Improving the preliminary stages of the Criminal Justice System to accommodate people with autism spectrum disorder (ASD).

Joanne Richards

The thesis is submitted in partial fulfilment of the requirements of the award of the degree of Doctor of Philosophy of the University of Portsmouth.
Declaration.

Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of the named candidate and have not been submitted for any other academic award.
Dissemination

At the time of submission articles for each study are in preparation.
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements.</td>
<td>14</td>
</tr>
<tr>
<td>Abstract</td>
<td>15</td>
</tr>
<tr>
<td><strong>Chapter 1. Literature Review.</strong></td>
<td>16</td>
</tr>
<tr>
<td>1:1. Introduction</td>
<td>16</td>
</tr>
<tr>
<td>Vulnerabilities and the provisions provided by the CJS.</td>
<td>18</td>
</tr>
<tr>
<td>The identification of vulnerabilities.</td>
<td>19</td>
</tr>
<tr>
<td>The characteristics of autism spectrum disorder</td>
<td>24</td>
</tr>
<tr>
<td>The neuropsychological theories of ASD.</td>
<td>26</td>
</tr>
<tr>
<td>Executive function.</td>
<td>26</td>
</tr>
<tr>
<td>Information processing.</td>
<td>28</td>
</tr>
<tr>
<td>Social cognition</td>
<td>29</td>
</tr>
<tr>
<td>People with ASD and investigative procedures.</td>
<td>31</td>
</tr>
<tr>
<td>Narrative delivery and people with ASD.</td>
<td>32</td>
</tr>
<tr>
<td>Memory in people with ASD.</td>
<td>34</td>
</tr>
<tr>
<td>1:2. What do police officers know about ASD?</td>
<td>40</td>
</tr>
<tr>
<td>1:3. What do Appropriate Adults know about ASD?</td>
<td>43</td>
</tr>
<tr>
<td>The role of the AA.</td>
<td>43</td>
</tr>
<tr>
<td>How effective are AAs?</td>
<td>44</td>
</tr>
<tr>
<td>The emerging role of the AA.</td>
<td>46</td>
</tr>
<tr>
<td>AAs and their understanding of ASD.</td>
<td>47</td>
</tr>
<tr>
<td>1:4. The police caution and people with ASD.</td>
<td>48</td>
</tr>
<tr>
<td>Understanding the police caution.</td>
<td>49</td>
</tr>
<tr>
<td>People with ASD and their understanding of the police caution.</td>
<td>51</td>
</tr>
</tbody>
</table>
Chapter 2. The perceptions of police officers about interviewees with ASD and their understanding of the condition.

2:1. Introduction.
Aims of the study.

Participants
Materials.
Design
Procedure.
Data analysis.

2:3. Results.
Type of training officers reported.
Planning an interview with a person who has ASD.
Planning for support.
Planning to seek advice
General interview skills.
Interview skills and strategies specific to ASD.
What do police officers know about the characteristics of ASD?
Characteristics of ASD which may impact upon an interview.

3.3 Additional information.

2:4. Discussion.

2:5. Conclusion and recommendations.

Chapter 3. Appropriate adults: their experiences and perception of ASD.

3:1. Introduction.

Aims of the study.

3:2 Method.

Participants

Materials.

Design

Procedure

Data analysis.

3.3. Results.

Supporting people with ASD.

Training in ASD.

Section 1. The role of the AA.

What skills are required to be an effective AA?

Areas of work AAs found most satisfying.

Section 2. Experiences of AAs who reported supporting a person with ASD.

Support offered by AAs to assist people with ASD.

Section 3. The perceptions AAs had about the needs of a person with ASD
Would a person with ASD find a suspect interview difficult?

Expectations of AAs when informed they would be supporting a person who has ASD.

Section 4. What AAs know about the characteristics of ASD?

Comparing what AAs know about ASD and what police officers know about ASD.

Characteristics of ASD which may impact upon a suspect interview.

Additional comments.


3:5. Conclusion and recommendations

Chapter 4. Do people from the higher end of the autism spectrum understand the police caution?

4:1. Introduction.

Aims of study 3

4:2. Method

Participants.

Design.

Procedure.

Scoring and analysis.

4:3. Results of study 3.

Stage 1. Familiarity with the caution.

Stage 2. Self-assessment of understanding of the caution.

Stage 3. Explanation of the caution when the caution was presented in its entirety.
Stage 4. Explanation of the caution when the caution was presented one sentence at a time.  

Interpretation of the caution presented in its entirety.  

The impact of VIQ scores and familiarity of the caution when the caution was presented in its entirety.  

Interpretation of the caution when presented one sentence at a time.  

The impact of VIQ scores and familiarity of the caution when the caution was presented one sentence at a time.  

Does presenting the caution one sentence at a time help participants explain the caution?  

Stage 5. Situations / circumstances which may prevent a person from understanding the caution.  

Stage 6. Understanding the purpose of the caution.  

4:4 Discussion.  

4:5. Conclusion and recommendations.  

Chapter 5. Does an alternative version of the caution increase comprehension in people with ASD?  

5:1. Introduction.  

Aims of study 4.  

5:2 Method.  

Participants.  

Materials  

Design  

Procedure.  

