recount their decision-making processes after the fact (ideally immediately after) rather than describing the process while engaged in it ['Concurrent Verbal Protocol' (CVP)]. There are pros and cons to both CVP and RVP. For example, CVP is associated with more insights into the decision making process. However, it may direct cognitive resources away from the task, thus slowing performance (Kuusela & Pallab, 2000). RVP may be less of a distraction during performance, and has been found to generate more information regarding the final choice, but it has also been associated with forgetting, fabrication, and justification rather than explanation (Kuusela & Pallab, 2000; Russo, Johnson *et al.*, 1989). Although the RVP is may perhaps be seen as less reliable than the CVP method, CVP was rejected because the presence of the researcher or a recording device would be expected to compete with the potential effects of the eye images in the survey logos. Responses collected via either method may also be subject to social desirability considerations. However, while far from perfect, it seemed reasonable that use of the survey questionnaire as a probe might provide opportunities for a deeper exploration of participants' social reasoning.

2.4 Procedure

Data collection took place either in person in research cubicles at the UEL Department of Psychology, or remotely via internet and telephone or Skype.

Another copy of the information sheet was given. Confidentiality and data protection was reviewed. All participants were reminded of their right to withdraw from the study without consequence at any time. Participants were invited to ask questions about the project and, if they were willing to proceed, written consent was obtained (Appendix 7). Consent to use previous demographic and cognitive data for participants who had taken part in earlier UEL Autistic Spectrum Disorders Research Group studies was also sought and obtained.

The structure of the session was explained, and further information was given about the debriefing interview and audio-recording. Participants were given further opportunity to ask questions. For new participants, demographic data, such as gender, age, education history, cultural background and primary language, was

gathered and the four cognitive tests were administered to ensure that both groups were matched for cognitive ability. A break was offered before continuing on to the experimental tasks.

All participants were then given the action evaluation tasks, which were self-administered via computer (using the Survey Gizmo® platform). Standardised instructions outlining this part of the session were provided. Participants were asked if they understood the instructions and if they had questions. The front page (demographics items) was loaded onto the computer and the researcher left the room.

Written instructions and the vignette were included in a 'header' at the top of each page. It was emphasised that there were no right or wrong answers and that it was the participant's opinions that were of interest. Each scenario was followed by six equivalent questions, as described above. In order to keep the logo visible at all times, one question was presented per page (Appendix 5a/b). Baron-Cohen and colleagues' (2001) AQ was included between the two sets of vignettes as a distractor task.

Upon completion of the computerised tasks, the researcher returned to the room. Participants were thanked and offered a break before the debriefing interview was conducted. This included questions about how participants found the task, their beliefs regarding the purpose of the tasks, and whether they might have answered differently if anyone had been observing them. The researcher reviewed participants' survey answers with them, to allow for greater depth regarding their thinking in each case. They were again invited to ask any further questions and make comments about the study.

Once all tasks were complete, participants were reimbursed for their expenses and time. The sessions lasted between two to two and a half hours for new participants and one to two hours for previous participants.

2.5 Data Analysis

2.5.1 Quantitative Evaluation of the pilot survey

The current study piloted the survey in order to assess its utility as a test of social evaluation behaviours, incorporating visual cues previously found to be associated with the 'observer effect'. To evaluate this tool for use in quantitative research, descriptive statistics will be reported in Chapter 3.

2.5.1.1 Power and sampling for the social evaluation survey - pilot

When designing quantitative studies it is important to consider the issue of power, or the ability of a test to detect an effect if one exists in the population studied (avoiding a Type II error). By convention, power of .8 or greater is generally considered acceptable (80% chance of detecting a genuine effect). Conversely, it is equally important to minimise the likelihood of finding an effect where none exists (Type I error). This is achieved by choosing a small 'significance level', usually .05 or .01, indicating that there is only a 5% or 1% chance respectively that the effect is due to chance rather than the test variable.

However, just because an effect is statistically significant does not necessarily mean it is meaningful in terms of magnitude. For this reason it is also important to have an idea of the size of the effect anticipated. This may often be derived from previous literature. Cohen (1988) provides guidelines for judging whether an effect may be considered small, moderate or large (the associated values vary according to statistical test used). Using the above factors, a target sample size can be calculated which ensures sufficient power to find the anticipated effect size at the chosen significance level. Larger samples have less sampling error and therefore increase the power of the test.

Effect sizes for previous studies investigating the observer effect in TDI samples have been reported in a variety of ways but tend towards the medium range (e.g. Oda, Niwa et al., 2011, $\eta^2 = .09$; Piazza & Bering, 2008, $d = .45$). The only reported study comparing individuals with and without diagnoses of HFA/AS (Izuma *et al.*,

2011) found a highly significant large effect for the TDI control group and a non-significant medium effect for the ASD group.

In order to determine the sample size needed to achieve a moderate/large effect size using the action evaluation protocol, three on-line sample calculators⁶ were used. Results ranged from 32 to 81 participants per group (depending upon whether one- or two-tailed tests would be used) based upon the following values drawn from the reports of studies using control and experimental TDI samples:

- mean value for population (μ_1) = 2.45
- expected mean value from sample (μ_2) = 3.79
- SD for the population (σ) = 3.04
- Alpha = .05
- Power = .80

In light of the inconsistency of the results, a fourth calculation was run⁷, using

- anticipated effect size (Cohen's d): 0.5
- desired statistical power level: 0.8
- probability level: 0.5

This yielded estimated minimum sample sizes per group of 51 for a one-tailed hypothesis and 64 (two-tailed). These figures fell toward the mid-range of the previous estimates and might be usefully adopted in future quantitative studies.

The sample size used in Izuma and colleagues (2011) was considerably smaller (ASD group = 10, control group = 11). As an alternative strategy for increasing statistical confidence in their findings, a bootstrapping and resampling procedure

⁶ http://www.statisticalsolutions.net/pss_calc.php;
<http://stat.ubc.ca/~rollin/stats/ssize/n2.html>;
<http://www.quantitativeskills.com/sisa/calculations/samsize.php?mean1=3.79&mean2=2.45&sd1=2.47&sd2=3.04&AllocR=1.00&Power=80&Alpha=5&Method=TwoSample&Submit1=Calculate>

⁷ <http://www.danielsoper.com/statcalc3/calc.aspx?id=47>

(Fisher's exact tests) was used. Exact tests examine all possible permutations of the data, producing exact results *for the sample*, rather than probability of finding such results in the population, therefore allowing confidence for the results regarding the sample studied.

2.5.2 Thematic Analysis

Within the field of qualitative research there may be seen an historical tension between producing a homogenised, group-level account versus an individual account. Methods such as content analysis (CA) may be found at the former end of the spectrum, while interpretative phenomenological analysis sits at the individual extreme.

Thematic analysis (TA) evolved from CA to examine "group-based threads within the data, rather than idiosyncratic tangents of meaning" (Joffe, 2012, p. 213). However, TA aims to go beyond CA's surface-level focus on the observable material to include more implicit themes and thematic structures. As such it may be an appropriate tool for comparing similarities and differences in patterns of meaning between groups, underscored by the individual accounts in supporting extracts.

Not being aligned with any one philosophical or theoretical stance, this analytic method allows greater freedom in the way data may be explored, and thus is compatible with the critical realist stance adopted for this research. A social constructionist view is that a person can only draw upon existing words to convey their ideas, and that this maintains others in a state of uncertainty regarding the true meaning and intention of the speaker. While it is important to recognise the contexts in which and from which participants speak, as well as the subjective filter through which data is inevitably examined, the critical realist stance includes the assumption that participants are capable of reporting their experiences and that the researcher is able to understand them with a reasonable degree of accuracy.

Verbal data from the action evaluation tasks was added to transcripts of the semi-structured interviews. Transcripts (Appendix 8 for sample) were assigned the participants' identification codes to protect anonymity. A theory-driven thematic

analysis (TA), following steps outlined by Braun and Clarke (2006) was chosen (Appendix 9: Audit trail of themes):

1. Becoming familiar with the data
2. Generating initial codes
3. Searching for themes
4. Reviewing the themes
5. Defining and naming the themes
6. Producing the report

Although themes were generated using an theory-driven approach, grounded in the literature (Braun & Clarke, 2006), every effort was made to remain alert to unexpected or novel ideas. The research supervisor informally verified the generated themes.

To further ensure quality of the qualitative analysis, every effort was made to meet the following additional aims:

- Contribution
- Credibility
- Methodological rigour
- Transferability

2.6 Ethical considerations

Ethical approval was sought and received from the Research Ethics Committee of the School of the School of Psychology, University of East London (UEL).

Participants were recruited from outside of the National Health Service (NHS), and NHS ethical approval was not required.

2.6.1 Informed consent

All potential participants entered into conversation with the researcher to discuss the aims and tasks of the study when considering whether or not to take part. Initial contact with participants involved both informal (verbal) and formal (written

information sheet) provision of information, and was not considered to be volunteering. Consent was only considered to be given when participants signed the consent form just prior to taking part.

Participants were also informed of their right to withdraw from the research, at any point, without providing a reason for so doing. Any request from them to remove their data from the data set at any point up to final data analysis would also be honoured.

2.6.2 Participants' psychological welfare

No element of the study was anticipated to cause discomfort or distress of any kind. However, participants were informed that should they express distress or if the researcher felt at any time that a participant was distressed, the session would be terminated and appropriate debriefing procedures would be used. Participants were given contact information for the researcher and Director of Studies and were notified that they might contact them following testing for discussion of the research or signposting to appropriate services.

2.6.3 Data protection

Data gathered during the study was only identified by the participant number and was kept separately from consent forms, which had participant names as well as numbers. All data and consent forms were kept in a locked filing cabinet. The transformed data was kept in password-protected files in the researcher's home computer (used exclusively by the researcher) and backed up on a password protected data key, which was also kept in the filing cabinet. Anonymised, raw data will be kept for three years following the submission of the thesis dissertation in the event that the study may be written up for publication. In the case of interviews, the original recordings will be destroyed after successful examination of this thesis but transcripts will be kept for this duration.

CHAPTER 3: RESULTS

3.1 Cognitive Test Battery

To compare test performance between the ASP and control groups, raw scores from these tests were first converted to age-scaled scores for each participant to address the issue of age related changes within groups. Due to small sample size (N = 8 per group), non-parametric Mann-Whitney U tests were used to analyse the data with bootstrapping techniques (Fisher's exact tests) to increase confidence in levels of significance found.

Table 3.1 shows that no significant differences were found between the two groups for age or years of education, two factors which may affect cognitive task performance (Lezak, Howison *et al.*, 2005). Between-group performance on all tasks was also comparable except on the letter fluency task.

Table 3.1. Between group comparisons for relevant demographic factors and cognitive test scaled scores.

Variable	Control Group		ASP Group		Mann-Whitney		
	Mean	SD	Mean	SD	U	Z	Exact Sig. (2-tailed)
Age (years)	39.00	15.67	37.63	17.21	29.50	-0.263	0.816
Education (years)	17.63	4.24	15.88	2.03	21.00	-1.195	0.248
WRAT-3 Reading	12.50	1.20	12.25	2.19	30.00	-0.216	0.854
WAIS-III Digit Fwd	7.63	1.30	7.13	1.25	23.00	-0.973	0.338
WAIS-III Digit Bkw	6.13	0.84	5.88	1.55	27.50	-0.489	0.725
Working Memory Index	0.82	0.15	0.82	0.14	30.00	-0.212	0.861
DKEFS Letter Fluency	15.62	3.62	10.00	4.04	9.00	-2.439	0.013
DKEFS Category	14.63	2.33	10.63	4.75	15.50	-1.738	0.087
DKEFS Switching (Output)	14.13	3.04	9.50	5.53	14.50	-1.858	0.068
DKEFS Switching (Shifts)	14.38	2.72	10.13	5.54	17.50	-1.532	0.137

3.2 Action Evaluation Survey – Evaluation

In order to evaluate the utility of the survey tool in comparison to previous social evaluation and observer effect research, the field of inquiry of this study may be usefully broken down into a series of small questions. First of all, the overall issue of social evaluation was addressed as follows:

1. How do the two groups score on social evaluation tasks?
2. Do the groups' scores change in association with sub-categories of social evaluation (referred to here as 'domains')?
3. Are moderating factors, such as 'observation' or 'permission', associated with similar or different evaluation scores between and within the groups?

The data were also examined to address the questions regarding the 'observer effect':

1. How do the two groups score on social evaluations tasks, in the presence or absence of eye images?

3.2.1 Analysis of frequency data for each group, across domains

Each of the eight action evaluation vignettes was followed by six questions, three of which required 'yes' or 'no' answers:

- Was it alright to do the action, with no moderating factors provided ('none')?
- Was the action alright if the actor was not seen or heard doing the action ('no observer')?
- Was it okay if the actor had permission ('permission')?

Table 3.2 provides an overview of the frequency of 'no' answers to each of these questions across domains and moderating factors, between conditions and between and within groups. Each question will also be addressed in greater detail below.

**Table 3.2 Group by Condition by Moderating Factor contingency table:
frequency data for ‘no’ answers**

Domain	Moderating Factor	Control No Eyes	Control Eyes	Control Overall	ASP No Eyes	ASP Eyes	ASP Overall	Both No Eyes	Both Eyes	Both Overall
moral	<i>none</i>	8	8	16	8	8	16	16	16	32
	<i>observer</i>	8	8	16	8	8	16	16	16	32
	<i>permission</i>	7	7	14	6	8	14	13	15	28
convention	<i>none</i>	6	8	14	7	6	13	13	14	27
	<i>observer</i>	2	0	2	1	0	1	3	0	3
	<i>permission</i>	0	2	2	3	3	6	3	5	8
disgust	<i>none</i>	7	6	13	7	6	13	14	12	26
	<i>observer</i>	7	4	11	7	2	9	14	6	20
	<i>permission</i>	7	1	8	7	3	10	14	4	18
ambiguous	<i>none</i>	6	3	9	7	0	7	13	3	16
	<i>observer</i>	6	3	9	7	0	7	13	3	16
	<i>permission</i>	7	3	10	4	0	4	11	3	14
Sub-totals		71	53		72	44		143	97	
Totals				124			116			240

3.2.1.1 Analysis of frequency data for between and within groups, across domains (without moderating factors)

In order to gauge their view of the acceptability of transgressions in general (baseline), participants from both groups were asked to indicate whether the actor's behaviour was acceptable (yes or no), in absence of any moderating factors, for eight different vignettes (two per domain). An action condemned by all members of each group would thus produce 16 'no' responses. The exception to this was with the 'ambiguous' domain for which there was missing data for one participant (ASP group, N = 7). Thus, for this domain alone, maximum disapproval by the ASP group would produce 14 'no' responses.

Table 3.3 shows the number of 'no' responses given by each group, broken down by domain and totals across all domains for each group.

Table 3.3 Frequency of 'no' responses per group across domains (without moderating factors).

Domain	Control (N = 8) 'No'	ASP (N = 8⁸) 'No'	Difference (Control-ASP)
Moral	16	16	0
Convention	14	13	1
Disgust	13	13	0
Ambiguous	9	7	2
Condition Totals	52	49	3

The frequency values indicate that both groups universally judged the two 'moral' transgressions as not acceptable: all eight participants from each group rejected both of these behaviours.

Visual inspection also shows that participants from both groups gave 'no' answers at similar rates for the 'convention', 'disgust' and 'ambivalent' vignettes as well. In the majority of instances, these transgressions were deemed to be unacceptable. Both groups' rates of disapproval dropped to a similar extent regarding the 'ambiguous' domain. (Convention: Control 'no' responses = 14; ASP 'no'

⁸ As noted above, ASP Group N = 7 for the ambiguous domain.

response = 13/Disgust: Control = 13; ASP = 13/Ambiguous: Control group = 9; ASP group = 7).

While the two groups tended to give 'no' answers at the same rates for each of the domains and globally, Table 3.3 also shows similar trends for both groups between domains. Both groups gave fewer 'no' responses for the 'convention' set of behaviours compared to the moral transgressions, with the Control group giving 2 fewer 'no' responses and the ASP group giving 3 fewer no's regarding 'convention' transgressions. The difference between 'moral' and 'disgust' vignettes evaluations was 3 fewer 'disgust' 'no' responses for each group. The 'ambiguous' domain introduces the largest change in evaluation responses (Control = -7/ASP = -9).

3.2.2 Analysis of Likert scale ratings for each group between domains (without moderating factors).

To address the question of whether participants distinguish between the moral and other domains in terms of acceptability of the transgressions, each vignette included a request that participants rate the behaviour on a scale between 0 – 7. Higher scores signified greater acceptability ratings. Table 3.4 shows descriptive statistics for each domain for each group. Visual inspection of the means suggests little between group differences on any domain, with the ASP group rating all 'non-moral' transgressions as slightly more acceptable.

Table 3.4 Control group: means and standard deviations for approval scales, across domains

	Control group (N = 16)		ASP group (N = 16)	
	Mean	SD	Mean	SD
Moral	0.25	0.775	0.25	0.447
Convention	1.63	0.885	1.81	1.940
Disgust	1.31	1.887	1.63	2.335
Ambiguous	2.31	1.815	2.57	2.102

3.2.3 Analysis of frequency data between and within groups, within domains between moderating factors

To examine the possible influence of moderating factors within each domain (testing whether the survey results would reflect the theoretical bases for the moral/convention/disgust distinction), frequency of 'no' answers was again compared.

3.2.3.1 Analysis of frequency data for each group, within domains between moderating factors – 'Moral' domain

Table 3.5 shows the frequency of 'no' answers for the moral domain with moderating factors.

Table 3.5 'Moral' domain: frequency of 'no' responses between moderating factors, by group.

Domain	<i>Moderating factor</i>	Control	ASP
		'No'	'No'
Moral	<i>None</i>	16	16
	<i>No observer</i>	16	16
	<i>Permission</i>	14	14

Visual inspection of the data shows no between-group differences for the moral domain and its moderating factors.

The data also shows no association between the hypothetical presence or absence of witnesses to the moral transgressions and different evaluations of participants from either group ('none' = 16; 'no observer' = 16. Difference = 0).

The table also shows that with when an authority figure gave permission for the act, participants' disapproval rates were slightly lower ('none' = 16; 'permission' = 14. Difference = -2). Visual inspection of this data shows that the 'moral' domain evaluations did not change substantially in association with moderating factors.

3.2.3.2 Analysis of frequency data between and within groups, within domains between moderating factors – ‘Convention’ domain

Table 3.6 shows the frequency of ‘no’ responses for both groups regarding vignettes in the ‘convention’ domain. Visual inspection of the data does not show large between-group differences for the ‘none’ and ‘no observer’ pairing, while a larger difference is seen for the ‘none’ and ‘permission’ pair. Within both groups, however, ‘no observer’ and ‘permission’ are both associated with substantially fewer ‘no’ answers regarding the behaviours in this domain set.

Table 3.6 ‘Convention’ domain: frequency of ‘no’ responses between moderating factors, by group

Domain	Moderating factor	Control	ASP
		‘No’	‘No’
Convention	<i>None</i>	14	13
	<i>No observer</i>	2	1
	<i>Permission</i>	2	6

The hypothetical absence of witnesses to the acts resulted in 12 fewer ‘no’ responses for these vignettes for each group, indicating that this moderator made the transgression more acceptable. The ‘permission’ moderator was also associated with 12 fewer ‘no’ responses for the Control group. However, with the ASP group, ‘permission’ was still associated with 6 ‘no’ responses, indicating that despite this moderator, some members of this group continued to find the transgressions in this domain to be unacceptable.