5:3 Results from study 4
Stage 1. Self-Assessment of own understanding of the cautions 180
Stage 2. Explaining pieces of information after the cautions had been presented in their entirety 181
Stage 3. Explaining pieces of information after the caution had been presented one sentence at a time 182

Does presenting sentences of the cautions one at a time assist performance? 183
Stage 4. Reasons why people may not understand the caution. 184
Stage 5. Understanding the purpose of the caution. 185

5:4. Discussion. 187
5:5. Conclusion and recommendations 190

Chapter 6. Exploring the use of context (mental and sketch plan) and memory jogs to help people with ASD recall details about a film clip. 192

6:1. Introduction. 192
Aims 196
6:2 Method. 196
Participants 196
Materials. 198
Design 203
Procedure 203
Scoring. 204
Statistical analysis. 205
6:3. Results. 205
Length of interviews. 205
Memorial performances during the free recall and questioning stages of the interview.

Memorial performance during the free recall stage.

Memorial performance during the questioning stage.

Memorial recall during colour search

Memorial performance during an alphabet search.

6.4. Discussion.

6.5. Conclusion and recommendations

Chapter 7. Discussion.

7:1. Introduction.

7:2. Characteristics of ASD and their impact upon interview procedures

7:3. What do police officers and AAs know about ASD?.

7:4. The way forward; recommendations for further research.

7:5. Conclusion

References

Appendices

Section one. Ethics

Form UPR16

Section Two

Invitation to police participants

Rights in research

Suspect questionnaire

Witness questionnaire

Section Three

Information sheet for AAs
Rights as participants
Questionnaire for AAs
Section Four
AQ test
Section 5
Film script
Participant information sheet
Informed consent sheet
Coding frame

Tables

1:1. Coordinators and professionals’ interpretations of the role of the appropriate adult. (Reproduced from Pierpoint, 2011).

2:1. Number of officers who planned / did not plan support for an interviewee with ASD.

2:2. Type of support officers chose for an interviewee with ASD.

2:3. Number of officer planning to seek advice prior to interviewing a person with ASD.

2:4. Sources officer would refer to for advice.

2:5. General interview skills identified during the planning exercise.

2:6. Characteristics discussed pertinent to a diagnosis of ASD

2:7. Recognising characteristics of ASD. Mean scores calculated from responses to Likert scale questions.

2:8. Characteristics of ASD which may impact upon an investigative interview.
3:1. Key duties of an AA.

3:2. Skills required to be an effective AA.

3:3. The most satisfying aspects of being an AA.

3:4. Reasons why people with ASD would find a suspect interview problematic.

3:5. Expectations of AAs when working with a person who has ASD.

3:6. Recognising characteristics of ASD. Mean scores from Likert scale questions.

3:7. Recognising the characteristics of ASD. The mean scores of AAs and the mean scores of police officers.

3:8. Characteristics of ASD which may impact upon a suspect interview.

3:9. Characteristics that are not associated with a diagnosis of ASD

4:1. The mean age, AQ and VIQ scores of participants according to population and caution presentation.

4:2. Number of correct responses when the caution was presented i) in its entirety and ii) sentence by sentence

4:3. Reasons why people may not understand the caution.

4:4. Explaining a consequence of not understanding a sentence of the caution. Number of correct responses

5:1. Mean ages, AQ scores and VIQ scores according to population and caution condition

5:2. Pairing the pieces of information of the alternative version and standard version of the caution.
5:3 Explaining pieces of information when the cautions were presented i) in their entirety and ii) sentence by sentence

5:4. Reasons why a person may not understand the caution

5:5. Explaining consequences for not understanding a pieces of information of the cautions. Number of correct responses

6:1. Mean scores for age, AQ and VIQ scores according to population group and interview condition.

6:2. Duration of interviews (minutes) for the first two retrieval stages i) free recall and ii) questioning

6:3. Mean scores for memorial performance during free recall and questioning across interview condition and population type.

6:4. Mean scores for detail type over the first two retrieval stages across interview condition and population type.

6:5. Mean scores for memory recall using colour search.

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Abstract

This thesis presents a series of studies that explore the creation of an autism friendly environment within the Criminal Justice System. The first study explored the perception and understanding of police officers regarding autism. It was found that although police officers have some knowledge of the traits of Autism Spectrum Disorder, they fail to accommodate for these when planning a witness or a suspect interview. Appropriate Adults support vulnerable suspects in custody and the second study found that Appropriate Adults also failed to apply what they know about autism to their work. However, the study revealed instances where the characteristics of autism can damage the progress of an interview. Hence, the study concluded that to be effective, Appropriate Adults must monitor behaviours which may arise as a result of internal characteristics. Study 3 examined how people from the higher end of the autism spectrum understand the current caution. It was found that people with autism performed comparably to those from the general population. Overall both populations where not very good at explaining the caution in full, and performed poorly when explaining its function. An alternative version of the caution was devised for study 4, however this had mixed results. It was useful to participants when they explained the caution one sentence at a time, and helped in the understanding of its function. However, there were damaging effects. People with autism performed poorly when explaining the sentence which informs that what is said can used as evidence. Study 5 attended to people from the higher end of the autism spectrum as witnesses. Results showed that the Mental Reinstatement of Context and Sketch plan Mental Reinstatement of Context both had a positive impact on the recall of information. Additionally the use of memory jogs, a colour search and an alphabet search helped people with autism to provide additional pieces of information, particularly relating to person descriptors.
Chapter 1: Literature review

1:1. Introduction

On the 16th June 2012, a 17 year old girl was arrested, spent 10 hours in a police cell and was subsequently charged with being drunk and disorderly. This charge was issued despite a medical examination which concluded that the girl was sober and information from the girl's mother explaining that her daughter had autism.

Eventually, in January 2013 the prosecutors agreed to drop the case (Hull, 2013), and the matter was referred to the Independent Police Complaints Commission (Jaleel, 2013). This event followed a case where police were deemed to have acted unlawfully, with excessive force when restraining a 16 year old boy with autism after being called to an incident at a swimming pool. This reported event prompted the Guardian newspaper to post the headline 'Police Ignorance about autism must end' (Clark, 2012), and the Daily Telegraph carried on its website a video recording in which a spokesperson from the National Autistic Society discussed a need for the police to be more aware and sensitive about autism (The Telegraph, 2012).

An evaluation of the specifics of these cited cases is possibly unwise where only the perspectives of the journalists are recounted. However, what these articles do signify is that the media is now giving attention to how people with autism are treated when they have contact with the Criminal Justice System placing police officers under scrutiny. This attention coincides with recent legislation. The Adult Autism Act, 2009 placed obligations on the government to produce a strategy to help service providers attend to the needs of people with autism spectrum disorder (ASD)\(^1\). This culminated in the document *Fulfilling and rewarding lives: the strategy for adults with autism in England* (Department of Health, 2010). Pertinent to the CJS the document states that professionals must receive training regarding ASD and should become aware of the communication difficulties experienced by people on the autism spectrum (Department of Health, 2010). The document also noted that people with ASD may

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\(^1\) It is noted that the term autism spectrum condition (ASC) is also used to describe people on the autism spectrum (see Baron-Cohen, 2000 for a discussion on the use of the term ASC). For the purpose of this research the term ASD has been chosen to represent this population. This is in keeping with documentation produced to assist the Criminal Justice professionals such as Achieving Best Evidence (Home Office, 2011).
require assistance to progress through forensic procedures (Department of Health, 2010).

As a result of the media attention and the Autism Act, 2009, it is now timely to explore how the CJS is catering for the needs of people with ASD. The research in this thesis concentrates upon one of the initial stages of the CJS, focusing upon issues which arise during investigative interviews. Firstly, recognising that police officers are one of the first points of contact for those engaged with the CJS, an aim of this research was to discover what police officers know about the condition, and find out how their perceptions affect their practice. Secondly, this thesis focused upon those who support detained persons while in custody, namely trained appropriate adults (AAs). Study 2 was designed to discover how aware trained AAs are about the characteristics and needs of people with ASD. Thirdly, to explore how people with ASD may react to CJS procedures a study was developed to see if people from the higher end of the autism spectrum understood the police caution. Finally, a study was designed to determine the most effective ways of eliciting detailed and accurate information from a witness with ASD.

At this point, it should be noted that ASD is a heterogeneous condition. That is the manifestations lie across a spectrum, where those at the lower end have additional learning disabilities. This thesis, and much of the research referred to in this literature review are concerned with people from the higher end of the autism spectrum. This is because it is believed that most people with ASD who have contact with the CJS will be those considered to be higher functioning (Woodbury-Smith, Clare, Holland, Kearns, Staufenberg & Watson, 2005).

Before the aims of this research study are fully expounded upon it is necessary to provide some background information to set the scene. This literature review will firstly explore how the CJS provides for people who are considered vulnerable and will give some thought to the difficult task of identifying vulnerabilities. Following this, attention will focus upon the specific characteristics of ASD, and consideration will be given to how these traits and psychological manifestations may render a person with ASD as vulnerable during investigative procedures. Finally the aims of the research in this thesis will be discussed in light of what is known about ASD.
Vulnerabilities and the provisions provided by the CJS

Members of the general population may become involved in police investigation procedures as; i) suspects who have an alleged involvement in a criminal activity, ii) witnesses, who have observed an event or hold information relating to it, or iii) victims who have experienced the adverse effect of criminal behaviour. It is now understood that due to personal characteristics some individuals may be disadvantaged during investigative procedures. That is internal traits may impair a person’s ability to respond to forensic procedures such as understanding the police caution or taking part in face to face interviews (Gudjonsson, 2005). Legislation now provides safeguards for people considered vulnerable during investigative procedures. However, the nature of these resources depends on whether a person enters the CJS as a suspect or witness.

The Murder of Maxwell Confait in 1972 became a landmark case which brought about changes to police practice regarding the suspect interview. During police interrogation three youths confessed to murder and an act of arson. One of the youths, eighteen year old Colin Lattimore had a learning disability and after undergoing psychological assessment was deemed as having the emotional and intellectual abilities of an eight year old (Fisher, 1977). Fifteen year old Ronald Leighton who was also involved in the offence, was judged to be illiterate. After psychological evaluation, in the vernacular of the time, he was considered to be an ‘immature, inadequate, simple dullard’ (Fisher, 1977, p 47). During their trial the boys complained that they had been physically assaulted by police officers. Their confessions were retracted but despite all three youths having alibis they were convicted. Finally, three years later the court of appeal quashed their convictions.