3.2.3.3 Analysis of frequency data between and within groups, within domains between moderating factors – ‘Disgust’ domain

Table 3.6 shows the frequency of ‘no’ answers for behaviours in the ‘disgust’ vignettes. Visual inspection of the data shows slight between-group differences for each moderating factor. Moderating factors are associated with fewer ‘no’ responses, for both groups, to varying degrees, although the reduction was smaller than that seen with the ‘convention’ domain. For the Control group, not being observed was associated with higher rates of disapproval than for the ASP group (between-group difference = -2). ‘Permission’, however, was associated

with less disapproval for the Control group than for the ASP group (Control: difference = -5/ASP: difference = 3).

Looking at within-group data, there were two fewer 'no' responses from Control participants when 'no observer' was taken into account, and five fewer associated with 'permission'. Thus with the Control group, 'permission' was associated with less disapproval than lack of observation. Moderators were also associated with fewer disapproving ratings with the ASP group, although again, the opposite trend was seen, 'permission' was associated with more disapproving ratings than was the lack of observation ('no observation' = -4; 'permission' = -3; difference = 1).

Table 3.6 'Disgust' domain: frequency of 'no' responses between moderating factors, by group.

Domain	<i>Moderating factor</i>	Control	ASP
		'No'	'No'
Disgust	<i>None</i>	13	13
	<i>No observer</i>	11	9
	<i>Permission</i>	8	10

3.2.3.4 Analysis of frequency data between and within groups, within domains between moderating factors – 'Ambiguous' domain

Table 3.7 shows the rates per group of 'no' responses for each moderating factor within the 'ambiguous' domain. Small between-group differences were seen for the 'none' and 'no observer' moderators (Control = 9; ASP = 7; Difference = -2) and a larger difference appears for the 'permission' moderator (Control = 10; ASP = 4; Difference = -6).

Table 3.7 'Ambiguous' domain: frequency of 'no' responses between moderating factors, by group.

Domain	<i>Moderating factor</i>	Control	ASP
		'No'	'No'
Ambiguous	<i>None</i>	9	7
	<i>No observer</i>	9	7
	<i>Permission</i>	10	4

Visual inspection of within-group 'no' frequency data from both groups shows that the absence of a witness is associated with no change in the rates of disapproving answers compared to the 'no moderating factor' condition.

Looking at Control group frequency data for the ambiguous domain, in comparison with the 'none' and 'no observation' moderators (which both had frequency counts of 9), when 'permission' is considered, group members *increased* the rate of 'no' answers ('permission' = 10; difference = 1). For ASD group members, however, 'permission' was associated with fewer 'no' responses ('none' and 'no observer' = 7; 'permission' = 4; difference = -3), which reversed the trend seen for this group in the 'convention' and 'disgust' domains.

3.2.4 Analysis of frequency 'eyes/no eyes' conditions, across domains

Another line of inquiry of this study concerned whether embedding eye images into the research stimuli would affect participants' evaluations of transgressions.

Frequency data was examined to determine whether group status and condition would be associated with differences in numbers of 'no' answers and whether this might differ from one domain to another or with moderating factors.

Table 3.8 Frequencies for ‘yes/no’ items: domains and moderating factors across groups and across conditions - expressed as N who say ‘not okay’

Domain	Moderating factor	Control		ASP	
		No Eyes	Eyes	No Eyes	Eyes
Moral	<i>None</i>	8	8	8	8
	<i>No observer</i>	8	8	8	8
	<i>Permission</i>	7	7	6	8
Convention	<i>None</i>	6	8	7	6
	<i>No observer</i>	2	0	1	0
	<i>Permission</i>	0	2	3	3
Disgust	<i>None</i>	7	6	7	6
	<i>No observer</i>	7	4	7	2
	<i>Permission</i>	7	1	7	3
Ambiguous	<i>None</i>	6	3	7	0
	<i>No observer</i>	6	3	7	0
	<i>Permission</i>	7	3	4	0
Totals		71	53	72	44

Table 3.8 shows frequencies of ‘no’ judgments by group and condition, for all domains and moderating factors.

For the Control group the total number of ‘no’ responses for the ‘no eyes’ condition was 71, versus 53 ‘no’s for the ‘eyes’ condition, therefore greater disapproval was expressed in the ‘no eyes’ condition.

For the ASP group the total number of ‘no’ responses in the ‘no eyes’ condition was 72. This compared to 44 for the ‘eyes’ condition, again, indicating greater disapproval for the ‘no eyes’ condition vignettes.

Table 3.8 also provides a break-down of the within-group data by domain and moderating factor. Visual inspection shows that for the ‘moral’ domain and its moderating factors, the presence or absence of eye images is associated with no difference in rates of ‘no’ answers for either group. The exception to this trend is seen in the ASP group with the ‘permission’ moderator, for which ‘eye’s are associated with two more ‘no’ responses than the ‘no eyes’ condition.

For the 'convention' domain and moderating factors, the conditions are associated with small differences, although the directions of difference seen are inconsistent for the Control group ('none' difference = 2; 'no observation' difference = -2; 'permission' difference = 2). For the ASP group, 'no eyes' is associated with slightly higher or equal rates of 'no' responses ('none' difference = -1; 'no observation' difference = -1; 'permission' difference = 0).

For the 'disgust' domain/ 'none' moderating factor, the 'no eyes' condition is associated with slightly higher rates of disapproval for both groups ('no eyes' = 7; 'eyes' = 6; difference = -1). The 'no observation' moderator is also associated with higher rates of 'no' answers in the 'no eyes' condition (for each group) than with the 'eyes' condition (Control: 'no eyes' = 7; 'eyes' = 4; difference = -3/ASP: 'no eyes' = 7; 'eyes' = 2; difference = -5). The 'permission' moderator was associated with a larger difference for the Control group ('no eyes' = 7; 'eyes' = 1; difference = -6) than for the ASP group ('no eyes' = 7; 'eyes' = 3; difference = -4). Frequency counts for this entire domain indicate that 'no eyes' are associated with higher rates of disapproval.

Data for the 'ambiguous' domain showed small between-group differences for the 'no eyes' condition, 'none' and 'no observer' moderators, and a larger difference with the 'permission' moderating factor.

Examination of the within-groups frequency counts shows a difference between the 'no eyes' condition and the 'eyes' condition for the Control group, for each modifying factor ('none': $6 - 3 = -3$; 'no observer': $6 - 3 = -3$; 'permission': $7 - 3 = -4$). Large differences were seen between conditions in this domain for the ASP group ('none': $7 - 0 = -7$; 'no observer': $7 - 0 = -7$; 'permission': $4 - 0 = -4$). The overall trend for both groups was for 'no eyes' to be associated with higher rates of disapproval.

3.2.5 Analysis of rating scale data for acts with no moderating factors, across and within groups, across conditions

To explore evaluations regarding the acceptability of the transgressions (in absence of moderating factors), data was also collected regarding the degree of

(dis)approval each participant attached to the behaviours. Table 3.9 shows descriptive statistics for each domain and condition for both groups.

Table 3.9 Mean (\pm Standard Deviation) ratings for ‘how okay is it to ...?’ questions for each condition, by domain and by group.

Domain	Control		ASP	
	No Eyes	Eyes	No Eyes	Eyes
Moral	0.13 (0.35)	0.38 (1.06)	0.50 (0.54)	0.00 (0.00)
Convention	2.50 (1.60)	1.63 (1.19)	2.13 (1.89)	1.50 (2.07)
Disgust	0.88 (1.46)	1.75 (2.25)	0.75 (2.12)	2.50 (2.33)
Ambiguous	1.38 (1.51)	3.25 (1.67)	0.86 (0.90)	4.29 (1.38)

Visual inspection of the means for the Control group suggests a general trend toward higher scale score approval ratings in the ‘eyes’ condition. The exception to this trend is seen in the ‘convention’ domain for which ‘no eyes’ is associated with higher approval ratings. For the ASP group, ‘no eyes’ is associated with higher ratings of approval in the ‘moral’ and ‘convention’ domains, and lower approval ratings for the ‘disgust’ and ‘ambivalent’ domains.

Comparing between-condition approval trends between the groups tend in opposite directions in the ‘moral’ domain between groups (Control: ‘eyes’ = increased approval/ASP: ‘eyes’ = decreased approval). For the ‘convention’ domain both groups share a trend in decreased approval for the ‘eyes’. For the remaining domains, both groups share a trend in ‘increased approval for the ‘eyes’ condition. Thus, in all domains except the ‘moral’ groups share between condition approval trends, although even these are not consistently in the same direction.

3.2.6 Summary of pilot findings

Taking into account the small sample size, nominal level data, and analysis limited to descriptive statistics, the values given above may only be taken as indicative and suggestive of what might be found with a larger data set using more robust statistical tests. However, within the data available certain trends

might be seen.

Regarding how individuals with and without diagnoses of ASPs undertake social evaluation overall:

- Between-group comparisons of frequency counts show that in most cases, members of the two groups tend to rate the transgressions similarly (within 1 or 2 points of each other), with the ASP group providing equal or slightly fewer 'not acceptable' evaluations than the Control group. Exceptions to this trend are seen with the 'permission' modifiers of the 'convention' and 'disgust' domains for which the ASP group gave more 'no' responses than the Control group and the 'ambiguous' domain/'permission' moderator for which the ASP group gave considerably *fewer* 'no' responses than the Control group.
- For both groups, moderating factors are associated with equal or fewer 'no' responses when compared to the 'none' moderator, with the single exception for the Control group of the 'ambiguous' domain/'permission' moderator, which shows more 'no's than 'none' or 'no observer'.
- The degree to which moderating factors are associated with changed evaluations varies for both groups between domains. The largest evaluation changes in association with moderators were seen in the 'convention' domain.
- The means of scale-approval ratings transgressions without moderating factors show that approval level ratings from both groups tended to be very low and were equal between groups with regard to the moral domain. For the remaining domains, the ASP group approval rating means were slightly higher than those of the Control group.

With regard to the 'observer effect' ('do images of eyes provide relevant triggers for a moral judgment component of reputation management?'), data showed:

- Overall, both groups tended to give fewer 'no' responses for the 'eyes' condition than for 'no eyes', indicating lower rates of disapproval for the transgressions in the 'eyes' condition. Two exceptions to this trend were seen for the Control group who increased numbers of no's for the 'convention' domain/'none' and 'permission' moderators (the ASP group did not), and for the ASP group 'moral'/'permission', which also received 2 more no's in the 'eyes' condition.
- The most notable within-group comparisons show the ASP group to be unanimous in the condemning the 'ambiguous' transgression/'no eyes' condition (the exception being with the 'permission' moderator, for which 'no' responses drop considerably) and again unanimous in their lack of condemnation for the 'eyes' condition. The same trend is seen to a lesser degree within the Control group.
- Between-group comparison of approval rating scale means for transgressions with no moderating factors showed that the group evaluations tend to change in the same directions for all domains except the 'moral', in which they diverge. For 'convention domain, both groups' mean approval ratings drop for the 'eyes' condition. For 'disgust' and 'ambiguous' domains, both groups' mean approval ratings rise for the 'eyes' condition.

Question 2 of this research (does the questionnaire provide an appropriate tool to assess social evaluation behaviour and the 'observer effect'?), should thus be answered in two parts. First, the data appears to follow consistent trends with regard to social evaluation for both groups. Secondly, for the 'observer effect' it is interesting to see largely similar behaviour from both groups with regard to the two conditions. However, the results in this second area are inconsistent: although tendencies towards higher rates of condemnation in the 'eyes' condition are seen, there are also numerous instances of the opposite. For this reason, the survey in its current form cannot be seen as adequate for assessing the 'observer effect'.

3.3 Thematic Analysis

With the aim of gaining a deeper understanding of participants' approaches to and understanding of social evaluation tasks and issues of reputation management, two further questions followed each vignette, requiring brief written responses about why participants answered as they did. This qualitative element was expanded during the RVP component of the debriefing interview, which immediately followed the on-line tasks. Data thus gathered were examined using thematic analysis (Braun & Clarke, 2006). Although a theory-driven approach, grounded in the literature, was used, I was alert to new patterns within the data corpus. In keeping with critical realist epistemology, themes were identified at the semantic level.

Five main themes were derived from 13 sub-themes, encompassing 60 codes. Most sub-themes identified below applied differentially across vignettes and domains. For instance, 'harm' was associated with all vignettes, though types and extent of harm varied within and between domains. Likewise distinctions were made between how 'rules' were applied differentially across the *moral* vignettes as well as those from the *social convention* domain.

Table 3.12 shows relationships between thematic categories and levels. Extracts frequently fell into more than one theme group, but for reporting purposes here, this is avoided. To keep the results arrangement close to the research questions, two organising principles were used: 'shared' and 'different'.

Table 3.12. Themes identified

Theme	Sub-theme	Lower level sub-themes
Mitigating circumstances	Context	
	Motives	Self-defense Benevolent or malevolent intentions
Consequences ...	Harm	
	... to society ... to others ... to self	Reputation and impression management
Rules	Universal v. subjective	
	Rules applied	'Golden rule'
	Conflicting rules	
Hierarchy of authority		
Group membership	Abilities and needs	
	Learning	
	Thinking style	
	Thinking processes	

3.3.1 Mitigating circumstances

Across all domains and vignettes, participants from both groups said that it was important to consider mitigating circumstances when making judgements about behaviour. Within this theme were two sub-themes: 'context' and 'motives'.

3.3.1.1 Context

When asked to judge behaviours with no moderating factor given, participants from both groups explicitly stated that without knowing something about the situation, either it made no sense, or that they felt unable to properly evaluate it.

A8 168 – 170: why did he punch? I mean people don't normally just punch someone out of the blue, but so presumably there was something that led up to him – but we don't know what that is. So that would affect how right or wrong it was.

C7 8 – 9: the lack of background information makes choosing very arbitrary in some cases.

Likewise, contextual factors could mitigate, if not completely excuse, a transgression. Along with situation, a number of other contextual factors were also cited, in relation to the different domains. These included 'upbringing', associated with talk from both groups about social rules as 'learned' (all domains); 'relational' context ('moral', 'convention', and 'ambiguous' domain); socio-cultural ('convention' and 'disgust' domains).

A3 53 – 56: Al should know better than to tell his aunt to her face that her hat makes her ugly, because I was always told, by teachers and my parents, not to tell people they look ugly or say that type of thing as it is generally offensive.

C2 266 – 271: I suppose that if you raise children with that idea that if you want something, it's okay to just take it then I think maybe that other views might ...

C5 295 – 297: A child will very quickly learn that stealing is wrong, hurting others is wrong.

A5 143 – 146: we don't know whether it's brother and sister or husband and wife [.../...] it might have to do with the family integrity, really. I mean if the, Al, Al and his uncle, it's a bit of a quorum against the aunt's face and hat.

C6 344: Al's uncle will always say that, he's been married to her for 40 years!

A1 228 – 232: My dad, when he went to Thailand, he said that it's okay to

burp after you've eaten your dinner because they see it as a sign of 'oh you've enjoyed your meal', whereas here, if you do that here, you are just rude. And so again, different cultures have different ways of doing things in situations like dinner parties and things like that.

C7 420 – 242: I used to live up in West Virginia in the early 60's. Up in the hills, spittoons were still the norm up there. It was really like stepping back quite a long way in time, as is here⁹, in fact. [.../...] people change with time and something that was acceptable 50 or 100 years ago is not acceptable today.

A6 293 – 298: Partly, it's just social consensus. [.../...] we just don't show up in our swimming costume – unless you're going swimming.

C5 392 – 393: It's not really appropriate for him to wear a swimming costume to his lectures - universities expect a certain level of dress code (at least pyjamas!)

3.3.1.2 *Motives*

Curiosity regarding motives and intentions was shared by both groups, who spoke of the crucial role of these internal factors in understanding – if not excusing – moral and ambiguous transgressions. Participants from both groups assumed harmful intentions regarding violence. Different patterns were seen in regard to the theft scenario (moral domain). Some Control participants speculated about the motives of the girl, whereas no ASP participants addressed this.

A6 213 – 216: You have to tread carefully here, you risk alienating the person you're trying to protect. You should highlight things you think are problems, but be aware of your motives - do you just not like the mean person or the relationship?

⁹ Greece

A8 168 – 170: people don't normally just punch someone out of the blue, but so presumably there was something that led up to him – but we don't know what that is. So that would affect how right or wrong it was.

C3 317 – 318: Damaging another person physically and psychologically is utterly unacceptable. Without good cause.

C7 525 – 526: I think it's one of those questions where many people will jump to the conclusion that what the girl's doing is wrong. And all I'm trying to say is that might not be the case.

3.3.1.2.1 Self-defence

The acceptability of 'moral' transgressions in cases of self-defence was discussed by some members of both groups. However, a range of individual opinions was also seen within each group, regarding the extent to which the self-defence argument reduces condemnation.

A1 266 – 267: If you are defending yourself, then that's fine.

A2 478 – 480: even if Rob had punched John beforehand, why deal with it now and spoil other people's time at the gym? Moreover, why resort to violence in the first place?

C1 449 – 450: ... you could conceive a context where stealing is okay. If somebody stole from you and you stole back.

C4 393 – 394: If he was defending himself or defending somebody else, um, then yes, that would be absolutely fine.

3.3.1.2.2. Benevolent or malevolent intentions

When discussing the 'ambiguous' and 'disgust' vignettes, participants from both groups considered the possible benevolence or malevolence of actors' intentions. Benevolent intentions could mitigate damage done.

A5 338 – 344: if the fiancé was genuinely mean to Neil's sister, then, um, obviously Neil was only looking out for his sister [.../...] and there's a difference between that and what you might call, 'excretion stirring'.

A6 339: You don't know what the uncle's motives are either.

A8 161 – 163: I assumed the uncle knew the aunt better than Al did, and that the uncle wouldn't deliberately want to hurt the aunt.

C1 237 – 241: ... If you are honest, and your intention is to actually help her, so that she can look less ugly [.../...] I mean, if you really, really believe that you are going to do a good thing, it should be okay.

C7 123 – 124: If Mark's mother was sane, then maybe OK. We have no evidence as to her mental state, or her knowledge the meat was rotten. We must assume she was trying to off Mark.

C8 393: It would appear that Neil's actions were out of jealousy.

3.3.2 Consequences

Members of both groups talked about three categories of consequences of transgressions: those to society; to others; to self. A sub-theme of 'harm' (types and extent) was seen in talk by both groups when distinguishing between moral and other domains. Discussion of 'harm' was seen at all three levels.

3.3.2.1 Harm

The (im)morality of causing harm was widely discussed by participants from both groups. When discussing the ‘moral’ domain, participants from both groups said that hitting and stealing cause harm and as such are completely unacceptable, although both groups recognised that there might be mitigating circumstances (see section 3.3.1.2.1).

A1 266 – 269: you don’t hurt people. [.../...] that’s just *wrong*.

A6 384: if you let kids fight, then they end up breaking each other.

C6 390 – 391: ... to go back or be stagnant at a level where we are hitting each other is completely unacceptable ...

C7 536 – 554: You don’t just go and steal. [.../...] Sorry that sounds very moralistic [.../...] in reality, the physical damage or financial damage or emotional damage you are inflicting on somebody, that doesn’t hang in our society.

With the ambiguous vignettes, potential harm was weighed against other moral imperatives, such as that of being honest and against ‘convention’ considerations such as setting. An overall pattern was seen in each group in which honesty was discussed as important, harm reduction was generally more important still. How this played out in the two vignettes varied with both groups. In the case of Neil’s sister, patterns were seen in which participants from both groups said it was more important to protect her by being honest about the fiancé’s meanness, although some from each group said that saying so publicly could be harmful and another setting would be better. About Al’s aunt’s ugly hat, participants from both groups said it would be worse to hurt her feelings than to be dishonest. Those who felt she might benefit by being warned off wearing the ugly hat, said that she might be told in a gentler way.