The Confait case alerted the CJS to the miscarriages of justice that can occur as a result of the combination of a suspect’s vulnerability and oppressive police practice. The subsequent Fisher report (1977) prompted the Royal Commission of Criminal Procedures which influenced the Police and Criminal Evidence Act (PACE, 1984) (Gudjonsson, 1993). To safeguard against miscarriages of justice PACE (1984) legislated that all suspect interviews had to be audio recorded. To protect vulnerable

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2 From here on the term witness will be used to describe a person who has been a witness and or a victim of a criminal act.
suspects Code C which accompanied PACE (1984) instructed that any suspect thought of as vulnerable must be interviewed in the presence of an Appropriate Adult (AA). Any person over the age of eighteen, not involved in the alleged offence can act as an AA. Code C stipulates that an AA is not a mere observer to interview procedures; rather they are required to ensure that the interview is conducted fairly free from duress, and to advise the suspect and help with issues related to communication (Code C, Home Office, 2014).

Where PACE provided for suspects considered vulnerable the Youth Justice and Criminal Evidence Act (1999) addressed the needs of vulnerable witnesses. The Act legislated for special measures to help vulnerable witnesses during judicial procedures. This includes the use of screens to shield the witness, live TV links, recorded evidence-in-chief, the use of communication aids and the services of intermediaries (see Smith & Tilney, 2007, for further detail). To assist the communication needs of those considered vulnerable Registered Intermediaries can also be employed to offer assistance during the interview stage. Registered Intermediaries tend to be professionals from the field of speech and language therapy, psychology or education who have the skills to carry out assessments and provide for an individual’s specific communication needs (Plotnikoff & Woolfson, 2007). Their purpose is to enhance communicative interactions between all agents, ensuring clarity and understanding. The role and duties of an intermediary are detailed in the Registered Intermediary Procedural Guidance Manual (Ministry of Justice, 2012). It is also noted that a vulnerable witness may benefit from an interview supporter, a person whose purpose is to offer emotional support (Home Office, 2011)

Resources are available to protect the vulnerable suspect and witness, however these can only be applied if it is recognised that an individual is indeed vulnerable and at risk during investigative procedures. The following section reports upon the complex task of identifying vulnerabilities, at the onset.

The identification of vulnerabilities

Legislation attempts to offer some guidance on the identification of those who may be considered vulnerable during CJS procedures. However, different terminology is applied according to whether an individual is entering the CJS as a witness or
suspect. Legislation which oversees practice in custody is presented in the updated code C which supports PACE (1984) (Home Office, 2014). Regarding suspects who may be at risk, Code C draws attention to adults who are ‘mentally disordered’ (that is suffering any mental disorder or disability of the mind in accordance with the Mental Health Act 1983), and or mentally vulnerable’. The term ‘mental disorder’ encapsulates for example, mental illness, psychotic or depressive condition and dementia (Fennell, 1994). Section 1G of the code explains that a person may be mentally vulnerable due to a diminished capacity which may impair an understanding of what is said to them (Home Office, 2014). The code advises that a consequence of these vulnerabilities may be the submission of statements which are unreliable, misleading or self-incriminating (11C, Home Office, 2014).

Concerning those who enter the CJS as witnesses the Youth Justice and Criminal Evidence Act (1999) identifies the following adult populations who, due to internal characteristics, could be considered vulnerable;

- adult witnesses who suffer from mental disorder as defined by the Mental Health Act (1983) (Now superseded by the Mental Health Act, 2007),

- adult witnesses who have a significant impairment of intelligence and social functioning (learning disability), and

- adult witnesses who have a physical disability or physical disorder (Home Office, 2011).

It is important to understand, that if an individual, be they suspect or witness, fits into one of the above mentioned categories this does not mean that he or she will be incapable of providing evidence. Gudjonsson (2003a) discussed the case of a victim referred to as Mary, who claimed to have been sexually assaulted by a group of young men and women. Although Mary had severe learning disabilities, it was concluded, after psychological assessment, that she could provide reliable evidence as long as the interviewing environment was conducive to her needs. The ethos of reform in the CJS is to ensure individuals are protected and officers use their skills to create the maximum opportunity for vulnerable people to provide reliable evidence.
The pioneering work of Gudjonsson has exposed the risk of miscarriages of justice for people thought to be vulnerable. As such identification is vital prior to investigation to ensure resources are employed to protect the vulnerable person (Gudjonsson, 1993). To improve identification of vulnerabilities it is suggested that the use of vague, generic labels is of little value. A concern is that these labels have no 'operational' definition (Gudjonsson, 1993, p 121). They do not explain how an individual may be disadvantaged (if at all) during the stages of the investigation (Pearse, Gudjonsson, Clare & Rutter, 1998). Rather than relying upon the use of labels, there is a move towards adopting an 'individual difference approach'. This focuses upon how an individual functions during investigative procedures (Grisso, 2003). A crucial concept which places people at risk during investigative procedures is a person’s ability to resist acquiescent, compliant, and suggestible behaviours (See Gudjonsson 2003a, 2003b). This redirects attention to ‘personality traits’ rather than the degree of mental or intellectual disorder (Gudjonsson & Young, 2011).

Acquiescence in an interview environment arises when an interviewee feels obliged to answer ‘yes’ to questions without fully appreciating the implications of their responses (Kassin & Gudjonsson, 2004). In a forensic environment compliance is evinced when an interviewee goes along with a statement even if they secretly disagree with its content (O’Mahony, Milne & Grant, 2012), and this behaviour is thought to be rooted in an individual’s desire to please someone and avoid conflict (North, Russell & Gudjonsson, 2008). Consequently compliance is a conscious behaviour that an individual resorts to in order to secure a short term personal gain or reward (Gudjonsson & Sigurdsson, 2003). For example, in an investigative scenario a person may be compliant in order to bring an interview to an end, speed up their release from custody, or to please a person in authority (Gudjonsson, Sigurdsson, Brynjólfsdóttir & Hreinsdóttir, 2002). To recognise those at risk due to compliant tendencies, psychologists can make use of tests such as the Gudjonsson Compliance Scale (GCS). However, psychological tests may not be able to predict the potential for compliant behaviour. Compliancy, although a personality trait, can also be a response to a situation. This means that it can be affected by for example, the demeanour of the interviewer, the mood of the subject, and feelings of guilt and manipulation of self-esteem (see Gudjonsson & Sigurdsson, 2003). A person who
becomes compliant due to situational conditions may not score significantly on the 
GCS.

Interrogative suggestibility occurs when individuals accept information presented 
during an investigation which impacts upon their subsequent behaviour (Milne, Clare 
& Bull, 2002). It is noted that suggestibility is a wide ranging term and can be a 
product of; referencing another person’s experiences as one’s own, relying upon 
stereotypes to compensate for memory, responding affirmatively to misleading 
questions and changing information after receiving negative feedback (Gignac & 
Powell, 2009). When exploring interrogative suggestibility focus tends to fall upon 
two behaviours; i) yield and ii) shift (Gudjonsson, 2003b). Yield is brought about 
when an interviewee succumbs to the influences of a leading question or to new or 
misleading information. A leading question is one which indicates a particular answer 
is correct (Baxter, Charles, Martin & McGroarty, 2013). Shift is a change to a 
response as a result of receiving negative feedback (Gudjonsson, 2003b). Negative 
feedback decisively criticises or challenges a person’s response and is a form of 
‘interpersonal pressure’ which plays upon social factors (Baxter, Charles, Martin & 
McGroarty, 2013). That is the person being challenged becomes focused upon the 
need to manage the interpersonal situation and so becomes anxious to appease the 
questioner. As such anxieties distract the individual from concentrating upon their 
memorial recall (see Baxter, Charles, Martin & McGroarty, 2013).

The Gudjonsson Suggestibility Scales (GSS1 and GSS2) have been widely used in 
research and forensic settings to assess individual differences in suggestibility. 
However, as with compliancy, suggestibility may be state specific, and as such may 
be missed during psychological assessment. Horselenberg, Merckelbach & Josephs 
(2010) replicated a study conducted by Kassin & Kiechel (1996). In this earlier study 
which involved typically developing individuals, the researchers were able to elicit a 
false confession from 69% of 75 participants when they were falsely told they had 
damaged a computer by pressing the ‘ALT’ key. Indeed 9% of the participants when 
challenged provided confabulated information to support their admission (Kassin & 
Kiechel, 1996). The later study produced similar results. Participants accepted the 
false information that they had damaged the computer even when admitting to the 
offence meant they would forfeit some of the fee they were to receive for taking part 
in the experiment (Horselenberg, Merckelbach & Josephs 2010). Individuals in this
study had been tested using the GCS and GSS measures and consequently
evidence was found to suggest that suggestibility scores did not predict the likelihood
of making a false confession. In summary it was found that making a false
confession was not related to a personality trait but was rather context dependent
(Horselenberg, Merckelbach & Josephs 2010). These results are of some concern. If
assessment procedures find a person to be robust to suggestibility this does not
mean that in certain situations they will remain immune to negative feedback.

It is the responsibility of the custody officer to identify any characteristics which may
result in a person being categorised as at risk during investigative procedures
(Herrington & Roberts, 2012). There is however, concern amongst officers that they
have not received adequate training to enable them to recognise vulnerabilities (see
Cant & Standen, 2007; Cummins, 2007; Gendle & Woodham, 2005). Detecting
vulnerabilities is a demanding task for police officers. This is particularly so in
recognising individual differences. Acquiescence, compliance and suggestibility may
be subtle behaviours, not immediately evident. In a busy, noisy, custody suite, where
there are time restraints these behaviours may be easily missed. Indeed,
psychologists themselves have identified the difficulties of making assessment in a
chaotic custody environment (Pearse, Gudjonsson, Clare & Rutter, 1998).
Furthermore, if these behaviours rely upon interaction in order to become apparent,
they may not be noticed until the interview is in process, at which time the
opportunity to provide support may have been missed. Finally, if these concepts are
state specific an interviewing officer may not be able to fully depend upon the results
in reports made from psychological tests. These examples indicate how easy it may
be for police officers to miss ‘individual differences’ which may potentially place a
person at risk during interview procedures.