A6 213 – 214: You have to tread carefully here, you risk alienating the person

you're trying to protect.

A8 298 – 311: It might not be the right time. He probably should have told her before that. Clearly he shouldn't stand up and give a speech to tell it to everybody

A8 151 – 153: It's more important that Al should respect his Aunt and avoid upsetting her than it is to be truthful about what he thought, but on the other hand the painful information could conceivably be helpful to the aunt in the long run.

C4 193 – 194: I would be concerned about 'ruining' the party for my sister and would not want to bring it up at this moment

C6 158 – 159: If Neil feels strongly about it, then he should tell her irrespective of the surroundings.

C8 522 – 523: Al's actions would hurt his aunts feelings, if the hat didn't suit his aunt there are other ways of telling her.

Both groups evoked the key theoretical distinction between the 'moral' and 'convention' domains, saying that the social convention transgressions were more inappropriate than harmful. Potential harm within the 'convention' domain was described as disruption, offense or distress to others.

A5 286 (*about drinking soup from a bowl*): It would not be detrimental to anyone else's quality of life.

C7 199 – 200: Acceptable in terms of society is very different than acceptable in terms of causing any harm or injury.

A4 141 – 143: Some people would perhaps see that as not taking the lectures seriously. They might think because it's an unusual thing to do that it

was being done deliberately to disrupt things.

C2 130 – 131: It would be considered inappropriate and distracting to others to show so much flesh in a lecture theatre.

For the 'disgust' domain, both groups were divided in the way harm was discussed in regard to eating rotting meat. Some participants from both groups said although Mark was risking his health, this should be his choice. However, others expressed a moral imperative to prevent Mark from harming himself. Both groups deemed drinking spit to be a comparatively harmless, if disgusting and potentially offensive, act.

A7 129 - 130: he might have to justify himself. But it's still okay. He doesn't need anybody else's justification. If you see what I mean? He's not hurting anybody else.

A8 62 – 64: If I saw him eating it, I would tell him to put it down. I might even grab it from him and take it away from him if he was a naughty boy doing something he shouldn't. I wouldn't want him to harm himself that way.

C2 300 – 301: It isn't a very wise thing to do and he may make himself ill but he has every right to eat what he wants to.

C7 144 – 155: It depends whether you want people to die or not. And painfully!

A8 365 – 367: if James doesn't mind drinking it and if no-one else is watching, than (sic) perhaps there wouldn't be much harm in it

C7 386 – 388: It's because of the perceived risk: people don't like drinking out of the same glass that someone's used before, they don't like swigging

from the same beer bottle that someone's used before.

3.3.2.2 Consequences to society

This sub-theme was primarily seen in talk by members of both groups when considering the 'moral' domain. When discussing the vignette in which John punches Rob, participants from both groups shared talk of escalating violence, leading ultimately to social chaos.

A3 70 – 72: If people did punch each other for no reason, then there would be no need for communication. There would be absolute chaos.

C2 465 – 466: It wouldn't be safe to walk around in case you got well and truly punched. Um, I guess it's just a case of public safety, isn't it?

However, this sub-theme also applied differentially, with one ASP group participant broadening this sub-theme to include talk about how social conventions also promote greater social harmony, while one Control group participant said that moral aspect in the 'disgust' domain (preventing harm) also promotes social cohesion.

A5 539: his attire in public helps set the tone for everybody else!

C7 150 – 151: but basically, it's again, a matter of social cohesion. I don't know what it is – but if you see someone about to, inadvertently, put their foot in the fire, you stop them.

3.3.2.3 Consequences to others

'Consequences to others' was another sub-theme common to both groups for vignettes within all domains. In the 'moral' and 'ambiguous' domains this was described as physical or emotional distress. This contrasted with the 'convention'

and 'disgust' domains where potential offense was considered. In terms of the consequences themselves, this sub-theme was related to that of 'Harm' (discussed above). In all cases, participants from both groups demonstrated second order ToM-type capabilities in considering both the effects of the behaviour upon third parties, but also in describing the beliefs the protagonists might hold about what others believe.

A1 476 - 478: that lady probably trusts them and probably quite friendly with each other and they steal something from her.

A3 59: If Al did tell his aunt to her face then she would be upset.

C2 272 – 274: Stealing is just selfish, isn't it? I think there's a kind of general idea that being selfish isn't good. We should consider how what we do affects other people.

A7 258: he should be aware that he may upset others

C4 115 – 116: My worry was about offending the other guests at the dinner party rather than consuming his own spit.

One ASP group participant, however, highlighted inconvenience to, and possible annoyance of, others as a likely consequence of Mark eating rotting meat.

A2 293 – 308: He should think about those who will have to deal with the matter when things go out of hand. [...] aren't people inconsiderate who commit suicide by jumping in front of trains? It stops the line and everything.

3.3.2.4 Consequences to self

Again, participants from both groups included talk about consequences to the actor as well, saying that in addition to physical or emotional retaliation, punishment is a likely consequence of transgressions.

A1 109 – 110: Stealing a possession from another person is against the law and you could be punished and go to prison for it.

A3 64 – 68: I also know that punching would have got me excluded from school. I was always told what was acceptable and that I had to follow the rules or suffer the consequences.

C2 300: It isn't a very wise thing to do and he may make himself ill.

C5 240: The law would have a quiet word with you around theft.

A difference arose, however, with some ASP group participants also describing other types of 'consequences to self' that might ensue. For instance, practical and relational considerations were raised when weighing up the vignette involving dress code violations.

A6 276: It would be disruptive, and cold.

A8 502 – 506: Swimming costumes don't have pockets, and Joe would probably need to carry a few things to the lecture in his pocket.

A8 467 – 473: People don't wear swimming costumes because it's too cold. [.../...] I suppose there's a certain amount of educative, but it's not done, is it! It's just not done. You would be ostracising yourself if you did that.

Other ASP group participants also discussed humiliation as a 'consequence to self' in the case of 'moral' and 'convention' and 'disgust' transgressions. In contrast, Control participants tended to tell amusing stories of their own youthful *faux-pas*.

A1 65: He could get ridiculed and mocked which would upset him.

A6 448 – 451: Rule systems, they are quite black and white. And also because I think we've all fallen afoul of making the wrong call in those situations and got humiliated or shamed and felt awful about it. So I think we associate 'getting it wrong' with quite serious consequences, the way that other people don't.

C7 253 – 261: When I was about five years old, I was watching my father shave one morning, and my grandmother was living with us at the time. And I said to him, 'Dad, how long do people live for?' and he said, 'oh, 3 score years and 10'. So okay. I went downstairs and asked my grandmother how old she was and she said, 'I'm 76'. And I said, 'Oh, Dad says you should be dead.' [.../...] She didn't speak to him for three weeks.

3.3.2.4.1 Reputation and impression management

Of particular relevance to this study, is a special case of 'consequence to self': how others evaluate one's actions and the effects of those judgements upon one's reputation. A question was included with each vignette to elicit talk about impression management issues within each story. As illustrated above, ASP and Control group participants expressed awareness that one's public behaviour is likely to be judged by others.

The groups also shared the idea that reputation might actively be managed, for example, by pretending the transgression was an accident or with assistance from others. Another shared pattern was that in the 'convention' and 'disgust' domains, private engagement in 'transgressions' eliminated the risk of possible consequences for one's reputation.

A2 385 – 391: ... alone in your own house is one thing, but you know you might think no one can see you cause you're in a room all on your own but somebody suddenly nips back in because they've left their phone. Woops! [.../...] if she turned it into a joke, and 'Woops! Aren't I a mucky pup?'

A6 178 – 180: It is about what people think of you and how they respond to you. If no one witnesses it, no one knows, I think there's no consequence.

C3 176 – 178: Whilst Mary may be from another culture and/or find this a perfectly acceptable way of imbibing soup in a social setting, it might cause amusement or rejection of Mary so it is a risky social strategy and choice.

C7 343 – 350: Why create a social difficulty if you don't need to? [.../...] someone should, at that point, say 'Let me get you a new glass of water', if everyone saw it.

For the 'ambiguous' domain and the punching vignette from the 'moral' domain, both groups said that the hypothetical lack of witnesses did not increase or decrease the acceptability of violations. However, difference in patterns was seen with only ASP group participants speaking of the consequences to reputation of being seen as a thief.

A5 401: ... something that would incriminate her against the neighbour!

The debrief interview provided participants with the opportunity to talk about their own reputation management and the possible influence of being observed when making their evaluations. This was another area of similarity, with both groups split regarding the influence of being watched.

A2 41 - 47: Ummmm. Hadn't thought of that, but maybe one or two of them, but no, I toed the party line for most of them. Even the ones where I admit having done the thing myself [.../...] you know, social acceptability and custom ...

A3 189 – 196: I do not think I would have answered differently. My responses are just me and I am always telling things straight.

A6 115 – 116: I have to take into account how they may react and how their reactions may affect me. And it's a lot more extra work.

A8 22 – 24: I try to read what other people are thinking and I'm aware some Aspies can be very boring and I try to avoid that. I'm aware that I could be boring if I only talk about my particular interesting subjects.

C3 285 - 290: The mere fact that I am doing a questionnaire – which is me, against a tool rather than a human, means that I am more precise, more considered, more structured, more reasoned. And my instincts have time to be lost. Whereas if I were to have to make the decision in a real time, real life, eye contact human situation, I would be more reckless.

3.3.3 Rules

Rules define not only what is right and wrong, but also provide guidance on how to negotiate social interactions. This was identified as a shared theme across groups and all domains. Patterns relating to the 'universality' or 'subjectivity' of rules were domain dependent. Participants also stated the rules applied in making evaluations (including rules considered illogical, and those not the most relevant to the situation), and talked about conflicting rules.

3.3.3.1 Universal versus subjective

The 'moral' domain was described by participants from both groups as being governed by universal or absolute rules. This contrasted with 'disgust' and 'convention' domain vignettes, which were described as being subject to local or even personal (subjective) rules. However, here again, different patterns were seen for each group in the way universality versus subjectivity was discussed. While ASP participants discussed universality, Control participants also spoke of the wider context of social rule making.

A2 88: ... every civilised culture agrees that stealing is wrong.

A6 246: This is just theft, it's not subjective.

A8 382 -383: It still makes me disgusted, so I have to stick with my 'no' but it's more of a personal disgust than a real reason.

C1 78 – 79: Punching someone in the face is something that is in very few cases, in my view, legitimate.

C4 69 – 71: ... a lot of the time you can get away with things depending on the social context, but I think that when something's morally wrong then that over-rides the social context of it.

C5 280 – 284: Social situations are so culturally and societally constructed that there are so many different rules depending on your country, the people you are with, the environment. Whereas moral rules are much more easily accessible cause they're much more universal. That is it's not okay to take someone else's stuff or it's not okay to physically assault someone else.

3.3.3.2 Rules applied

Another shared pattern between groups is that participants stated the rule they applied to make their judgements in discussion of at least one 'moral' vignette.

A7 373: It's not yours and you don't take it.

C3 338 – 339: gratuitous violence is to be abhorred unless the setting and agreed rules permit it expressly.

3.3.3.2.1 'Golden rule'

A special case of 'rule applied' was the 'Golden Rule' as a sort of empathic, moral compass, which members of both groups spoke of applying in moral decision-making.

A1 245 – 248: I've always lived by the mantra, 'do unto others as what you would want them to do to yourself'. [.../...] If you don't want others to hit you, then you don't, you know, you don't do it to them.

A2 80 – 82: How would I like it if this was done to me? If I owned something and a visitor put it about her person without my knowledge or consent, I would worry where it had gone.

C7 57 – 58: We don't punch people because we wouldn't want people to come up punching us either.

Another commonality was that both ASP and Control group members also cited the rules applied to the 'convention' domain.

A1 218 – 219: ... if you are drinking soup you literally just do it with a spoon.

A8 256-257: If nobody saw Mary do it, no others would be affected ...

C2 525: In England we use a spoon.

C5 181 – 184: If she is on her own then she is not under the 'social rules' for a dinner party so she would be ok to drink from a bowl (it's her choice), ...

Another pattern emerged within the 'rules applied' sub-theme in which some members of the ASP cited unusual or irrelevant rules. This pattern was not seen with Controls.

A2 153 – 154: No-one wants to see a white globule of saliva floating around in someone else's glass so the best thing is to drink it and remove the eyesore.

A5 495 – 496: Depends whether the wrong was the "snorting and spitting" or drinking the water.

A5 530 – 531: Depends slightly on whether it were a female-type costume or trunks, but generally not within the spirit/ethos of a uni lecture.

A8 466 – 467: ... people don't wear swimming costumes because it's too cold.

Some participants from both groups highlighted the arbitrary nature of many social rules.

A5 115 – 118: ... certain things don't make a lot of sense. One might say, 'how are you?' for instance – which is a bit of a trite question because generally people don't want a truthful answer. It's just a convention, a way of greeting people, effectively.

C2 47 – 54: I was thinking that the answers did seem obvious to me, but then if I look at them in a logical fashion, they don't all have particular rules or constructs, actually. [.../...] it's just like what's the done thing in particular circumstances and there's not necessarily a simple and universal logic to why.

3.3.3.3 Conflicting rules

The ambiguous vignettes involved dilemmas over conflicting social rules. Sensitivity to the conflicts was shown by both groups, as discussed above (see section 3.3.2.1.2 'Harm'). A tension between respecting 'convention' and 'disgust' rules and the right to decide for one's self was also highlighted by members of both groups.

A1 433 – 434: It's your own spit, it comes from your own body, it just looks

gross. Medically speaking it's perfectly fine, you know, but again, socially, it's not acceptable.

C2 555 – 557: I really try to be well mannered whether I thought someone was watching or not. [...] I suppose if she's by herself then by my other rule, then she should be able to do what she likes, shouldn't she? She could be sitting there eating rotting meat straight from the bowl.

C5 328 – 330: There's a line when your right to do something ... it's fine in private but when it infringes on the rights of others not to view that sort of thing it gets a little bit grey and fuzzy.

3.3.4 Hierarchy of Authority

Patterns were seen with both groups, in which authority appears to come into play in different ways between the domains, and may be invoked at different levels.

Within the moral and ambiguous domains, the issue of authority appeared in discussions, beyond the question of permission. Participants from both groups said that proximal permission (e.g. from the sports club or parent directly involved) was irrelevant regarding moral transgressions. Permission was also generally deemed irrelevant in the 'ambiguous' domain, although it sometimes served to reinforce what the person would do anyway. Participants from both groups also appealed to a 'higher authority', such as religion, the law or other established rules, or even the intended victim.

A1 447 – 450: Even if her dad's like 'yeah you can take it' you still ..., you've got to think in the wider context of things. Because stealing is wrong. One, it is against the law, and morally it's wrong as well.

A6 370 – 371: Places can't give permission to break laws or morals.

C7 562 – 563: ... the physical damage or financial damage or emotional damage you are inflicting on somebody, that doesn't hang in our society.

[.../...] you sort of go back to the 10 Commandments if you feel so inclined. And these things are in there.

A7 346 – 348: Neil was right to do so anyway on a personal one to one basis. I don't think that the parents should have influenced his views, though I suppose it is something to bolster his argument.

C4 202 – 204: My worry in the whole situation was whose feelings are you going to be [.../...] affecting, or upsetting and where should permission come from, to do that?

However, also within the 'ambiguous' domain, for the vignette about AI telling his aunt she her hat makes her look ugly, negative cases were seen in which some members of the ASP group said that having the uncle's permission would make it alright to tell her.

A2 414 – 415: I picked the yes for AI's uncle because I can only imagine him encouraging it in a teasing way thus taking the edge off matters.

A8 161 – 163: I assumed the uncle knew the aunt better than AI did, and that the uncle wouldn't deliberately want to hurt the aunt. Also AI should respect his uncle's judgment above his own because of the uncle's greater age and experience.

For both groups, the 'hierarchy of authority' also appeared in 'permission' moderator responses for one of the 'disgust' vignettes (eating rotten meat), in which permission from the actor's mother was generally deemed insufficient, based upon common knowledge of medical opinion and evidence, Biblical admonitions or the law.

A1 44 – 45: Eating any meat that has gone bad will make you ill. This is based

on what doctors and food experts have always said based on evidence ...

A2 301: Your body is a temple – you should treat it with respect.

C2 353 – 355: there's not really any proper reason why he should be prevented from doing it. Except on grounds of hygiene. If the hygiene inspector was there, then maybe there's some law against it. I don't know.

In contrast, where drinking spit was concerned, participants from both groups gave mixed opinions about whether the host had sufficient authority to permit this behaviour, or local social norms (or individual repulsion) should trump the host's authority.

A1 100 – 102: If the host says it is ok because it is common practice in their country it is not ok because not everyone at that dinner party will be from that country and could find the practice disgusting and offensive.

A5 514 – 515: ... you don't know where all the guests came from, but if the host says, you'd expect him to take the flack for it. That's another thing to bear in mind.

C5 361 – 363: Whilst permission/it being common in the hosts country take away the social aspect of this (others being disgusted) - on a hygienic level it's still rather disgusting.

Both groups made distinctions in their evaluations of the two social conventions transgression vignettes. Opinion within both groups was split regarding whether Joe's teacher held sufficient authority to grant permission regarding dress code. Some members of each group expressed reservations on the grounds of potential distress to witnesses, or dodgy intentions on the part of the teacher.

A2 523 – 525: Even if the lecturer had said it was ok, it could still cause

distress to those who had to watch Joe ...

A6 285 – 286: The lecturer sets the boundaries in the class, although it's probably a sexual harassment lawsuit waiting to happen.

C1 317 – 318: If the lecturer is confident his class can work in swimsuits then so be it.

C8 306 – 307: I'd think the teacher was making an odd decision. And the teacher is saying something inappropriate there.

For the other 'convention' transgression, only ASP group members were split with regard to the hostess' permission for Mary to drink soup from her bowl. In contrast, consensus was seen among Control participants who said that permission would make it acceptable. For those in the ASP group who did not agree, disapproval was grouped around issues of etiquette and not offending the sensitivities of the other guests.

A1 35 – 36: I have always been told by my mum every since I was a child that doing things like drinking soup from a bowl at a dinner party with others present is quite rude and contravenes social etiquette.

A2 372 – 373: Who wants to look at someone looking like an animal or a toddler when they've got higher capabilities than both?!

C5 183 – 184: if the host of the party grants permission then those assumed dinner party rules are suspended - again making it ok.

3.3.5 Group Membership

Another difference between the two groups was seen in how participants described their group membership – or did not. Participants from the ASP group

explicitly expressed a sense of belonging to the 'Autistic Spectrum' group, as distinct from the 'neuro-typicals', while also emphasising the wide range of variation among people 'on the spectrum'. Members of the Control group did not explicitly express group affiliation for themselves, but some demonstrated group awareness.

A1 215 – 218: When I was little I actually did do that once when we had others for dinner. Wasn't a really formal dinner party, it was, we just had family over for dinner, but it still looked quite ... luckily the other people at the table understood. They knew I was autistic. They knew that I didn't understand.

A3 178 – 184: For you as a clinical psychologist to learn about the range of responses to social situations that people on the autistic spectrum have. It is such a wide range of people and we are all different.

A6 448 – 451: I think we associate 'getting it wrong' with quite serious consequences, the way that other people don't.