The importance of recognising the impact of compliant and suggestible behaviour
has been well documented (Gudjonsson, 2003b). However, it must be noted that an
ability to resist these does not mean that a person will be robust during an interview.
This is particularly important when considering the possibility of people with ASD as
being potentially vulnerable. To date research exploring the compliant and
suggestible behaviour of people with ASD is inconclusive. Reporting upon a case
study of an individual offender referred to as Mr B, Clare & Woodbury-Smith (2009)
reported that this individual scored the highest maximum score when tested using
the GSS. However, in subsequent research people with ASD have been found to be no more suggestible than members of the general population (North, Russell & Gudjonsson, 2008; Maras & Bowler, 2012). Indeed if suggestibility is in part a reaction to social pressure, it may be expected that people with ASD who do not immediately engage with social situations or understand social rules may resist or even be unaware of this pressure. North, Russell & Gudjonsson (2008) did however find that people with ASD were susceptible to compliant behaviour, although in a recent study people with ASD were found to be no more compliant than members of the general population (Maras & Bowler, 2012). It is suggested that people with ASD may find the demands of a police interview difficult and may consequently suffer levels of distress (North, Russell & Gudjonsson, 2008). However, to discover why people with ASD may be at risk, it is necessary to briefly examine the specific characteristics of the condition. The following sections of this literature review will discuss the characteristics of ASD and explore their possible impact on a forensic interview.

The characteristics of autism spectrum disorder

ASD is a lifelong condition attributed to neurological disturbances occurring before birth (Frith, 2001, p969). According to the main classification system used (at the time of writing) to diagnose ASD the *Diagnostic and Statistical Manual of Mental Disorder-IV-TR* [DSM-IV-TR] (American Psychiatric Association, 2000) the core features of ASD are demonstrated by a qualitative impairment in communication and social interaction skills, accompanied by rigid repetitive rituals and stereotyped behaviour.

The term Autism Spectrum Disorder suggests that the key features of autism spread across a spectrum. This means that the main traits can manifest within any developmental level (Wing, 1997). The presence of an intellectual disability is a common co-occurrence with ASD (Matson & Shoemaker, 2009) and where this occurs the individual is described as being at the lower end of the spectrum or having low functioning autism (LFA) (Boucher, 2009). By contrast those who are at the higher end of the spectrum are thought to have no developmental impairments and are in possession of an average or above average IQ (Baron-Cohen, 2008). Those from the higher end of the spectrum may have Asperger’s Syndrome or be
described as having high functioning autism (HFA). There is some debate over the relationship between Asperger’s Syndrome and HFA (see Volkmar, Klin, Schultz, Rubin & Bronen, 2000; Woodbury-Smith, Clare, Holland & Kearns, 2006). However, it is not within the remit of this work to expound upon this debate. For the purpose of this thesis it is acknowledged that a diagnosis of Asperger’s syndrome is made upon the understanding that the individuals’ developmental histories demonstrate no delay in the acquisition of language and intellectual skills (Boucher, 2009). Some people from the higher end of the spectrum may be in higher education or employment or living independently in the community (see Barnhill, 2007 for a review). Conversely those from the lower end of the spectrum may remain dependent upon others for all their routine and personal needs. Thus ASD is observed to be a heterogenic condition (Happé, Ronald & Plomin, 2006) where intellectual level and language ability will determine where they sit upon the autism spectrum.

The prevalence of autism is not affected by class or culture, though the incidence is higher in the male population (Martin, 2008), males being affected up to four times more than females (Wing, 1997). There is evidence to suggest that the prevalence of ASD has increased in recent years, and it is estimated that an autistic disorder affects 20/10,000 (Fombonne, 2009). To date no biological tests exist to identify ASD. Diagnosis is generally made from the observation of or reporting of behavioural patterns and the collection of information relating to an individual’s developmental history (Wolf & Kelley, 2011). The cause or causes of ASD are not established, however it is understood that genetics are a major contributing factor to the risk of developing ASD (Hill & Frith, 2003). Indeed, ASD is considered to be one of the most ‘heritable’ of all developmental disorders (Frith & Happé, 2005). Additionally, with the advances made in the field of neuroimaging there is now concern that brain anomalies such as abnormalities in the amygdala, hippocampal regions and prefrontal cortex can predict autistic behaviour (see Boucher et al, 2005). Although the causes of ASD remain inconclusive, neuropsychological theories have been put forward to explain the observable behaviours in terms of brain function. To further develop an understanding of ASD, these theories will be briefly discussed.
The neuropsychological theories of ASD

The major theories which have been used to explain autistic behaviour are concerned with i) executive functioning, ii) information processing, and iii) social cognition (Rozga, Anderson & Robins, 2011). A brief explanation of these psychological theories is useful to further explore the characteristics of ASD and provide insight into the condition.