C2 28 – 30: It did make me realise actually some of it's quite illogical. (laughs) And I could see how if that didn't come naturally to you, I could see why you would have a problem.

3.3.5.1 Abilities and needs

Talk about the abilities and needs of members of the two groups was another pattern that set the groups apart. As with the overall group membership theme, some members of the ASP group explicitly evoked the abilities and needs of people with ASPs. This sub-theme was not seen with the Control group.

A1 187 – 191: ... obviously there is high end function of the spectrum, and the low end function spectrum, so it's probably about how people at different ends of the spectrum, how they deal with it and 'cause people at the high end of function

can do a lot of things, can deal with things.

A3 180 - 184: My reactions are based on having learnt certain rules and doing role-play at home and with therapists to try to help me fit in. But other friends on the spectrum would not answer like me because they have not had the same input from parents and professionals.

In one case an ASP group participant attributed the actor's behaviour to possible autism. Control participants did not do this.

A3 131 – 132: If Neil is autistic she is probably used to him making undiplomatic remarks.

3.3.5.2 Explicit versus implicit learning

Different patterns were seen in how participants from each group spoke about learning social rules. Some ASP group members appeared to say that because of 'having autism', they mastered these lessons later and as a result of more effort, explicit teaching and support than it would take for 'neuro-typicals'.

However, one ASP participant also described instinctive dress code understanding.

A1 157 – 161: ... at school, it was mainly classes and looking at certain situations and how you would ... and asking those kinds of questions, um, and so you would have to answer and they'd say, 'okay, no that's not *quite* the right way' so they would teach you the way. In terms of at home, it would be like, I would do something and my mum would say 'um no, that's not what you ... you shouldn't have done that because of this.'

A4 42 – 46: I didn't know straight away, the first time I ate around other people, that there were rules about what I'd do with my food, cause I thought it only mattered how I felt about it. I didn't understand that other people would

have an opinion on how I was eating, so I remember learning that lesson as a child.

A1 365 – 369: My instinct tells me that you wouldn't wear swimming costume to university. I don't know, it's just I suppose maybe I've been taught that, but I don't even remember being taught that; I just kind of picked up on ... when I've been in certain social situations that you wear these kind of clothes and you wear these kind of clothes here.

Members of the control group also talked about explicit and implicit learning and the notion that different lessons come at different developmental stages, but appeared to say that these lessons are simply learned in the normal course of things.

C5 295 – 297: If you imagine a child at a dinner party they are not going to be concerned not to eat with the wrong fork or not to pick up their bowl or not to shout loudly. A child will very quickly learn that stealing is wrong, hurting others is wrong.

C8 581 – 586: You really have to think about things in slightly different ways, when you are teaching [*children*] the right thing to do, the ways to behave in society, really, amongst other people. That was a thing I got from your questions was it's how we, in society we accept things as the norms, and often we do forget, why, how these things have got, how these sorts of norms have become the norms.

3.3.5.3 Thinking style

This sub-theme combines extracts about different styles of thinking in relation to social behaviours and relations. Both groups talked about 'thinking styles' that might be considered stereotypically 'autistic' (characterised as 'black and white', 'rigid', unable to access multiple perspectives, for instance). 'Child versus adult'

thinking was also evoked by members of both groups. ASP group participants also demonstrated awareness of and ability to make use of more than one style.

A1 200 – 201: Because I'm autistic, I'd look at things black and white, but I've learned to look at complex things.

C7 28 – 30: Social judgment. [.../...] given situations which I might maybe see variations for, but someone locked into an autistic situation might find extraordinarily difficult.

A2 88 – 101: Every civilised culture agrees that stealing is wrong. I don't see why an Aspie should struggle with that, unless they are like, if you remember Luke Jackson, the teenage boy who was writing about his Asperger's 10 years ago [.../...] He'd just walk into people's rooms and take their things: the six siblings, the mother. But if you said to him, 'how would you like it if I walked into your room and took your toys?' It means nothing to him because he's got no sense of ownership.

A5 239 – 241: I'd be interested to know whether you think that people take these sorts of things for granted more in adult age or in childhood really, [.../...] I'd certainly say that I take these things more for granted in adult years.

C7 126 – 128: Again, it's age related: was he old enough to make a judgment? Was he mentally competent to make a judgment? The fact that he can't make a judgment explains him doing it but doesn't make it right.

One marked negative case was seen within this sub-theme. Along with quotes as above, which implied that multi-factored and nuanced social judgments do not come 'naturally' for them, members of the ASP group also spoke of using 'common sense' in their decision-making. Only one Control group participant spoke of this explicitly.

A1 363 – 364: I think that's basically common sense, you don't wear swimming, I mean when you're at home and you're on your own you can pretty much wear

what you want.

A3 17: I just used my common sense.

A5 268: Common sense

A8 15 – 17: To see how able I am to assess social situations and to know when to follow strict logic and when to use my common sense. You know? To what extent have I got common sense?

C7 104: Common sense, and consideration for others.

3.3.5.4 Thinking processes

Participants from both groups were able to describe their thinking process, with regard to their evaluations or more generally. Members of both groups also drew on their own experiences to guess what the protagonists might think or to evaluate their behaviours.

A4 158 – 165: I remember sitting there and people walking in and maybe wearing something that was unusual or outlandish [.../...] people would be thinking there was a reason for it and they would be trying to figure out the reason. It's not the swimming costume, it's the reason that they thought its being done that would bother them.

A6 80 - 94: I spend, or have spent quite a lot of time analysing what people do [.../...], and try to make sense of them and find algorithms, I suppose to explain them. [.../...] I developed one for when someone is telling me something that seems unlikely. That you don't think that they would be lying, it seems out of place for them to be lying or it seems like an un-necessary risk for them to be taking where I ask myself what someone could gain by lying. It's uh, it's often quite shocking, the idea that you could be lied to. So you tend not to accept it, but then if you can see what someone has to gain by

them telling you something and you believing it then ... how it affects your behaviour and your choices, then it can make it a lot clearer. Or at least highlight the risks.

C4 6 – 7: I found myself, mostly asking myself whether I was making the right assumptions whilst doing the tests.

C6 36 – 37: There's social situations that I've been socially put in and my answers probably related to how I would follow it in those kinds of situations.

3.3.6 Summary of thematic analysis

An overview of the thematic analysis shows that important similarities and differences were seen in how both groups spoke about their evaluations. Similarities were seen across all themes, such as talk about how knowledge of circumstances could help to understand and possibly mitigate transgressions. Both groups also associated different types and degrees of 'harm' with different domains and demonstrated empathy with victims of 'harm'. Both groups shared the notion that reputation might be actively managed.

A number of subtle differences were identified within domains, in consideration of moderating factors, such as 'permission'. For instance in the theme of 'hierarchy of authority', a pattern was seen within the Control group data set wherein, except in cases of potential harm, permission from authority figures would generally be sufficient to render the transgression acceptable. A different pattern was identified within the ASP group where participants expressed mixed views regarding permission (except in cases of potential harm), but tended to accord more weight to the proximal authority in the 'ambiguous' vignettes and less weight in the 'convention' vignettes.

Another difference was that, although both ASP and control group members considered social chaos as an eventual consequence of 'moral' violations, only ASP group members also evoked social cohesion regarding 'convention' breaches, while only control group members with 'disgust' transgressions. ASP

group members also evoked humiliating personal consequences of social transgressions, thereby demonstrating concern for their personal reputation. Control group members told amusing anecdotes about their *faux pas*.

Differences were seen in 'rules' applied to the 'convention' and 'disgust' domains, with ASP group members evoking additional rules, which might be considered unusual or irrelevant (e.g. whether it was a man's or woman's swimming costume). Further difference was seen in 'universality' of some types of rules in which Controls also talked about the wider context of rule making.

Members of the ASP group described ASP 'group membership', as distinct from 'neuro-typicals' in terms of social abilities, the types of learning involved in the acquisition of social skills, and thinking styles. However, while expressing a sense of belonging to a distinct group for whom 'typical' thinking styles do not come naturally, a negative case was seen where ASP group participants also spoke of using 'common sense' in making their evaluations. Members of the Control group, did not explicitly express their own group affiliation, but did show group awareness.

It is important to remember that the above thematic analysis should be taken within the context of the historic tension within qualitative research between individual accounts and wider patterns of meaning. The aim here has not been to produce a flattened and homogenised reading of the data, but rather to show the richness patterns of similarity and difference found across the individual accounts of participants within and between groups.

As such, it is important to bear in mind that qualitative findings are not assumed to be transferable beyond the participants themselves. However, across the data set, trends and patterns may be usefully identified and used to generate further ideas to be taken forward in subsequent quantitative and qualitative research.

CHAPTER 4: DISCUSSION

The aims of this study were to explore how social evaluations are made and spoken of by individuals with and without an ASP, and if there were differences

between their approaches under key constraints or conditions. The position adopted by the researcher was that social evaluation is underpinned by an interaction between neuro-cognitive processes and the environment, through which social knowledge may be developed and social interactions may be understood. Such knowledge may be considered as simultaneously personal and social, and may be applied in ways that are specific to the individual as well as being socially and culturally determined.

Further aims of this study were to explore the 'observer effect' and to pilot a survey tool intended to assess this. Studies with TDI participants suggest that images of eyes can provide triggers to a moral judgement component of reputation management (Haley & Fessler, 2005; Kurzban *et al.*, 2007). The question of whether this is also the case with individuals with ASPs has received little attention from researchers to date. To provide a quantitative measure of participants' views regarding the influence of observation upon acceptability of behaviour in the different situations, participants were asked to re-evaluate whether the behaviours were acceptable in consideration of an 'observation' moderating factor. If 'convention' violations are mere breaches of social norms and rules, with no tangible victims, it might be expected that private engagement in such behaviours might be judged less harshly.

The current research primarily addressed the following question:

1. How do members of each group talk about their social evaluation processes?

Secondary questions were:

- a) How do individuals with and without diagnoses of HFA or AS perform on social evaluation tasks?
- b) Do surveillance cues (such as an image of eyes facing in one's direction) provide triggers to reputation management for individuals with and without ASPs as well as TDI individuals?
- c) Does the survey tool reflect the effect of surveillance cues, if there are any?

The main findings with regard to each of these questions will be presented, with reference to theory and previous research. To address issues of social evaluation, quantitative results will be discussed first. Qualitative findings for the primary question will necessarily include discussion of question a). To address the observer effect, reputation management and whether the survey tool is adequate, again discussion of the quantitative findings will be followed qualitative findings. The limitations will be discussed throughout the chapter and summarised prior to the Critical Review sub-chapter. Clinical and future research implications, followed by personal reflections section will close the chapter.

4.2 Social evaluation results - How do individuals with and without diagnoses of HFA or AS perform on social evaluation tasks?

4.2.1 Quantitative findings – frequency data

Frequency data suggests that both groups made comparable evaluations between all four domains in absence of moderators. Comparisons between-domains indicate that, in line with previous findings (Nichols, 2002; Zalla *et al.* 2011), both groups appear to rate the ‘moral’ domain behaviours as unacceptable even with moderators, while moderators appeared to increase the acceptability of ‘convention’ transgressions. Such findings would conform to a body of evidence suggesting that individuals with HFA or AS perform comparably to TDI individuals in tasks of basic moral reasoning, as illustrated by the theorised ‘moral’ and ‘convention’ distinction (e.g. Blair, 1996; Leslie *et al.* 2006; Zalla *et al.*, 2011).

The frequency data further appear to suggest little-to-no within-group differences between ‘moral’ and ‘disgust’ domain behaviours, the latter of which also remained unacceptable even when considering moderators. This would be consistent with Nichols (2002), and Zalla and colleagues (2011) whose two groups also evaluated ‘convention’ transgressions as more ‘authority’ contingent¹⁰ than ‘moral’ or ‘disgust’ transgression. Scale ratings of ‘seriousness’ (acceptability) will be discussed below.

¹⁰ Zalla and colleagues did not include an ‘observation’ moderator in their study.

In contrast to Zalla and colleagues (2011), who showed no between-group differences regarding 'permission' in any domain, the current results point to a trend for the 'permission' moderator of the 'convention' domain, with members of the ASP group giving more 'no' (the behaviour remains unacceptable) answers than Controls. This would suggest that while, in line with predictions by Smetana and Braeges (1990), ASP participants rated 'convention' transgressions as more 'permission' contingent than 'moral' transgressions, they did so to a lesser extent than the Control group.

A number of factors might account for this difference. One possibility is that this could be a sample size artefact that might disappear with a larger group. Alternatively, it may be that, in contrast to controls, some ASP members did not consider that (in absence of further information) permission trumps the basic interdiction in this domain. Frith and Frith (2008b) hypothesise that individuals with an ASP might be relying upon more explicit, conscious processing routes when engaging in social evaluation. It has also been proposed that explicit routes are limited in terms of how many variables may be weighed simultaneously, and that the role of affect is to assist in prioritising some variables over others to facilitate decision making in the broadest sense (Damasio, 1994). If this is so, perhaps 'convention' transgressions, which are theorised to lack an affective component (Blair, 1992; Nichols, 2002), force a return to a default position that transgressions are unacceptable, full stop. This might suggest that individuals without an ASP might implicitly access a sort of non-affect based heuristic hierarchy enabling them to determine that, for instance, permission overrides the basic prohibition.

The 'ambiguous' domain in this study is an innovation with regard to previous protocols and thus cannot be directly compared to earlier findings. It is designed to create a conflict between 'moral' rules about honesty and 'convention rules' about setting. As such, these vignettes do not aim to elicit easily determined evaluations. There are no 'right' answers in the absolute and thus subjective and idiosyncratic evaluations would be anticipated from members of both groups.

Evaluations for this domain appeared to be comparable between groups, again except regarding the 'permission' moderator.

The reverse pattern to that seen in 'convention/permission' was seen in the 'ambiguous' domain. ASP group participants gave fewer 'no' responses in association with the 'permission' moderator than Controls. One possible explanation might be that some ASP participants might have given weight to 2nd party opinions in making their 'ambiguous' domain evaluations, while this moderator was associated with little to no change in Control group evaluations. Bartlett (2010) noted that, despite performing comparably to controls on quantitative social coordination tasks, her participants with ASPs expressed a lack of confidence in their social skills. It is possible that a similar lack of confidence, when faced with more complex social evaluation scenarios, might explain the current findings. This raises a question of how a lack of social confidence might be understood within the context of the wider cultural narrative concerning the (lack of) social abilities of individuals with ASPs, with clinical implications, which will be discussed below (section 4.8).

4.2.2 Quantitative findings - acceptability scale data

Following the protocol used by Nichols (2002), a Likert scale was used to address the degree of 'acceptability' of behaviours in absence of moderating factors. Means and standard deviations were calculated for each group. Although, inferential statistics are not reported for the current study, the groups' means for each domain do not appear to indicate between-group differences. This appears to contrast with Zalla and colleagues' (2011), who found that ASP group participants rated 'convention' and 'disgust' transgressions as significantly more serious than controls did.

Within-group ratings between domains, however, suggest that both Control and ASP group members appear to distinguish between the 'moral' and all other domains in terms of how acceptable they found the behaviours. 'Moral' transgressions were given lower ratings than those from the other domains. 'Disgust' rating means were lower than, but much closer to, 'Convention' ratings.

This trend would appear to conform in part to findings by Zalla and colleagues (2011), who found significant differences between the ‘convention’ and ‘disgust’ domain means with the TDI group, but not with the HFA/AS group, highlighting the need for further theoretical and experimental work regarding the distinction between these domains.

4.2.3 Qualitative findings - question 1

An overview of the thematic analysis shows that important similarities and differences were identified in the ways the two groups talked about the social evaluations they made.

4.2.3.1 Mitigating circumstances

A general recognition of the complexities of social interactions was seen in talk by both groups. In this regard, knowledge of the situation and the cultural, relational and other contextual factors in which the transgressions occurred, appeared to be considered important in reaching a fair evaluation of the behaviour. Moreover, different types of mitigating circumstances, or different combinations thereof, appeared to be associated with the different domains. For instance, while ‘upbringing’ and ‘education’ were seen in all domains, ‘relational’ context was spoken of by members of both groups in regard to the ‘moral’, ‘convention’, ‘ambiguous’ transgressions. ‘Socio-cultural’ factors and ‘norms’ were spoken of in regard to ‘convention’ and ‘disgust’. Although grounded theory method was not employed in the current study, such evidence might provide a base for theoretical refinement in the area of social evaluation. This could be an area for an alternative analysis of the current data.

Consistent with previous findings with regard to moral transgressions (Hollos *et al.*, 1986; Snarey *et al.*, 1985; Song *et al.*, 1987), hitting and stealing, and causing emotional harm *without provocation*, were said to be unacceptable. In this sense, the ‘motives’ sub-theme identified in talk by members of both groups appeared to be a crucial factor, especially in evaluating the ‘moral’ vignettes. Because of the ‘moral’ element in the ambiguous domain vignettes, ‘motives’ (and more especially, assumed ‘benevolence or malevolence’ of protagonists’ intentions),

might have aided in weighing the two transgressions against each other. However, 'motives' was also seen in connection to the other two domains when potential harmful consequences were discussed. On the basis of these findings, one might hypothesise that differences between TDIs and high functioning individuals with ASPs, in terms of ability to engage in sophisticated, multi-factorial social information processing, may in some case be smaller than generally assumed. This might be explored through further qualitative research and tested using quantitative methods.

4.2.3.2 Consequences

A theme that was identified across all domains, in talk from participants from both groups, was 'consequences'. A primary category of 'consequences' was the sub-theme of 'harm' (which might result from the behaviour). Further patterns of 'consequences' talk involved considerations locating the harm. Harmful consequences were identified at different levels: to society, to others, to the protagonist. A special case of 'consequences to self', regarding reputation, will be discussed in relation to the second research question for this study (section 4.3.2).

4.2.3.2.1 Harm

Members of both groups dealt in a sub-theme of 'harm', which appeared to reflect distinctions between the domains, as predicted theoretically (e.g. Piaget, 1932; Kohlberg, 1977) and supported empirically (e.g. Blair, 1996; Nichols, 2002; Zalla *et al.*, 2011). Types and degrees of harm appeared to be among the most important factors to consider when evaluating transgressions. Participants from both groups described 'convention' transgressions as more inappropriate than harmful - although some participants did also speak of milder forms of potential harm, such as distress to others or damage to the protagonist's reputation (see below for the latter). This also indicates the need for further work regarding basic conceptualisation of the 'moral'/'convention' distinction in terms of victimisation, as suggested above.

Nichols' (2002) 'norms with feeling' theory does not claim to account for a 'moral'/'disgust' distinction. The use of the RVP in the current study, however, provided opportunities for participants to talk about the bases for their distinctions. 'Harm' appeared to be the distinguishing feature of 'moral' transgressions. With the 'disgust' domain, members of both groups evoked a hygiene risk to the protagonist's health (which, as potential harm, might be construed as a specific type of 'affect trigger'), which they said influenced their evaluation of the rotting meat scenario and, to a lesser extent, of drinking spit.

4.2.3.2.2.1 Consequences to society

Societal consequences, such as anarchy, were evoked by members of both groups as reasons why 'moral' transgressions are forbidden. Similar talk about social cohesion was seen from Control (but not ASP) group participants in regard to harm prevention within the 'disgust' domain. Only ASP group participants gave social harmony as a reason for respecting social conventions. This is interesting, given that facilitation of social interactions may be the *raison d'être* for social norms. One hypothesis might be that this could be so deeply engrained within most typically developed individuals that it becomes implicitly understood, whereas for individuals who struggle with the subtleties of social rules may need to hold such knowledge more explicitly. This may be an area for further qualitative and quantitative study.

4.2.3.2.2.2 ... to others

Extracts from the 'consequences to others' lower-level sub-theme appear to show participants from both groups adopting various empathic second and third person perspectives when talking about their evaluations. These findings would present a challenge to ToM theories of autism (e.g. Baron-Cohen, 1995) which explain the difficulties experienced by people with ASPs as deficits in ToM. The findings might, however, provide support for a modular (rather than unitary) explanation of ASPs (Happé, 2006), which predicts that a number of cognitive processes would be involved but in various combinations, allowing for individual differences.

It has been suggested by some that the ability to adopt the victim's perspective may be crucial in the acquisition of moral reasoning (Kohlberg, 1981) and that moral judgment is likely to involve ToM-like processes (Smetana *et al.*, 2012; Young *et al.*, 2007). Other theoretical frameworks (e.g. Blair, 1992) hold that neither ToM nor empathy is prerequisite to the development of moral emotions. Nichols (2002) and Leslie and colleagues (2006) suggest that ToM and basic moral judgment develop independently but interact with each other. Their theories emphasise two complementary components of moral judgement: affect and learned social norms. The current study does not aim to directly address this debate. However, the survey tool would require the ability to adopt another's perspective in order to successfully negotiate the tasks. As such, the survey draws upon ToM-like capabilities within the context of more complex, multi-factor social problem solving.

Different types of 'consequences to others' were described by members of both groups across all domains. This appears to support the theoretical prediction that victimisation is a basis for the 'moral'/'convention' distinction (e.g. Kohlberg, 1977; Nichols, 2002). This might also suggest that refinement of this distinction might be necessary in that 'convention' transgressions seem likely to result in a lesser degree of victimisation, which might explain why such transgressions appeared to be associated with less absolute disapproval. The findings might also provide support for explicit and implicit processing that might be involved in weighing affective responses against learned social rules, consistent with Nichols' (2002) sentimental theory.

4.2.3.2.2.3 ... to self

While participants from both groups spoke of harmful consequences for the protagonist (e.g. punishment such as being hit back, jail, social exclusion), an important difference was seen in this sub-theme. ASP (but not Control) also participants cited practical considerations and potential humiliation in the context of 'convention' transgressions. Although Control participants also told stories about their own social mistakes, there was no talk of humiliation or shame associated with these. One might easily imagine that a repeated experience of

being singled out for ‘not getting it right’ in social interactions could lead to strong feelings of humiliation and shame with further consequences in regard to social confidence and self-image.

Extracts from talk regarding the ‘disgust’ domain reflected both concrete consequences to health (evoked primarily by the rotting meat transgression) and less tangible consequences to the social faux pas element of drinking spit. Participant talk suggests that they may not have not conceptualised both transgressions as belonging to the same domain, and thus as equivalent for purposes of this study. This possibility will be further discussed within the ‘social evaluation task’ section of the ‘Limitations’ sub-chapter below (pp. 99-100).

4.2.3.3 Rules

‘Rules’ are described as the ‘normative theory’ element of Nichols’ (2002) model, and may shed further light on domain distinctions. ‘Moral’ rules, which govern negative affect-triggering behaviours, might be expected to be more absolute or less dependent on permission or contextual considerations such as intentions – e.g. Nichols, 2002) than rules regulating behaviour in non-affect-triggering domains. In Zalla and colleagues (2011), ASP participants did not distinguish between ‘moral’ and ‘convention’ transgressions in their explanations of why the behaviours were wrong (tending to favour explanations in terms of ‘rules’ in both cases), while control participants cited ‘other’s welfare’ reasons for condemning ‘moral’ transgressions and ‘rules’ for breaches of ‘convention’.

4.2.3.3.1 Universal versus subjective

In the current study, however, participants from both groups appeared to express similar ideas about the comparative universality or subjectivity of rules in regard to the different domains. However, while ASP group members spoke of whether a universal or subjective rule applied, Control group members broadened their talk to include the wider rule-making context. Taking the ‘meta’ reflective stance, enabling the identification and categorisation of rules applied, would require

conscious, explicit consideration of the topic, and members of both groups were seen to do this.

4.2.3.3.2 Rules applied

Zalla and colleagues (2011) correlated over-application of 'rules' by their ASP group members in the area of 'justification' with poor performance on a test of ToM. The current study participants from both groups discuss the impact of behaviours upon third parties, thus demonstrating mentalizing capabilities and the ability to apply these in all domains. However, the unusual reasoning applied by ASP members in this study again could suggest that they may have used a different processing strategy to reach similar conclusions to their Control group counterparts.

A possible clue regarding a different processing strategy might lie in the largely arbitrary nature of 'convention' rules, described by participants from both groups. In this domain, some ASP participants evoked story specific variables (e.g. practicalities or type of swimming costume), rather than applying broader principals (e.g. dress-code is setting specific) to explain why the 'convention' transgressions are unacceptable. This may raise the possibility that they adopted such a strategy to compensate for a lack of either clearly logical or affect-triggering harm-based rules. The same pattern was also seen talk by some ASP group members regarding the 'disgust domain'/'drinking spit' vignette, and is consistent with the hypothesis that they might have been responding to the social convention element in that the spit story. Perhaps, in the absence of other guiding factors, these participants might 'zoom in' to the story detail rather than remaining at the level of broader principles. Seen with the context of Kohlberg and colleagues' (1977; 1969) developmental stages of 'justice reasoning' theory, one might hypothesise that use of such strategies by people with ASPs might be an indication that automatic, underlying processes are either not being engaged, or are being over-ridden by explicit application of knowledge specific to the situation. This may be another area for further quantitative testing.

4.2.3.4 Hierarchy of authority

Authority contingency is theorised as another aspect of a ‘moral’/‘convention’ distinction (Smetana, 1985; Turiel, 1983). On this basis it is predicted that the latter domain would be considered acceptable when permission is given by a figure of authority, whereas the former would not. Zalla and colleagues (2011) tested this in their ASP and Control groups, using a ‘yes’/‘no’ question. They found this distinction to be made by both groups. In comparison, qualitative data from the current study appears to reveal a nuance, which would not have appeared in their study due to the binary nature of the responses.

In the current study, members of both groups said that permission from the sports club or father could not outweigh one’s moral obligation to not harm others. The same reasoning was also applied with regard to the ‘ambiguous’ domain vignettes, in which the moral imperative outweighed ‘convention’ considerations. However, in talking about ‘why’ they felt that permission from the proximal authority did not change their evaluations of ‘immoral’ behaviour, participants from both groups cited prohibitions by ‘higher authorities’ (e.g. religious teachings, the legal code), suggesting that the issue of authority might remain relevant when justifying moral decisions.

Opinions within the ASP group varied with regard to whether ‘convention’ transgressions are authority contingent. While there appeared to be implicit recognition that these behaviours are not comparable to ‘moral’ transgressions in degree of harm, some ASP participants still expressed concern for witnesses who might be distressed by the behaviours. Others remained committed to the original etiquette rule. This contrasted with control group members who said that Mary’s dinner party host may authorise drinking soup from the bowl. Opinion was divided within both groups in regard to the teacher permitting dress-code violations. Again, low-level harm (distress to witnesses, disruption of the learning environment) was cited by participants from both groups.

Taken across domains, participants from both groups appear to suggest a sort of hierarchy of authority where transgressions were concerned, with ‘moral’ (and morality related) transgressions situated at the top, which may only be over-ridden

by higher authority. 'Disgust' transgressions also appear to depend on a high-level authority to give or deny permission, but in the form of scientific evidence, with injunctions against harm also being spoken of as highly relevant. Violations of 'convention' on the other hand appear to be highly dependent upon proximal authority, and may become more acceptable when permission is given at this level. Although this is largely in line with previous findings and theory, data from the current study appears to highlight the subtleties which might be involved in consideration of this aspect of social evaluation. Moreover, the findings suggest that although both groups may reach broadly similar conclusions, the groups differed in their explanations of 'convention' evaluations.

4.2.3.5 Conclusion: How do participants with and without diagnoses of ASPs perform and speak about social evaluation?

Analyses of the data sets of the current study suggest that the performance of and discussion about the social evaluation tasks by participants from both groups appeared to be similar in many ways. Members of both groups appeared to make the 'moral'/'convention'/'disgust' distinction. However, members of the ASP group tended to vary more with regard to whether they made the distinction on the bases predicted theoretically, especially with regard to the 'permission' moderator.

HFA and AS group participants in the Zalla and colleagues (2011) study were found to be sensitive to rule violations overall. However, compared to controls, they did not use relevant information regarding intentions and affective impact of transgressions in forming their evaluations. From this, these researchers concluded that poor performance by their ASP participants in providing appropriate moral justifications and seriousness ratings might be explained by selective impairment to a cognitive appraisal system.

In the current study, talk by HFA/AS group participants showed them taking a variety of factors (including motives and consequences) into account when evaluating transgressions. This would contrast with the above findings. In common with Zalla and colleagues (2011), however, some ASP group participants in the current study appeared to show unusual reasoning in vignettes

containing a strong ‘convention’ element, and in absence of ‘harm-based’ variables.

In line with a modular view of social cognition (Happé *et al.*, 2006), and more specifically, a modular view of social evaluation, and in line with Nichols’ (Nichols, 2002) ‘norms with feelings’ theory, this raises a question of whether, in absence of affect-triggers, adults with ASPs might rely on explicit strategies, such as focusing their attention at the narrow details specific to the task, rather than applying broad principles as they appear to do elsewhere. This suggestion, while based upon a very limited data set, may point to an area warranting further investigation.

4.3 Do ‘eyes’ provide triggers to a moral judgement component of reputation management for individuals with and without ASPs and does the survey provide a useful tool for this line of investigation?

4.3.1 Quantitative and quantitative findings

Evolutionary psychology would predict that “natural selection can be expected to have shaped human psychology to be exquisitely sensitive to cues that are (or were, under ancestral conditions) informative with respect to the likely profitability” of pro-social behaviour (Haley & Fessler, 2005, p. 248). Studies with TDI participants (e.g. Bourrat *et al.*, 2011) have shown surveillance cues to be associated with greater disapproval of anti-social behaviour. Izuma and colleagues (2011), however, found that live but ‘distant’ observation did not influence charitable behaviour of ASP group participants.

To assess whether social evaluations would differ in association with the presence or absence of ‘eyes’, frequency data from the pilot survey was collected. Totals for each group were compared across the conditions. In the ‘moral’ domain no difference is seen for either group. Because both behaviours were universally condemned, neither could be evaluated more severely. This was an exception to an overall pattern for both groups in which greater numbers of ‘no’ answers were associated with ‘no eyes’ than with ‘eyes’ conditions. Thus for both groups, transgressions were rated as *more* allowable in the ‘eyes’ condition, which appears to contradict theoretical predications and previous research.

One possibility is that these findings might be due to differences between the actions presented in the 'eyes' and 'no eyes' condition. For instance, in the disgust domain 'eyes' were paired with the vignette about drinking spit, while the 'no eyes' story involved eating rotting meat. While both actions elicit disgust, consuming rotting meat is potentially more dangerous than drinking one's own spit, so it might not be surprising to see drinking spit ('eyes') judged less harshly. Closer examination of the 'disgust' data shows that evaluations of the basic vignettes (with no moderating factors) change only slightly between conditions. It is only when moderators are taken into account (permission granted or lack of witnesses), that the frequency of 'not acceptable' responses go down for drinking spit although not for eating rotten meat. Thus the pattern seen for the 'rotten meat' vignette (for both groups) mirrors that seen in the 'moral' domain. The pattern seen for both groups for 'spit' resembles that seen in the 'convention' domain. These patterns might be consistent with the explanation of a mismatch in behaviours within the domain which might have led participants to conceptually link them with the other domains, and apply rules appropriate to them rather than to the 'disgust' domain. The 'ambiguous' domain vignettes present a similar discrepancy, possibly for the same reason. It is in regard to this question that the value of qualitative data is really seen. In both of these domains talk from some participants from each group appeared to show conceptual links suggesting this to be the underlying problem with the vignette matches.

If this interpretation is correct, and qualitative data from both groups suggests that it is, this would present a confound which would damage the validity of the tool. Such a confound could be addressed through the use of more closely matched transgressions. For the 'moral' domain, a pair of less extreme transgressions (perhaps involving lying?) could allow for a range of responses between conditions and within domains. An alternative, and perhaps complimentary, strategy could be to double the versions of the survey so that all vignettes were presented in both conditions. However, larger participant groups than those in the current study would be needed in order for each vignette to be used at least twice by each group. Because of this potential confounding factor, quantitative results from this study regarding the influence of 'surveillance cues' must be considered to be inconclusive.

However, the finding that participants from the two groups do not differ in their responses between conditions raises interesting questions. Although it cannot be ascertained whether or not participants were influenced by the presence or absence of 'eyes', with an adjusted survey tool it would be interesting to see whether this pattern is replicated. Should it be, such a finding might present a challenge to the widely held view that people with ASPs find eye contact difficult. Between-group performance similarity could also suggest that cognitive processes underpinning the observer effect might be independent of those resulting in characteristic autistic presentations.

4.3.2 Qualitative findings – 'Observer effect' and reputation management

A special case of 'consequences to self' was identified in the qualitative data. This concerned the lower-level sub-theme of 'reputation and impression management'.

An interesting finding arising from the qualitative data is that members of the ASP group demonstrated awareness of reputation issues in much the same way those from the Control group did. Members of both groups expressed the idea that reputation may be actively managed, and that observation was another basis for distinguishing between 'moral' and other domains. For the ASP group participants this is in stark contrast to what would be expected on the basis of ToM-based theories (Baron-Cohen, 1995), which predict that individuals with such presentations would not be able to represent others' mental states or views, and thus would be incapable of calculating the effects of their own behaviour upon the opinions others form about them. One might hypothesise that rather than being 'insensitive' to reputation issues, compared to TDIs, people with ASPs may struggle more with real-time, automatic processing of the multiple layers of social computation tasks involved. This warrants further quantitative investigation.

This finding also raises questions for future studies about whether such awareness might also be found in less able individuals with ASPs, and regarding the sorts of factors which might help or hinder both awareness and the ability to

calculate reputational effects in real-time in order to enhance reputation management.

4.3.2.1 Effects of observation on own performance

The debriefing interview explicitly asked the question of whether participants thought that their own behaviour would be affected by being watched. Difference of opinion in this regard was seen within both groups, with some participants saying that they might be swayed by concerns about what the observer might think of them, while others categorically stating the opposite. Significantly, however, ASP group members who felt that they were likely to be swayed also described feeling anxious about performing under scrutiny, thus demonstrating concern for others' opinions of them.

These findings may present a direct challenge to the assumption that individuals with ASPs do not attend to others' opinions of them, as discussed in the Izuma and colleagues (2011) paper, "Insensitivity to social reputation in autism", which concludes that their results suggest that people with autism cannot take into consideration others' view of them. It is possible that, while not being 'insensitive' to social reputation, people with HFA or AS may respond to more direct triggers but miss more subtle cues. Such an explanation would again be consistent with the hypothesis that implicit and explicit information processing routes are involved in mediating the tasks of reputation management (Chiu *et al.*, 2008; Frith & Frith, 2008a). Another, perhaps complementary, explanation may lie with the hypothesis of modular, rather than unitary, functions working together in the performance of reputation management tasks, as have been proposed with other social cognition domains (Happé *et al.*, 2006).

Current findings also compare to Kurzban, DeScioli & O'Brien (2007, p 81), whose qualitative data indicated that none of their participants believed that observation had any bearing on their punishment decisions. The authors suggested that this was due to either self-presentational concerns (not wanting to appear to be punishing only because they are being watched) or a genuine lack of knowledge of their own motives. Either possibility might also explain those participants in the

current study who stated that they would not be influenced. Cross-analysis of the quantitative and qualitative data from the current study (applying a content analysis methodology) might allow for a clearer picture regarding the fit between what participants did and what they say they did.

4.3.3 Conclusion – ‘Observer effect’, reputation management, and the survey pilot

The quantitative results of the current study do not provide clear support for eye images as a trigger for the ‘observer effect’ in the current groups, or for use of the survey in its current form to assess this effect. The qualitative data however, indicates that individuals with HFA and AS are aware of, and engage in, reputation management. The current findings might provide support for the hypothesis that individuals with ASPs may be making use of different processing strategies to arrive at the same result as their TDI counterparts.

4.4 Overarching theme: ‘group membership’

The theme of ‘group membership’ was seen to span both questions of social evaluation and reputation management, and was an area of contrast between the two groups. Members of the Control group, did not explicitly express their own group affiliation, but appeared to show group awareness. Members of the ASP group, however, expressed a sense of belonging to their group, which they associated with particular styles of thinking, as well as specific educational needs. They appeared to associate ‘getting it wrong’ with humiliating consequences, in ways that Control participants did not.

While implying that ‘thinking like neuro-typicals’ does not come naturally to them, ASP group members also spoke of using ‘common sense’ in their evaluations. This negative case suggests a similarity between the two groups, which may be overlooked or under-estimated within the broader social narrative about ASPs.

In the current study, the critical realist position allowed for data analysis at a semantic level, while recognising that between-group differences in terms of what individual participants said may also be considered to arise within a specific socio-

cultural context. Thus, for example, a sense of membership (explicit or implicit) within the ASP group might be a consequence of being socialised into the statutory services system (all ASP group participants had been given a diagnosis), which brings a particular conceptual framework and ideas about what autism 'is'. Even those who had been given this diagnosis as adults, appeared to draw on this framework in order to make sense of their own ways of understanding and being in the social world. The negative case highlighted above raises questions about this 'accepted' narrative regarding ASPs and disability, and the possible limiting effects that these may have upon individuals receiving diagnoses. Clinical implications thereof will be discussed below (p. 105).

It is important to bear in mind, however, that all participants were aware from the recruitment material that this study would be looking at performance of social evaluation by persons with and without diagnoses, and this information is likely to have had some effect on participants framing their own performance within one or the other category. It is possible that if this had not been expressed in the information sheet or poster that this particular distinction might not have arisen.

4.5 Conclusions

Social evaluation tasks require the integration of multiple information processing strands: circumstantial, cultural, relational contexts, with relevant normative rules, as well as one's emotional response to the situation. Reputation management adds another layer of processing. King-Casas *et al.* (2005) suggest that this processing would mostly occur automatically and implicitly, but that automatic processing may be consciously and explicitly over-ridden if need be. Frith and Frith (2008b) propose that it might be with precisely this automatic processing that individuals with ASPs have difficulty, leading them to rely upon conscious, explicit calculation. They agree with Izuma and colleagues (2011) who suggest that individuals with an ASP may rely upon alternate processing routes to arrive at similar behavioural results to control participants. From the qualitative and quantitative data it appears that both groups in the current study accessed largely the same kinds of social knowledge and empathic positions to make their

evaluations of 'moral' transgressions. Differences were seen in regard to 'convention', perhaps due to reliance upon explicit processing routes, which might lead to over-application of normative rules by ASP group members

If, as suggested, the two groups might be drawing upon different strategies the current study could add to the evidence indicating that these may still lead to a shared body of social knowledge being accessed, as indicated by largely comparable social evaluation behaviour by both groups, seen in the quantitative findings.

4.6 Limitations

4.6.1 Sample

The ASP group for this study was comprised of volunteers recruited via the internet, word of mouth, and from previous samples taking part in research at UEL. The group is therefore affected by a sampling bias towards participants interested in research, active in the autism community, and having internet access. The self-selected nature of the group suggests a certain confidence in their abilities, which may be related to previous educational and professional achievements, and might not have been seen in a sample recruited through statutory services. All members of the group were white British with a large majority of men. As such, the group cannot be considered to be representative of the wider British population of people with ASPs.