Executive function

Executive function is a term used to describe higher order cognitive functioning skills necessary for goal directed behaviour (Bebko & Ricciuti, 2000). To access executive function skills an individual must be able to disengage from the immediate environment (Hill, 2004a) and utilise ‘effortful processing’ (Happé, Booth, Charlton & Hughes, 2005). Executive function skills are required to adapt to new or complex situations and involve activities such as; planning, shifting set, working memory, control, monitoring, initiation and inhibition (Hill & Frith, 2003). People with ASD have impaired executive functioning (see Hill, 2004b for a review), and this deficit has been put forward to explain some of the non-social features of ASD. For example, the need for routine and sameness, a preoccupation with special interests (Frith & Happé, 2005), inflexibility, and distress responses to change (Ozonoff, Pennington & Rogers, 1991) are all explained by the executive dysfunction theory. A review of research conducted since 2004, concluded that the most common problems for people with ASD are in activities which require planning skills and mental flexibility (Kenworthy, Yerys, Anthony & Wallace, 2008). Difficulties associated with mental flexibility (sometimes referred to as set shifting) occur when there is a need to redirect attention to a new thought, activity or topic to accommodate for changes in the environment (Hill, 2004b). Perservative behaviour is considered a defining feature of ASD, explaining why people can become ‘stuck’ in a task or activity (Hill & Frith, 2003). Perseverations are a result of executive dysfunction, an example of which is poor performance on the Wisconsin Card Sorting Task (WCST) (Hill, 2004b). The WCST requires cards to be sorted according to either, the colour, shape or number they display. The strategy for sorting the cards is not revealed to the participant who has to rely upon the tester’s feedback to make successful matches. Once the participant has succeeded, the tester, without informing the participant
changes the strategy. Perservative behaviour is identified when the participant cannot adapt to the newly introduced strategy (South, Ozonoff & McMahon, 2007).

Explaining autism in terms of executive dysfunction has some limitations. In order to be seen as a causal deficit of ASD, executive dysfunction must be seen in all ASD populations irrespective of cognitive abilities (Hill & Bird, 2006). Executive function skills are likely to be related to cognitive development, as exemplified in a study conducted by Bebko & Ricciuti (2000). This study looked at the executive function tasks required to assist memory strategies. It was found that higher functioning children with ASD performed better than those with ASD who additionally had a moderate intellectual impairment. If dysfunction in executive skills is an explanation of ASD it might be expected that the impact of impairment would be stable across the ASD population. Additionally it is postulated that performance on executive functioning tasks is related to verbal IQ. As such impairment is not universal in people with ASD but rather exist in ‘subsets’ (see Liss, Fein, Allen, Dunn, Feinstein, Morris, Waterhouse & Rapin, 2001). In a study by Kleinhans, Akshoomoff & Delis (2005) a series of executive function tests were administered to participants with autistic disorder and Asperger’s syndrome and the study concluded that problems arose only on complex verbal tasks. Interestingly, performance improves on the WCST when the task is administered via a computer (Ozonoff, 1995). Consequently there is a suggestion that poor performance may be related to social interaction difficulties (Kenworthy et al, 2008; Liss et al, 2001). Furthermore, executive skills are not ‘globally impaired’ in people with ASD (O’Hearn, Asato, Ordaz & Luna, 2008). The Stroop test is commonly used to measure inhibition responses. In this test the names of colours are presented in a written format, but different coloured inks are used, so the word blue may be written in red ink. The aim of the test is to inhibit the meaning of the word and report the colour of the ink (see Hill, 2004a). Research has found that people with ASD are generally not impaired on inhibition tests (Hill, 2004a; Kleinhans, Akshoomoff & Delis, 2005; O’Hearn, Asato, Ordaz & Luna, 2008 but see Verté, Geurts, Roeyers, Oosterlaan & Sergeant, 2005 for alternative findings). A further concern is that executive dysfunction is not limited to the symptoms of ASD. It has also been observed in people with Attention Deficit Hyperactive Disorder, dyslexia, Obsessive Compulsive Disorder, Tourette syndrome and conduct disorder (Hill, 2004b). However, some studies have shown that those with ASD have a distinct
profile (see Verté et al, 2005 for a comparison of ASD and Tourette syndrome). Finally it is has been proposed that the weak central coherence account is better suited to explaining difficulties in shifting attention (Rinehart, Bradshaw, Moss, Brereton & Tonge, 2001). The following section discusses how a different processing style has been used to explain the characteristics of ASD.

Information processing

People with ASD have ‘cognitive machinery’ which, compared to typically developing individuals, results in a different perspective of the world (Frith, 2012). Typically developing people are naturally drawn to attend to information globally, that is meaning and context are acquired by attending to the overall picture (Loth, Gómez & Happé, 2007). However, people with ASD process information differently with a bias towards local rather than global detail (Booth & Happé, 2010). Frith (1989) proposed that a drive for meaning falls along a continuum and people with ASD favour a weak central coherence (WCC) and this processing style can describe both the weaknesses and strengths in people with ASD. For example, it has been found that people with ASD have a superior ability performing visuo-spatial tests such as the Embedded Figure Test (Jolliffe & Baron-Cohen, 1997) and the Block design test (Shah and Frith, 1993). However, the deficits in a WCC processing style suggest that local detail is focused upon at the expense of global information. During exercises where people with ASD had to complete sentence stems, they failed to elicit globally meaningful responses (Booth & Happé, 2010). Additionally people with ASD fail to use the correct pronunciation of homographs when reading a story (Happé, 1997), and have problems making inferences and integrate information when answering questions related to a narrative (Nuske & Bavin, 2011).