Although the sample sizes ($N = 8$) were small for quantitative research (and slightly smaller than previous studies, e.g. Izuma *et al.* 2011; Zalla *et al.*), this would be considered adequate for a pilot and for exploratory qualitative research. To increase potential participant pool, the on-line tools were developed. This allowed for participation by individuals who were not available during the day, who live at great distances, or who might feel uncomfortable in face-to-face interactions. Half of the ASP group participants took advantage of the remote access to take part, as did 2/3 of the control group.

To further explore the issue of making sense of others' minds, one might expand the study beyond the autism categories of HFA or AS, and include the use of additional measures specifically targeting ToM.

4.6.2 Methods

4.6.2.1 The scope of the study

This research aimed to explore questions about which little is known. A qualitative methodology integrating a pilot of a quantitative element was chosen, as this might allow for multiple angles to be seen. A considerable amount of data was collected and although the researcher attempted a thorough examination, it is possible that richness of detail was lost through the constraints of the reporting process.

4.6.2.2 Social evaluation task

A modified version of a protocol used in previous research (e.g. Nichols, 2002; Zalla *et al.*, 2011) was used to provide quantitative social evaluation opportunities with regard to hypothetical 'moral', 'convention', and 'disgust' transgressions, while providing a platform for an RVP. Results from pre-pilot trials of the adapted vignettes suggested that participants might universally condemn the moral domain behaviours described. For this reason, an additional domain of 'ambiguous' items was added to the original protocol, to provide scope for potential non-negative evaluations and a window for comparative reasoning. Statistical analyses, however, suggest that this only partially addressed the problem. An alternative, or complementary solution could be to use vignettes eliciting a wider range of judgment, such as two stories of lying for the 'moral' domain.

The pilot protocol also incorporated a 'surveillance cue' element. For the general social evaluation question, between group differences were only seen in some domains when moderating factors were taken into account. With regard to the 'observer effect', overall task performance was comparable for both groups, and where between-condition difference is seen it tends in the direction of less

disapproval for the 'eyes' condition. As discussed above, issues of 'equivalence' and 'acceptability' arose with regard to the 'disgust' and 'ambiguous' vignettes. This points to a need for better matched transgression pairs.

4.6.3 Analyses

Due to the small sample size and very basic level of descriptive statistical analysis, the quantitative data may only be considered to represent the current sample. Further research with larger groups may provide more generalisable normative data.

For the TA, as stated above, many of the extracts within the data sets fit with more than one theme group, highlighting the possibility of alternative analyses. Researcher subjectivity is explicitly acknowledged within the methodological framework of thematic analysis. As outlined by Braun and Clarke (2006), the researcher generates themes on the basis of their own reading of the data, rather than the themes 'emerging' as if inherent in the data. For this research, a theory-driven, critical realist perspective was adopted. It would be impossible to estimate the influence that the literature, or the interaction between the participants and the researcher, may have had upon how data was interpreted. It is recognised that alternative analytic schemes might be found. Qualitative methods do not claim to generate findings which may be generalised beyond the individuals comprising the sample. While this affects the reliability of the findings (Madill, Jordan *et al.*, 2000), it is also important to recognise that reliance on purely quantitative data would have missed the important finding that some individuals with ASPs are highly aware of, and manage, the complexities of interpersonal dynamics and issues around reputation.

Application of other qualitative methods would allow for exploration of different questions within the same data set. As stated above, one might cross content analysis with frequency counts to address the questions regarding the extent to which the qualitative data maps onto the quantitative data. Another option could be to conduct a discourse analysis to interrogate the socio-political valencies of

the words participants used. Foucauldian discourse analysis would add yet another different slant, for example to the issue of 'Group Membership'.

4.7 Critical Review

4.7.1 Quality in qualitative research

'Quality' is an important consideration in any research. However, the criteria generally used to assess the value of quantitative research (e.g. reliability and validity, objectivity, representativeness and generalizability) are not considered meaningful in their current form, when applied to qualitative research (Willig, 2008). A number of authors have proposed alternative frameworks for evaluating quality. As Willig (2008) points out, most of them seem to address the issues of reflexivity, credibility, transferability, however, many of them do so from standpoints aligned with their preferred methodology (e.g. Elliot, Fischer and Rennie, 1999, within a phenomenological-hermeneutic tradition or Henwood and Pidgeon, 1992, within grounded theory) and thus may not be entirely applicable across the board for all other qualitative methods.

Madill, Jordan and Shirley (2000) assert that quality of studies produced from within a realist epistemology can be evaluated in terms of 'objectivity' (the absence of researcher bias) and 'reliability' (demonstrated through triangulation of researchers and/or methods) to show how different points of view converge to support the analyses. However, when applied to qualitative research, critical realism rejects the positivist position on 'objectivity' as naïve, and to the contrary, assumes researcher subjectivity. Spencer and Ritchie (2012) outline three criteria to address core features of quality: 'contribution', 'credibility', and 'rigour', which seem compatible with a critically realist TA. My efforts to address them are discussed below.

4.7.1.1 Contribution

'Contribution' refers to the value and relevance of the research to theory, policy, practice, method or the lives of the individuals concerned. 'Contribution' enhances existing understanding. The current study used TA to explore the accounts of individual participants undertaking social evaluation tasks. The aim

was to go beyond the observation of surface-level material, to a deeper and richer level of meaning by identifying shared and different patterns of talk, and to compare these to current understanding of social evaluation in persons with and without ASPs. However, due to issues such as ‘transferability’ (see section 4.7.1.4) and researcher subjectivity (discussed in section 4.6.3), the current research should not be viewed as an endpoint, but as generating further questions in light of how the data fit with previous findings and theory.

The current study also has clinical and practical implications (see pp. 105 - 106), of potential relevance to individuals with ASPs and their wider networks.

4.7.1.2 Credibility

According to Spencer and Ritchie (2012), ‘credibility’ addresses the heart of the issue of validity, in particular methodological and interpretative validity as applied to qualitative research. By ‘interpretative validity’ they mean how convincingly a claim is made and supported by the evidence.

Appendices 8 and 9 of the current thesis provide a coded transcript sample and audit trail of how categorisation of codes evolved over successive stages. Throughout sub-chapter 3.3 (Thematic Analysis), extracts of raw data have been included in support of themes and sub-themes described. Exceptions and negative cases have been included within the analysis and discussion sections to demonstrate that both convergent and divergent views have been attended to, and that alternative explanations have been considered.

Themes were derived following steps laid out by Braun and Clark (2006), and described in Appendix 9 (Audit Trail) of the current report. Although participant validation was not sought, data categorisation and the development of the themes were reviewed on an on-going basis with the thesis supervisor, and also involved discussion with peer-researchers. However, I acknowledge that continued

analysis could bring further insights, as qualitative analyses are not necessarily defined by an end-point.

4.7.1.3 Methodological Rigour

In the context of qualitative research, the concept of 'reliability' (a necessary but insufficient element of validity) cannot be taken to mean replicability, due to the flexibility inherent in the research design. While 'reliability' may be interpreted as 'consistency' (i.e. would different researchers identify the same categories or themes or assign the same extracts to the same themes?), this reading of the term may not be compatible with all qualitative approaches (Spencer & Ritchie, 2012). Many, including those adopting a critical realist stance or using thematic analysis, might expect a degree of variation between different researchers. For this reason, notions of 'auditability' and 'reflexivity' have been proposed as alternative meanings for reliability. 'Auditability' has been addressed in the preceding section.

'Reflexivity' involves not only description of the research process but also an assessment of the impact of the presence and role of the researcher and transparency with regard to values and theoretical orientation that have guided the research.

My efforts to demonstrate awareness of and sensitivity to the numerous contexts that have influenced and shaped this research take several forms, such as outlining the epistemological position adopted its relationship to the methods used. I have also attempted to make explicit the likely impact of my reading of the literature on my analysis of the data by identifying my approach within TA as 'theory driven'.

In meeting the participants, I was attentive to the power dynamics that could arise through perception of me as a health professional. By emphasising the importance of participants' own opinions and strategies in social evaluation, my aim was reduce focus on me as an 'expert'. However, I am aware that a number of ASP group participants chose to take part at the university itself and that this

setting may have had an impact on our interaction. I attempted to minimise this by emphasising their position as ‘expert by experience’.

4.7.1.4 Transferability

A fourth criteria, ‘transferability’, should also be addressed. It is important to note that the aim of thematic analysis is to identify patterns across the entire data set, with a view to interpret the information specific to the participants involved. As has been stated previously, it is therefore not the aim to attempt to generalise beyond the sample, but rather to use their accounts to generate theory or questions to be explored through further research.

4.8 Research implications

The focus in most of the previous literature has been on social deficits in individuals with ASPs. The findings of the current study suggest that adults with ASPs can perform at a comparable level to those without a diagnosis on tasks of social evaluation, demonstrating not only awareness of social rules and intricacies of social interactions, but also the ability to adopt, and be empathic towards, others’ perspectives. However, the findings also suggest that where differences are seen it may be due to use of different approaches and/or different degrees of confidence in weighing multiple factors. As suggested by Bartlett (2010, p. 79), “the ways in which sociability is achieved are complex and compounded with concepts of self-identity and self esteem”. This question merits further investigation.

Building on recommendations from Bartlett (2010), one aim of this research was to move away from a deficit-based approach, focusing on what individuals with ASPs cannot do. Instead, this study sought to broaden the scope by looking at what individuals do and how they do it. While continuing to use the deficits framework, neuro-imaging studies (e.g. Izuma et al. 2011) are starting to investigate how neural activation may differ between groups performing interactive social tasks. A growing body of evidence supports an increasingly modularised view of cognitive processing (e.g. Happé, 2006) and the notion that there may be more than one means to the same end (Frith & Frith, 2008b).

Focusing on approaches employed successfully by individuals with an ASP could also help to move research beyond the 'typical' or 'not' dichotomy in social cognition, and promote models based upon meaningful difference.

Findings in the current study point to the importance of incorporating personal accounts into research. Considering individuals with ASPs as research partners in future projects would also be beneficial.

4.9 Clinical implications

The aim of this study was to explore how adults with and without diagnosed ASPs evaluate others' social behaviour. It can be seen from the results that adults with ASPs perform at a comparable level to typically developed adults, although with subtle differences. From a clinical perspective, important between-groups differences appeared in individual accounts of how they approached the tasks, in terms of self-perception and social confidence.

The second strand of this research concerned reputation management when engaging in social evaluation tasks. Opinions varied within the ASP group regarding their general confidence in performing tasks or expressing views under scrutiny. While some said that being observed would not affect their behaviour or decisions, others described feeling nervous and that performing in such conditions is 'hard work'. Participants with ASPs associated social *faux pas* with serious consequences, and seemed to say that social awkwardness is an inherent part of autism.

These findings indicate that an important area for intervention might be with regard to how individuals with ASPs view their self-identity. Moving from a deficit-based discourse to one of difference is likely to be useful in support of individuals with ASPs and those around them. For Sharp and Lewis (2013, p. 35), this might be addressed from the beginning of the diagnostic process. They highlight a number of ways in which receiving the diagnosis may impact upon the person. A frequent reaction they report following confirmation of the diagnosis is a need to re-evaluate past experience in light of this new framework. In many cases this

enabled the person to “let go of unhelpful expectations of themselves, *particularly in relation to others*” (emphasis added), while adopting an active role in understanding and working with difference. Having a language and a framework to explain their difference and difficulties to others facilitated positive social interactions, and appeared to promote acceptance by others.

Conversations modelling such a perspective might be useful from the point of first contact with the referred person and the networks around them. Over time, such conversations might explore similarities as well as the meaning, challenges and possibilities arising from difference. Clinical psychology has an obvious role to play here, in order to promote a more positive self-image and sense of confidence with regard to social abilities.

Interventions such as social skills training might include sessions focusing on issues of impression management or distinguishing features of different social domains (moral, conventional, *etc.*) as identified in the qualitative data above. In this study it has been seen that although ASP participants appear to access the same social rules as their TDI counterparts, they may give unusual reasons as to why transgressions are wrong. Exploring how a variety of strategies may lead to the same end may be useful in reducing anxiety about failure in social settings.

4.10 Personal reflection

Conducting this research has allowed me to reflect upon the need for research, and its impact upon the groups about which we seek greater understanding. The findings of the current study support the position that the differences associated with autism might be much more fluid than appears to be commonly assumed. For this reason, as researchers and clinicians, we might benefit from moving away from a ‘difference as deficit’ frame of reference towards ‘difference as different’, asking not whether or not a person can do a thing, but rather how they do it or what they do instead. Such a shift could help to move away from the stigma currently associated with difference, to promote the recognition, acceptance and valuing of difference.

References

- American Psychiatric Association. (1980). *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed.). Washington, D.C.: American Psychiatric Association.
- American Psychiatric Association. (1994). *The Diagnostic and Statistics Manual of Mental Disorders* (4th ed.). Washington, D.C.: APA.
- American Psychiatric Association. (2000). *The Diagnostic and Statistics Manual of Mental Disorders* (4th, text revision. ed.). Washington, D.C.: APA.
- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (Fifth Edition ed.). Washington, DC: American Psychiatric Publishing.
- Antaki, C. (2004). Reading minds or dealing with interactional implications. *Theory and Psychology*, 14(5), 667-683. doi: 10.1177/095935430404046178
- Asperger, H. (1944). 'Autistic psychopathy' in childhood (U. Frith, Trans.). In U. Frith (Ed.), *Autism and Asperger Syndrome* (pp. 37-92). Cambridge: Cambridge University Press.
- Baron-Cohen, S. (1995). *Mindblindness: An essay on autism and theory of mind* (First MIT Press paperback edition ed.). London, England: The MIT Press.
- Baron-Cohen, S. (2008). *Autism and Asperger Syndrome*. Oxford: Oxford University Press.
- Baron-Cohen, S., & Jolliffe, T. (1997). Another Advanced Test of Theory of Mind: Evidence from Very High Functioning Adults with Autism or Asperger Syndrome. [Article]. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 38(7), 813-822. doi: 10.1111/1469-7610.ep9712012824
- Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (2001). The Autism-Spectrum Quotient (AQ): evidence from Asperger Syndrom/high-functioning autism, males and females, scientists and mathematicians. *Journal of Autism & Developmental Disorders*, 31, 5-17.
- Bartlett, A. (2010). *How do people with an autistic spectrum diagnosis coordinate with other people?* Unpublished Clinical Psychology Doctoral Thesis. University of East London.
- Bateson, M., Nettle, D., & Roberts, G. (2006). Cues of being watched enhance cooperation in a real-world setting. *Biology Letters*, 2, 412-414. doi: 10.1098/rsbl.2006.0509
- Bettelheim, B. (1967). *The Empty Fortress: Infantile Autism and the Birth of the Self*. New York: The Free Press.
- Bhaskar, R., & Danermark, B. (2006). Metatheory, Interdisciplinarity and Disability Research: A Critical Realist Perspective. [Article]. *Scandinavian Journal of Disability Research*, 8(4), 278-297. doi: 10.1080/15017410600914329
- Blair, J. R. (1992). *The Development of Morality*. Ph.D. thesis in Psychology. University of London. London, UK.
- Blair, R. J. R. (1996). Brief report: Morality in the autistic child. *Journal of Autism and Developmental Disorders*, 26(5), 571-579. doi: 10.1007/bf02172277
- Bogdashina, O. (2005). *The theory of mind and the triad of perspective on autism and asperger's syndrome: A view from the bridge*. London: Jessica Kingsley Publishers.
- Bourrat, P., Baumard, N., & McKay, R. (2011). Surveillance cues enhance moral condemnation. *Evolutionary Psychology*, 9(2), 193-199.

- Bowler, D. (1992). Theory of mind in Asperger's syndrome. *Journal of Child Psychology and Psychiatry*, 33(5), 877-893.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.
- Bull, R., & Gibson-Robinson, E. (1981). The influences of eye-gaze, style of dress and locality on the amounts of money donated to a charity. *Human Relations*, 34(10), 895-905.
- Burnham, T., & Hare, B. (2007). Engineering Human Cooperation. [Article]. *Human Nature*, 18(2), 88-108. doi: 10.1007/s12110-007-9012-2
- Caffrey, A. (2006). *Further exploration of the social cognitive abilities of high-functioning adults with 'autistic spectrum disorders'. Is there evidence to suggest they use alternative routes to problem solutions?* Unpublished Clinical Psychology Thesis. School of Psychology. University of East London.
- Castelli, F., Frith, C., Happé, F., & Frith, U. (2002). Autism, Asperger syndrome and brain mechanisms for the attributes of mental states to animated shapes. *Brain*, 125, 1839-1849.
- Chevalier, C., Molesworth, C., & Happé, F. (2012). Diminished social motivation negatively impacts reputation management: autism spectrum disorders as a case in point. *PLOS One*, 7(1), 1-5. doi: 10.1371/journal.pone.0031107
- Chiu, P. H., Kayali, M. A., Kishida, K. T., Tomlin, D., Klinger, L. G., Klinger, M. R., & Montague, P. R. (2008). Self responses along cingulate cortex reveal quantitative neural phenotype for high-functioning autism. *Neuron*, 57, 463-473. doi: 10.1016/j.neuron.2007.12.020
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). New York, NY: Academic Press.
- Costall, A., & Leudar, I. (2004). Where is the 'theory' in theory of mind? *Theory and Psychology*, 14, 623-646. doi: 10.1177/095935430404046176
- Costall, A., Leudar, I., & Reddy, V. (2006). Failing to See the Irony in 'Mind-Reading'. *Theory & Psychology*, 16(2), 163-167. doi: 10.1177/0959354306062533
- Damasio, A. R. (1994). *Descartes Error*. New York, NY: Harper Collins.
- Delis, D., Kaplan, E., & Kramer, J. (2001). *Delis-Kaplan Executive Function System*. San Antonio, Texas: The Psychological Corporation.
- Elliott, R., Fischer, C. T., & Rennie, D. L. (1999). Evolving guidelines for publication of qualitative research studies in psychology and related fields. *British Journal of Clinical Psychology*, 38(3), 215-229. doi: 10.1348/014466599162782
- Ernest-Jones, M., Nettle, D., & Bateson, M. (2011). Effects of eye images on everyday cooperative behavior: a field experiment. *Evolution and Human Behavior*, 32(3), 172-178. doi: 10.1016/j.evolhumbehav.2010.10.006
- Frith, C., & Frith, U. (2007). Social cognition in humans. *Current Biology*, 17, R724-R732. doi: 10.1016/j.cub.2007.05.068
- Frith, C., & Frith, U. (2008a). Implicit and explicit processes in social cognition. *Neuron*, 57, 504-510. doi: 10.1016/j.neuron.2008.10.032
- Frith, C., & Frith, U. (2008b). The self and its reputation in autism. *Neuron*, 57, 331-332.
- Frith, U. (1991). Asperger and his syndrome. In U. Frith (Ed.), *Autism and Asperger Syndrome* (pp. 1-36). Cambridge, UK: Cambridge University Press.

- Greene, J., & Haidt, J. (2002). How (and where) does moral judgement work? *Trends in Cognitive Sciences*, 6(12), 517-523.
- Gross, A. G. (1990). *The rhetoric of science*. Cambridge, MA: Harvard University Press.
- Haley, K. J., & Fessler, D. M. T. (2005). Nobody's watching?: Subtle cues affect generosity in an anonymous economic game. *Evolution and Human Behavior*, 26(3), 245-256. doi: 10.1016/j.evolhumbehav.2005.01.002
- Happé, F. (1999). Autism: cognitive deficit or cognitive style? *Trends in Cognitive Sciences*, 3(6), 216-222. doi: [http://dx.doi.org/10.1016/S1364-6613\(99\)01318-2](http://dx.doi.org/10.1016/S1364-6613(99)01318-2)
- Happé, F., Ronald, A., & Plomin, R. (2006). Time to give up on a single explanation for autism. [Article]. *Nature Neuroscience*, 9(10), 1218-1220. doi: 10.1038/nn1770
- Harper, D. (2011). Choosing a qualitative research method. In D. T. Harper, A.R. (Ed.), *Qualitative research methods in mental health and psychotherapy* (pp. 83-98): Wiley-Blackwell. Retrieved from <http://roar.uel.ac.uk>.
- Henwood, K., & Pidgeon, N. F. (1992). Qualitative research and psychological theorising. *British Journal of Psychology*, 83(1), 97-112.
- Hollos, M., Leis, P. E., & Turiel, E. (1986). Social reasoning in Ijo children and adolescents in Nigerian communities. *Journal of Cross-Cultural Psychology*, 17, 352-374.
- Howlin, P., & Asgharian, A. (1999). The diagnosis of autism and Asperger syndrome: findings from a survey of 770 families. *Developmental Medicine & Child Neurology*, 41(12), 834-839. doi: doi:null
- Husbands, C. (2008). *Social cognition and the autistic spectrum: Moral judgements, social contracts and behavioural coordination*. Unpublished Clinical Psychology Doctoral Thesis. University of East London.
- Izuma, K., Matsumoto, K., Camerer, C. F., & Adolphs, R. (2011). Insensitivity to social reputation in autism. *PNAS Proceedings of the National Academy of Sciences of the United States of America*, 108(42), 17302-17307. doi: 10.1073/pnas.1107038108
- Jodlowski, D. M. (2009). *Autism and the Perpetual Puzzle: A Rhetorical Analysis of Three Explanations for Autism*. (Doctor of Philosophy Doctoral), Texas A & M University. Retrieved from <http://repository.tamu.edu/bitstream/handle/1969.1/ETD-TAMU-2009-05-315/Jodlowski.pdf?sequence=2>
- Joffe, H. (2012). Thematic Analysis. In D. Harper & A. R. Thompson (Eds.), *Qualitative Research Methods in Mental Health and Psychotherapy* (pp. 209-223). Chichester: Wiley-Blackwell.
- Kanner, L. (1943). Autistic disturbance of affective control. *The Nervous Child*, 2, 216-250.
- Kanner, L. (1971). Follow-up study of eleven autistic children originally reported in 1943. *Journal of Autism and Childhood Schizophrenia*, 1(2), 119-145.
- Karmiloff-Smith, A., Klima, E., Bellugi, U., & Grant, J. (1995). Is there a social module? Language, face processing, and theory of mind in individuals with Williams syndrome. *Journal of Cognitive Neuroscience*, 7(2), 196-208. doi: 10.1162/jocn.1995.7.2.196
- Khurana. (2013). Autism is not something I have. It is integral to who I am. Retrieved from <http://amritkhurana93.blogspot.co.uk/2012/04/autism-is-not-something-i-have-it-is.html?sref=fb>

- King-Casas, B., Tomlin, D., Anen, C., Camerer, C. F., Quartz, S. R., & Montague, P. R. (2005). Getting to know you: reputation and trust in a two-person economic exchange. *Science*, 308, 78-83. doi: 10.1126/science.1108062
- Kohlberg, L. (1981). *The Philosophy of Moral Development: Moral stages and the idea of justice* (Vol. 1). San Francisco: Harper and Row.
- Kohlberg, L., & Hersh, R. H. (1977). Moral development: a review of the theory. *Theory into Practice*, 16(2), 53-59.
- Kurzban, R., DeScioli, P., & O'Brien, E. (2007). Audience effects on moralistic punishment. *Evolution and Human Behavior*, 28(2), 75-84. doi: 10.1016/j.evolhumbehav.2006.06.001
- Kuusela, H., & Pallab, P. (2000). A comparison of Concurrent and Retrospective Verbal Protocol analysis. *The American Journal of Psychology*, 113(3), 387-404.
- Kuusikko, S., Pollock-Wurman, R., Jussila, K., Carter, A. S., Mattila, M.-L., Ebeling, H., Pauls, D. L., & Moilanen, I. (2008). Social anxiety in high-functioning children and adolescents with autism and Asperger syndrome. *Journal of Autism & Developmental Disorders*, 38, 1697-1709. doi: 10.1007/s10803-008-0555-9
- Leckman, J. F., & Pine, D. S. (2012). Editorial commentary: challenges and potential of DSM-5 and ICD-11 revisions. *Journal of Child Psychology & Psychiatry*, 53(5), 449-453.
- Leslie, A. M. (1987). Pretense and representation: The origins of "Theory of Mind". *Psychological Review*, 94(4), 412-426.
- Leslie, A. M., Knobe, J., & Cohen, A. (2006a). Acting intentionally and the side-effect effect. *Psychological Science*, 17(5), 421-427.
- Leslie, A. M., Mallon, R., & DiCorcia, J. A. (2006b). Transgressors, victims, and cry babies: Is basic moral judgment spared in autism? *Social Neuroscience*, 1(3-4), 270-283. doi: 10.1080/17470910600992197
- Leudar, I., & Costall, A. (2004). On the persistence of the 'problem of other minds' in psychology. *Theory and Psychology*, 14(5), 601-621. doi: 10.1177/0959354304046175
- Leudar, I., & Costall, A. (2009). Introduction: against 'theory of mind'. In I. C. Leudar, A. (Ed.), *Against Theory of Mind* (pp. 1-18). Basingstoke, UK: Palgrave MacMillan.
- Leudar, I., Costall, A., & Francis, D. (2004). Theory of mind: a critical assessment. *Theory and Psychology*, 14(5), 571-578. doi: 10.1177/0959354304046173
- Lezak, M. D., Howison, D. B., Loring, D. W., Hannay, H. J., & Fisher, J. S. (2005). *Neuropsychological Assessment* (4th ed.). New York, NY: Oxford University Press.
- Lopez, J., & Potter, G. (2001). After postmodernism: The Millenium. In J. Lopez & G. Potter (Eds.), *After postmodernism: An Introduction to Critical Realism* (Continuum ed., pp. 1-16). London, UK: Continuum.
- Madill, A., Jordan, A., & Shirley, C. (2000). Objectivity and reliability in qualitative analysis: Realist, contextualist and radical constructionist epistemologies. *British Journal of Psychology*, 91, 1- 20.
- Morris, D. (1998). *Illness and culture in the postmodern age*. Berkeley, CA: University of California Press.
- Nichols, S. (2002). Norms with feeling: towards a psychological account of moral judgment. *Cognition*, 84, 221-236.

- Oda, R., Niwa, Y., Honma, A., & Hiraishi, K. (2011). An eye-like painting enhances the expectation of a good reputation. *Evolution and Human Behavior*, 32, 166-171.
- Ozonoff, S., Pennington, B., & Rogers, S. (1991a). Executive function deficits in high-functioning autistic children: relationship to theory of mind. *Journal of Child Psychology and Psychiatry* 32(7), 1081-1106.
- Ozonoff, S., Rogers, S., & Pennington, B. (1991b). Asperger's syndrome: evidence of an empirical distinction from high-functioning autism. *Journal of Child Psychology and Psychiatry*, 32(5), 1107-1122.
- Ozonoff, S., Strayer, D. L., McMahon, W. M., & Filloux, F. (1994). Executive function abilities in autism and Tourette syndrome: an information processing approach. *Journal of Child Psychology & Psychiatry*, 35(6), 1015-1032.
- Parnas, J., & Bovet, P. (1991). Autism in schizophrenia revisited. *Comprehensive Psychiatry*, 32(1), 7-21. doi: [http://dx.doi.org/10.1016/0010-440X\(91\)90065-K](http://dx.doi.org/10.1016/0010-440X(91)90065-K)
- Peterson, D., & Bowler, D. M. (2000). Counterfactual reasoning and false belief understanding in children with autism. *Autism*, 4(4), 391-405.
- Piaget, J. (1932). *The Moral Judgment of the Child*. London: Routledge and Kegan Paul.
- Piazza, J., & Bering, J. M. (2008). The effects of perceived anonymity on altruistic punishment. *Evolutionary Psychology*, 6(3), 487-501.
- Premack, D., & Woodruff, G. (1978). Does the chimpanzee have a theory of mind? *The Behavioral and Brain Sciences*, 4, 515-526.
- Rajendran, G., & Mitchell, P. (2007). Cognitive theories of autism. *Developmental Review*, 27(2), 224-260. doi: <http://dx.doi.org/10.1016/j.dr.2007.02.001>
- Rest, J., Turiel, E., & Kohlberg, L. (1969). Level of moral development as a determinant of preference and comprehension of moral judgments made by others. *Journal of Personality*, 37(2), 225-252. doi: 10.1111/j.1467-6494.1969.tb01742.x
- Rigdon, M., Ishii, K., Watabe, M., & Kitayama, S. (2009). Minimal social cues in the dictator game. *Journal of Economic Psychology*, 30(3), 358-367. doi: 10.1016/j.joep.2009.02.002
- Rinehart, N. J., Bradshaw, J. L., Brereton, A. V., & Tonge, B. J. (2002). A clinical and neurobehavioural review of high-functioning autism and Asperger's disorder. *Australian & New Zealand Journal of Psychiatry*, 36(6), 762-770.
- Russo, J. E., Johnson, E. J., & Stephens, D. L. (1989). The validity of verbal protocols. *Memory and Cognition*, 17(6), 759-769.
- Sacks, O. (1995). An anthropologist on Mars *An anthropologist on Mars: seven paradoxical tales*. New York: Alfred A. Knopf.
- Saxe, R. (2006). Uniquely human social cognition. *Current Opinion in Neurobiology*, 16(2), 235-239. doi: <http://dx.doi.org/10.1016/j.conb.2006.03.001>
- Sharp, J., & Lewis, S. (2013). The process of diagnosing Asperger's syndrome. *Clinical Psychology Forum*, 249, 34 - 37.
- Siegal, M., & Peterson, C. C. (1998). Preschoolers' understanding of lies and innocent and negligent mistakes. *Developmental Psychology*, 34(2), 332-341.

- Smetana, J. (1985). Preschool children's conceptions of transgressions: effects of varying moral and conventional domain-related attributes. *Developmental Psychology*, 21(1), 18-29.
- Smetana, J. G., & Braeges, J. L. (1990). The development of toddlers' moral and conventional judgments. *Merrill-Palmer Quarterly*, 36(3), 329-346.
- Smetana, J. G., Jambon, M., Conry-Murray, C., & Sturge-Apple, M. L. (2012). Reciprocal associations between young children's developing moral judgments and theory of mind. *Developmental Psychology*, 48(4), 1144-1155. doi: 10.1037/a0025891
- Snarey, J. R., Reimer, J., & Kohlberg, L. (1985). Development of social-moral reasoning among kibbutz adolescents: a longitudinal, cross-cultural study. *Developmental Psychology*, 21(1), 3-17.
- Song, M., Smetana, J., & Kim, S. Y. (1987). Korean children's conceptions of moral and conventional transgressions. *Developmental Psychology*, 23, 577-582.
- Spencer, L., & Ritchie, J. (2012). In Pursuit of Quality. In D. Harper & A. R. Thompson (Eds.), *Qualitative Research Methods in Mental Health and Psychotherapy* (pp. 227-242). Chichester: Wiley-Blackwell.
- Steele, S., Joseph, R. M., & Tager-Flusberg, H. (2003). Brief Report: Developmental Change in Theory of Mind Abilities in Children with Autism. *Journal of Autism and Developmental Disorders*, 33(4), 461-467. doi: 10.1023/a:1025075115100
- Strauss, E., Sherman, E. M. S., & Spreen, O. (2006). *A compendium of neuropsychological tests: Administration, norms and commentary*. Oxford, UK: Oxford University Press.
- Turiel, E. (1983). *The development of social knowledge: Morality and conventional judgements*. Cambridge, UK: Cambridge University Press.
- Wechsler, D. (1997). *Wechsler Adult Intelligence Scale (3rd edition)*. San Antonio, Texas: The Psychological Corporation.
- Wedekind, C., & Milinski, M. (2000). Cooperation Through Image Scoring in Humans. [Article]. *Science*, 288(5467), 850.
- Wellman, H. M., Cross, D., & Watson, J. (2001). Meta-Analysis of Theory-of-Mind Development: The Truth about False Belief. [Article]. *Child Development*, 72(3), 655.
- Wilig, C. (2008). Quality in qualitative research *Introducing Qualitative Research in Psychology* (2nd ed., pp. 149 - 161). Maidenhead, England: Open University Press.
- Wilkinson, G. S. (1993). *The Wide Range Achievement Test - 3rd edition (WRAT-3)*. Wilmington, Delaware: Wide Range.
- Wing, L. (1981). Asperger's syndrome: a clinical account. *Psychological Medicine*, 11, 115-129.
- Wing, L., & Gould, J. (1979). Severe impairments of social interaction and associated abnormalities in children: Epidemiology and classification. *Journal of Autism & Developmental Disorders*, 9(1), 11-29.
- World Health Organisation. (1992). *The International Classification of Mental and Behavioural Disorders: Clinical descriptions and diagnostic guidelines*. (10th ed.). Geneva: WHO.
- Young, L., Cushman, F., Hauser, M., & Saxe, R. (2007). The neural basis of the interaction between theory of mind and moral judgment. *Proceedings of the National Academy of Sciences*, 104(20), 8235-8240.

Zalla, T., Barlassina, L., Buon, M., & Leboyer, M. (2011). Moral judgment in adults with autism spectrum disorders. *Cognition*, 121(1), 115-126. doi: 10.1016/j.cognition.2011.06.004

Appendix 1: Literature search strategy

In the Summer of 2011 search was conducted to identify the relevant literature for the development of the proposal for this study. The search was repeated in the Spring of 2012 following thesis proposal approval by the department of Psychology at UEL. EBSCO Host was used to search the Academic Search Complete, CINAHL Plus, PsychARTICLES, PsychINFO databases for the years 2000 – 2011, 2011-2012. Titles and abstracts were scanned to identify relevant materials. The following key words were used:

“autism and moral judgment” = 20 + 2

“autism and surveillance cues” = 0

“autism and surveillance” = 249 with 1 relevant (most concerned prevalence)

“autism and observer effect” = 0 + 3 (1 relevant)

“autism and reputation management” = 1

The resulting bibliography augmented a small collection of articles given to the researcher by the primary and secondary directors of studies during initial conversations exploring the possibility of the research project.

Further literature was culled from reference sections of the articles above.

Books on autism and explanatory theories by established authors were initially sought at the UEL library and again, reference sections provided further, more specialised literature.

Appendix 2: University of London Ethics Committee approval letter

SCHOOL OF PSYCHOLOGY

Dean: Professor Mark N. O. Davies, PhD, CPsychol, CBiol.



School of Psychology Professional Doctorate Programmes

To Whom It May Concern:

This is to confirm that the Professional Doctorate candidate named in the attached ethics approval is conducting research as part of the requirements of the Professional Doctorate programme on which he/she is enrolled.

The Research Ethics Committee of the School of Psychology, University of East London, has approved this candidate's research ethics application and he/she is therefore covered by the University's indemnity insurance policy while conducting the research. This policy should normally cover for any untoward event. The University does not offer 'no fault' cover, so in the event of an untoward occurrence leading to a claim against the institution, the claimant would be obliged to bring an action against the University and seek compensation through the courts.

As the candidate is a student of the University of East London, the University will act as the sponsor of his/her research. UEL will also fund expenses arising from the research, such as photocopying and postage.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'Mark Finn', is positioned above the printed name.

Dr. Mark Finn

Chair of the School of Psychology Ethics Sub-Committee

Stratford Campus, Water Lane, Stratford, London E15 4LZ
tel: +44 (0)20 8223 4966 fax: +44 (0)20 8223 4937
e-mail: mno.davies@uel.ac.uk web: www.uel.ac.uk/psychology



The University of East London has campuses at London Docklands and Stratford
If you have any special access or communication requirements for your visit, please let us know. MINICOM 020 8223 2853



Appendix 3: Participant information sheet

School of Psychology Information Sheet



Social Evaluation Project

Researcher: Danielle Gaynor, Trainee Clinical Psychologist

Supervisor: Dr. Matthew Jones Chesters, Senior Lecturer in Clinical Psychology

Contact: University of East London, Water Lane, LONDON, E15 4LZ

Telephone: 020 8223 4147

Email: u1037623@uel.ac.uk (Danielle Gaynor) and

m.h.jones-chesters@uel.ac.uk (Dr. Matthew Jones Chesters)

You are being invited to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. If there is anything that is not clear, or about which you would like further information, please do not hesitate to ask us. Take time to decide whether or not you would like to take part.

Purpose

Much of the research into the social skills of people with autistic spectrum presentations (ASPs) focuses on deficits and impairments. However, there is increasing evidence (from a variety of sources) suggesting that persons with an ASP can manage complex social situations very well, perhaps by explicitly 'working out' the rules involved.

This research is designed to examine how people with ASPs make social evaluations. Previous research has been inconclusive, and thus our understanding is limited. It is hoped that this study will allow us to better understand the difficulties some people describe, and perhaps allow us to find ways of making everyday interactions easier. We hope that this research will be of interest to you. In return, we will pay you any expenses incurred (e.g. if you have to travel to us) and £10 per hour or part remuneration.

Why me?

You have been invited to take part because you recently or previously responded to a request for volunteers, and/or took part in another of our studies. We aim to include adults with a diagnosis of either *High Functioning Autism* or *Asperger's Syndrome*, and adults without these diagnoses.

Do I have to participate?

It is your choice whether or not you take part in this research. You do not have to give a reason for not taking part and you can stop at any time. You may contact the researcher or supervisor at any time during or after the tasks to leave the research. If you do stop after the research has started, you may leave your data to be used in the research, or you may ask for it to be destroyed.

Who is organising and monitoring the research?

This study builds upon our previous research in this area and upon our clinical experience. It has been closely reviewed and approved by colleagues in the School of Psychology and by the *Ethics Committee* of the University of East London.

How long will it take?

If you have not previously taken part in our research before, this study will take approximately 2 hours. If you have participated in our previous research, and we still have that information, it will take between 1 and 1½ hours. The study involves several different tasks with natural, short breaks between. However, you may ask for a break at any time. Some tasks will be timed and completed without a break, but these will be short. You will be able to have a drink or something to eat, if you require, during this time and, of course, use the toilet whenever you wish.

What do I have to do?

This study has several parts to it, some of which will be done in a face-to-face interview style. Other parts will be carried out on a computer. We will ask you for some details about yourself, such as age, gender, education and cultural background. If you are working with us for the first time, there will be some tests of attention, language skills and perception, to ensure that you can cope with the tests. Then there will be the main research tasks, involving questions about

- whether something a person did was right or wrong
- whether or not their circumstances might make a difference.

These tasks will involve reading very short scenarios and then answering a short series of questions. Some of these will involve rating the person's action on a scale of 0 – 6. Others will ask you to give a short answer about your opinion. There are no right or wrong answers!

Finally, the researcher will ask you to talk about how you found the tasks and the questions that were asked; to tell us your thoughts and feelings on the research topics; and we will ask your permission to audio record this (so that we may work through it later).

Will people know it's me?


No. When we have taken down your personal details, we will give you a participant number. This will be the only way your data is identified. All of your demographic information will be kept separately from your other data. No one other than the researchers will have access to your details or answers, and even the university examiners will not know your real name. When reporting the findings of the study, we will mainly talk in *general* terms about how people did overall. If we use a short quote from you in any report, only your number will be used to label it.

Could I be upset by the study?

It is very unlikely that you will be upset by any part of this study. However, if at any time you find that you are upset by the tasks, please let us know and we will stop. If you are worried about anything following the interview, please feel free to contact us by post, email or phone, at the contact details given above.


Thank you for your interest in this project

Appendix 4: Demographics questionnaire

 <p>Social Cognition Research</p>	<p>Welcome to the UEL Autistic Spectrum Research Group's new study on social evaluation. We appreciate your participation and anticipate that it will take about 20 minutes to complete this part of the study.</p> <p>In order to match and counterbalance participants, we'd like to know a little about you. Please answer the following questions:</p>
<hr/>	
1. Gender *	
<p><input type="radio"/> male</p> <p><input type="radio"/> female</p>	
<hr/>	
2. Age *	
<input type="text"/>	
<hr/>	
3. How many years of formal education have you completed? *	
<input type="text" value="-- Please Select --"/>	
<hr/>	
4. Nationality (e.g. British; Chinese; Nigerian) *	
<input type="text"/>	
<hr/>	
5. Religious/Faith/Cultural Group *	
<input type="text"/>	
<hr/>	
6. Primary language spoken *	
<input type="text"/>	
<hr/>	

Appendix 5a: Action Evaluation Survey – sample vignette – ‘eyes’

UEL
Social Cognition
Research



Action Evaluation - Below is a scenario, followed by 6 questions. Please read each one carefully and consider whether what the main character did was okay or not. There are no right or wrong answers to the questions, as different people will have different views.

Scenario 1. Jen and her dad visit a neighbour. While the neighbour makes tea, Jen takes a valuable trinket and puts it in her bag.


7. Is it okay for Jen to take the trinket without her neighbour's knowledge? *

☐ yes ☐ no

Next


2%

This student research survey is powered by



[Planning or conducting an academic research project?](#)

UEL
Social Cognition
Research



Action Evaluation - Below is a scenario, followed by 6 questions. Please read each one carefully and consider whether what the main character did was okay or not. There are no right or wrong answers to the questions, as different people will have different views.

Scenario 1. Jen and her dad visit a neighbour. While the neighbour makes tea, Jen takes a valuable trinket and puts it in her bag.


8. On a scale of 0 - 6 how okay is it for Jen to take the trinket? ("0" equals "not at all, "6" equals "perfectly fine") *

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6

Next


4%

This student research survey is powered by



[Planning or conducting an academic research project?](#)

UEL
Social Cognition
Research



Action Evaluation - Below is a scenario, followed by 6 questions. Please read each one carefully and consider whether what the main character did was okay or not. There are no right or wrong answers to the questions, as different people will have different views.


Scenario 1. Jen and her dad visit a neighbour. While the neighbour makes tea, Jen takes a valuable trinket and puts it in her bag.

9. Please say a little about why you think it was okay, or not, for Jen to take the trinket. *

Next


6%

This student research survey is powered by



[Planning or conducting an academic research project?](#)

UEL
Social Cognition
Research



Action Evaluation - Below is a scenario, followed by 6 questions. Please read each one carefully and consider whether what the main character did was okay or not. There are no right or wrong answers to the questions, as different people will have different views.

Scenario 1. Jen and her dad visit a neighbour. While the neighbour makes tea, Jen takes a valuable trinket and puts it in her bag.

10. If no one saw her do it, would it be alright for Jen to take the trinket? *


☐ yes

☐ no

Next


8%

This student research survey is powered by



[Planning or conducting an academic research project?](#)

UEL
Social Cognition
Research



Action Evaluation - Below is a scenario, followed by 6 questions. Please read each one carefully and consider whether what the main character did was okay or not. There are no right or wrong answers to the questions, as different people will have different views.

Scenario 1. Jen and her dad visit a neighbour. While the neighbour makes tea, Jen takes a valuable trinket and puts it in her bag.

11. If Jen's father said it was alright, would it be okay for Jen to take the trinket? *

☐ yes

☐ no

Next


10%

This student research survey is powered by



Planning or conducting
an academic research project?

UEL
Social Cognition
Research



Action Evaluation - Below is a scenario, followed by 6 questions. Please read each one carefully and consider whether what the main character did was okay or not. There are no right or wrong answers to the questions, as different people will have different views.

Scenario 1. Jen and her dad visit a neighbour. While the neighbour makes tea, Jen takes a valuable trinket and puts it in her bag.

12. How did you decide on your answers regarding this story? *

Next


12%

This student research survey is powered by



Planning or conducting
an academic research project?

Appendix 5b: Action Evaluation Survey – sample vignette – ‘no eyes’



Social Cognition Research

Action Evaluation - Below is a scenario, followed by 6 questions. Please read each one carefully and consider whether what the main character did was okay or not. There are no right or wrong answers to the questions, as different people will have different views.

Scenario 1. Rob and John are exercising at the gym. Suddenly, John punches Rob in the face.


7. Was it okay for John to punch Rob? *

☐ yes ☐ no


Next

3%

This student research survey is powered by



[Planning or conducting an academic research project?](#)



Social Cognition Research

Action Evaluation - Below is a scenario, followed by 6 questions. Please read each one carefully and consider whether what the main character did was okay or not. There are no right or wrong answers to the questions, as different people will have different views.

Scenario 1. Rob and John are exercising at the gym. Suddenly, John punches Rob in the face.


8. on a scale of 0 - 6, how okay was it for John to punch Rob? ("0" equals "not at all, "6" equals "perfectly fine"). *

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6

Next

5%

This student research survey is powered by



[Planning or conducting an academic research project?](#)



**Social Cognition
Research**

Action Evaluation - Below is a scenario, followed by 6 questions.
Please read each one carefully and consider whether what the main
character did was okay or not. There are no right or wrong answers
to the questions, as different people will have different views.

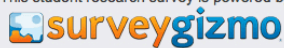
Scenario 1. Rob and John are exercising at the gym.
Suddenly, John punches Rob in the face.

9. Please say a little about why you think was it okay, or not, for John to punch Rob? *

Next

8%

This student research survey is powered by



[Planning or conducting
an academic research project?](#)



**Social Cognition
Research**

Action Evaluation - Below is a scenario, followed by 6 questions.
Please read each one carefully and consider whether what the main
character did was okay or not. There are no right or wrong answers
to the questions, as different people will have different views.

Scenario 1. Rob and John are exercising at the gym.
Suddenly, John punches Rob in the face.

10. Would it be okay for John to punch Rob if no one else saw him do it? *

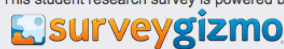
☐ yes

☐ no

Next

11%

This student research survey is powered by



[Planning or conducting
an academic research project?](#)



**Social Cognition
Research**

Action Evaluation - Below is a scenario, followed by 6 questions. Please read each one carefully and consider whether what the main character did was okay or not. There are no right or wrong answers to the questions, as different people will have different views.

Scenario 1. Rob and John are exercising at the gym. Suddenly, John punches Rob in the face.

11. If the official policy stated that hitting other people was allowed at the gym, would it be okay for John to punch Rob? *

☐ yes

☐ no

Next

13%

This student research survey is powered by



[Planning or conducting
an academic research project?](#)



**Social Cognition
Research**

Action Evaluation - Below is a scenario, followed by 6 questions. Please read each one carefully and consider whether what the main character did was okay or not. There are no right or wrong answers to the questions, as different people will have different views.

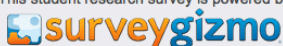
Scenario 1. Rob and John are exercising at the gym. Suddenly, John punches Rob in the face.

12. How did you decide on your answers regarding this story? *

Next

16%

This student research survey is powered by



[Planning or conducting
an academic research project?](#)

Appendix 6: Semi-structured debriefing interview schedule

UEL Autistic Spectrum Research	Action Evaluation
---	--------------------------

Debriefing:

This section of the study is now complete.

I would like to ask you some questions about your experience of the action evaluation task:

1. How did you find the tasks you just did?
 - a. Prompts – was it difficult?
 - i. How do you feel about it now?
2. What did you think the purpose of the tasks was?
 - a. Prompt: can you think of how this may be similar to something you may have done outside of a research environment?
3. Do you think you would have answered differently if anyone had been watching you?
 - a. Prompt: how might this have been different for you?

This final section of the study is now complete, and we would like to offer you the opportunity to ask questions you may have about the study.

Thank you for volunteering to take part in this project.

Would you be willing to have us contact you for future research projects?

Thanks, again.

School of Psychology

Consent Form



Consent Form for Participation in the Research Study

Researcher: Danielle Gaynor
Designation: Trainee Clinical Psychologist
Supervised by: Dr Matthew Jones Chesters

**Please
initial box**

1. I confirm that I have read and understood the information provided;
I understand what the study is about, how it is being done, and why. ☐
2. I understand that my participation is voluntary and that I may withdraw
at any time, without giving any reason, and without any consequences. ☐
3. I agree to short quotes from my answers being used in the write-up
of this study, and that my anonymity will still be protected at all times. ☐
4. I give permission for the individuals named above, and examiners at
the university to have access to the data generated by my participation. ☐
5. I voluntarily consent to take part in the above study
and consent to the audio-taping of my answers. ☐

I agree to the terms.

Respondent's name (print):

Respondent's signature:

Date:

I agree to the terms:

Researcher's name (print):

Researcher's signature:

Date:

I have received the sum of £
in payment of expenses and remuneration.

Signature:

Date:

Appendix 8: Worked transcript – sample (A2 pages 1 and 2)

55 EYES

56 ITV: uhuhuhuun. Okay. Yeah. So now we'll look at some of your answers, but
57 while we are waiting for this, could you give me your date of birth? (digression on
58 turning 40 and not having achieved as much as he would like – eg 'pulling').

59 I'm just going to look really quickly at how you have answered some of the things and
60 I may ask you some questions ...

61 A2: sure.

62
63
64
65 7. Is it okay for Jen to take the trinket without her neighbour's knowledge?

- 66 • no

67 8. On a scale of 0 - 6 how okay is it for Jen to take the trinket? ("0" equals "not
68 at all, "6" equals "perfectly fine")

- 69 • 0

70 9. Please say a little about why you think it was okay, or not, for Jen to take the
71 trinket.

- 72 • Depends what you mean by take. To lift it up and have a look is one thing but
73 to put it in her bag without permission is stealing.

74 10. If no one saw her do it, would it be alright for Jen to take the trinket?

- 75 • no

76 11. If Jen's father said it was alright, would it be okay for Jen to take the
77 trinket?

- 78 • no

79 12. How did you decide on your answers regarding this story?

- 80 • How would I like it if this was done to me? If I owned something and a visitor
81 put it about her person without my knowledge or consent, I would worry
82 where it had gone. Surely this is beyond mere opinion, it's a common ethic
83 unless you like a bit of honest shoplifting.

84
85 ITV: you answered, for instance, that it is not okay for Jen to do this (stealing) and
86 why would stealing not be okay?

87
88 A2: every civilised culture agrees that stealing is wrong. I don't see why an Aspie
89 should struggle with that, unless they are like, if you remember Luke Jackson, the
90 teenage boy who was writing about his Asperger's 10 years ago ...

91
92 ITV: no I wasn't aware of him.

93
94 A2: oh! Well he's had his books published by Jeffrey Kingsley, which is quite
95 something, but he's all grown up and singing in a band now, but at the time he was
96 getting to speak at conferences and it was like, wow, the boy prodigy, he verbalises
97 what it's actually like to have it but he talked about his three brothers as well, they all
98 had different disorders and one of them was ... looked pretty kleptomaniac. He'd just
99 walk into people's rooms and take their things: the six siblings, the mother. But if
100 you said to him, 'how would you like it if I walked into your room and took your toys?'
101 It means nothing to him because he's got no sense of ownership.

102
103 Whereas, we people do have a sense of ownership. And we are called to respect it.

104
105 ITV: so why would it be bad to violate that sense of ownership? How do you think
106 people would feel?

rule =
no permis-
sion is
stealing

not authority
contingent/
hierarchy of auth'y
Golden Rule

not subjectiv
↓
universality

Aspie Dumbay

lack sense
of ownership

social/
human
values &
expectations

Appendix 9: Audit trail of themes

The thematic analysis audit trail reflects the analytic procedure I followed. As recommended by Braun and Clarke (2006), this was not a linear process, but rather involved revisiting previous stages and re-checking themes against data in an iterative fashion.

Stages 1 & 2 – Becoming familiar with the data and generating codes

From the audio recordings of the debrief interviews, transcripts were typed. Qualitative data from the survey was integrated at the relevant points. The hard copies of transcripts were read and concepts of interest and relevance were identified and annotated. While efforts were made to see each data set with fresh eyes, it was impossible to avoid all influence of previous material. 62 initial codes were thus created.

Transcripts were entered into software developed for purposes of thematic analysis (TAMS analyser, version 4.14 © Matthew Weinstein), and initial codes were applied. Data belonging to each code was collated and printed for further consideration.

Stages 3, 4 and 5 – Searching for, reviewing, defining and naming themes

Ideas about potential themes

The 62 codes were grouped into nine themes and 49 sub-themes (see Tables A.1 - A.3 for original coding scheme and related themes).

Through successive culls of the collated extracts (with repeated reference back to source material) and the process of describing themes, new relationships between sub-themes and themes were seen. This allowed me to collapse sub-themes together and in some case to further merge themes themselves. Several of the initial themes seemed domain or question specific, while a few others spanned all domains. Identification of repeated sub-themes helped me to move towards higher order themes. Table A.4 illustrates the reasoning behind this decision making process.

Table A.1 Part 1 of initial coding scheme

No	Domaine	Theme	Sub-theme	Code	Definition
1		Authority		Hierarchy	<i>Levels of authority hierarchy</i>
2		Permission		<i>Is the act authority contingent?</i>	
3		Consequences		Others	<i>Physical emotional, financial harm; offence, disgust</i>
4				Self	<i>Jail, exclusion, harm, humiliation</i>
5				Society	<i>Chaos, anarchy or social harmony</i>
6		Contingencies	Motives	motives	<i>What are the actor's intentions? Related to moral codes, but may be seen in the conventional codes, too.</i>
7				Assumed Altruism or Benevolence	<i>Participants' assumptions that the actor's intentions are good</i>
8				Harmful	<i>Assumptions that intentions are bad</i>
9	Social Convention		Context	Cultural	<i>Culturally determined norms</i>
10				Family	<i>What is acceptable in one family</i>
11				Religious	<i>Religiously determined contingency</i>
12				Relational	<i>What is acceptable with particular relationships</i>
13				Situational	<i>Situationally determined appropriateness</i>
14				Social	<i>may encompass all of the previous context contingencies</i>
15				Circumstances	<i>*Broken down below as 'context'</i>
16				Education	<i>Has one had sufficient education to know better?</i>
17				Intentions	
18				Upbringing	<i>Related to education</i>
19				Dress code	
20				Etiquette	<i>Anything to do with manners</i>
21				Norms	<i>Socially determined norms or conventions</i>
22	Disgust			Health	<i>Risk to health</i>
23				Hygiene	<i>Not clean</i>
24				Off-putting	<i>Repulsive</i>
25				disgust	<i>disgusting</i>

Table A.2 Part 2 of initial coding scheme

No	Domaine	Theme	Sub-theme	Code	Definition
26	Morals			Moral	<i>appeal to morality</i>
27				Golden Rule	<i>Related to consequences to self</i>
28				Empathy	<i>Participant expresses empathy for one or more characters</i>
29				Harm	<i>The act is wrong because it causes physical, emotional, financial harm</i>
30				Rights	<i>The act infringes upon another's rights – e.g. to property</i>
31				Universal	<i>Assumed to be universally applicable</i>
32		Contingencies		Intentions	
33	Observer Effect			Impression management	<i>Awareness of managing the impression one makes</i>
34				Public Opinion	<i>Behaviour subject to public approval or disapproval</i>
35				Seen As Weird	<i>Related to 'impression management'</i>
36				Privacy	<i>What you do in private is your affair</i>
37				Own Decision	<i>Related to observer effect?</i>
38				Own Experience	<i>Participant relates vignette to own story.</i>
39					<i>Can also be related to 'empathy'</i>
40	MCDA	Rules		Applied	<i>Participant explicitly describes the rule applied</i>
41				Conflicting	<i>When 2 or more rules apply and which trumps which (and why - context and contingency related)</i>
42		Spectrum		Abilities	<i>What people with ASPs can do</i>
43				Needs	<i>What they find challenging</i>
44				Identity	<i>Self-inclusion in ASP group</i>
45		Thinking Style		'Autistic'	<i>Assumption of particular thinking</i>
46				Common sense	<i>'what anyone would think'</i>
47				Flexible	<i>Ability to hold multiple perspectives</i>
48				Rigid	<i>Cannot see other perspectives</i>
49				Learned	<i>Explicitly learned social rules</i>
50				Instinctive	<i>Implicitly held social rules</i>
51				Black & white	<i>No middle ground</i>
52				Adult vs Child	<i>how participant believes a child or adult should/would think</i>

Table A.3 Part 3 of initial coding scheme

No	Domaine	Theme	Sub-theme	Code	Definition
53	MCDA	Theory of Mind		Metacognitive stance	<i>Ability to adopt a meta-position. Related to empathy and to thinking style.</i>
54		Misc		Interaction Styles	<i>Say it straight; own personality. Related to Thinking styles - learned or instinctive.</i>
55				Learning or teaching/support	<i>How did you know about this rule?</i>
56					<i>Explicit teaching and support</i>
57				Universal	<i>broader applications than simply moral</i>
58				Subjective	<i>room for personal interpretation with context considerations</i>
59				Empathy	<i>broader appl's than simply moral</i>
60				Unusual Behaviour	<i>no value judgment</i>
61				Don't know why it's wrong	<i>usually applies to the moral questions.</i>
62				Vignette seems too unrealistic/inability to suspend disbelief	

Table A.4 Sample of reworked Themes, sub-themes and codes related to Mitigating Circumstances

Reworked Codes/Themes	Reasoning	
Contingencies > Mitigating circumstances	Contingencies' was renamed, as I felt this would be closer to the way participants talked about this theme. The two categories of sub-themes were retained.	
Circumstances Situational context	'Circumstances' was subsumed into a 'Situation' lower level sub-theme as they were felt to represent the same ideas.	All of these lower-level sub-themes were further collapsed as the 'Context' sub-theme within the Mitigating Circumstances theme.
Upbringing Education	These two codes were collapsed into one lower level sub-theme ('upbringing') as they were felt to represent closely related ideas.	
Relational Family	Relational' and 'Family' were collapsed to form the 'relational' lower level sub-theme as they tapped into the ways that vignette protagonists related to other characters.	
Cultural Social	These two codes were collapsed to form the 'social and cultural context' lower level sub-theme as they were felt to represent closely related ideas.	
Dress code Etiquette Norms	Dress code', 'Etiquette', and 'norms' were collapsed to form the 'conventions and norms' lower level sub-theme.	
Intentions Motives		Intentions from the social conventions and moral domains were combined with Motives code > sub-theme of 'Motives'
Assumed Altruism or Benevolence Harmful	Assumed Altruism or Benevolence and Harmful intentions became the lower level 'Benevolent or malevolent intentions' sub-theme and the further lower level sub-theme of 'self-defence' was identified and added.	