A tendency to focus upon local detail may impair the ability to generate contextual and global information (Gras-Vincendon, Mottron, Salamé, Bursztejn & Danion, 2007). However, a study that found children with ASD to be able to use context to generate meaning must be considered (see Lopez & Leekam, 2003). In this instance it was found that children with ASD were able to make use of holistic information during visual semantic tests. The researchers concluded that difficulties were the result of complex, verbal stimuli. Interestingly, problems arising from WCC can be overcome when people with ASD are guided towards focusing upon contextual detail.
(see Hala, Pexman & Glenwright, 2007) or after they have received specific training (Aljunied & Frederickson, 2011). Consequently this implies that if an individual is in receipt of the appropriate cognitive skills the effects of WCC can be overcome. However, this would not explain why people from the higher end of the spectrum display behaviours associated with WCC such as favouring parts of objects, a desire for ‘sameness’ (Booth & Happé, 2010), and a focus upon ‘trivialities’, ‘technicalities’ and circumscribed special interests (South, Ozonoff & McMahon, 2007). Additionally the account has been used to explain problems with joint attention and pretend play (Happé, 1994). There have been attempts to use WCC to explain poor performance on false belief tests (see O’Loughlin & Thagard, 2000). However, in general failure on false belief tests are explained by impoverished Theory of Mind skills which will be discussed in the following section.

Social cognition

Difficulties with social cognition amongst people with ASD have traditionally been attributed to problems related to an impaired Theory of Mind (see Baron-Cohen, Leslie & Frith, 1985). Theory of Mind (ToM) refers to the ability typically developing individuals have to attune themselves to the thoughts of others, so identifying their intentions and needs (Frith and Happé, 1994). ToM activities are considered necessary for the development of social interaction skills, emotional understanding, and communication skills (Coull, Leekam & Bennett, 2006). Consequently impaired ToM accounts for the social and communication deficits which form part of the diagnosis for ASD (Hill & Frith, 2003).

Impaired ToM is evident when individuals fail ‘false belief’ tasks. Possibly the most well-known false belief test is the Sally-Ann doll test. Dolls or cartoon characters are used to act out a scenario which results in the observer having a piece of knowledge not available to one of the characters. Test conditions are constructed to assess if the participant understands that one of the characters will not know what the observer knows. Being able to infer that one person’s mental state is different to one’s own is referred to as first order false belief. Children with autism have problems passing first order false belief tests (Baron-Cohen, Leslie & Frith, 1985). Incorporating more complex social interaction scenes, second order false belief tasks are concerned with ‘he thinks that she thinks’ understandings (Perner &
Wimmer, 1985) and research has found that children with ASD have problems succeeding on such tests (Baron-Cohen, 1989). However, alternative findings have arisen that suggest cognitively able children with ASD with greater verbal dexterity are indeed able to pass second order theory of mind tests (see Leekam & Prior, 1994). Such findings may question the ability of the ToM account to fully explain social problems. That is if higher functioning ASD people can pass ToM tests then this would suggest their problems with social interaction situations would be diminished but this is not the case (Loth, Gómez & Happé, 2007). Although some people with ASD can follow instructions to pass ToM tests in controlled conditions, in daily living it is noted that people with ASD fail to operate such skills spontaneously (Senju, Southgate, White & Frith, 2009).

Evolving from the impaired ToM account, the mind blindness theory relates to poor skills in empathising with others (Baron-Cohen, Wheelwright, Lawson, Griffin & Hill, 2002). Empathy allows us to intuitively attune to the feelings of others and is referred to as the ‘glue’ of the social world (Baron-Cohen & Wheelwright, 2004). Research has indicated that people with autism score low on tests for empathy (Baron-Cohen & Wheelwright, 2004). To further test the ToM account of autism more advanced tests have been devised, requiring participants to detect sarcasm, non-literal use of language, irony, double bluff and faux pas. When these tests were administered to higher functioning ASD children it was found they underperformed compared to the comparison group (Baron-Cohen, O’Riordan, Stone, Jones & Plaisted, 1999).

ToM deficits are not specific to people with ASD and have been found in other population groups. For example, those with bipolar affective disorder and schizophrenia (Kerr, Dunbar & Bentall, 2003), and children with Down syndrome, individuals with intellectual disabilities, hearing and visually impaired children, and typically developing children under the age of four (see Boucher, 2012).

The three major neuropsychological theories have been briefly described. However, it should be noted that these theories are subject to some debate. A chief concern is that not one of these theories on its own explains all of the key features of ASD (Eigsti, 2011). There is however, an emerging thought suggesting that it is not possible to search for a single explanation for the characteristics of ASD (Happé, Ronald & Plomin, 2006). The ‘fractionable’ theory of the triad of impairments in ASD
suggests that the cognitive deficits are independent at genetic, behavioural and
cognitive levels so suggesting their manifestation will not be equal across the ASD
population (see Brunsdon & Happé, 2013).

Having briefly outlined the characteristics of ASD and introduced the concept that the
condition spreads across a spectrum it is now useful to consider how these traits
may impact on investigative procedures.

People with ASD and investigative procedures

The behaviour of people with ASD could hinder investigative procedures culminating
in the production of unreliable statements (Berney, 2004). This is because people
with ASD may fail to understand the structure of the interview and the rules and
relationships that preside (Berney, 2004). Furthermore, the situation can be
exacerbated if the interviewee with ASD has to cope with being interviewed in an
environment they are unfamiliar with (Berney, 2004). This is compounded by
impaired communication skills, where people with ASD may infer literal interpretation
of language, have difficulties understanding nonverbal communication, and
demonstrate a tendency to use words inappropriately (Berney, 2004). Unfortunately
there is currently a dearth of empirical evidence that examines how people with ASD
respond during a forensic interview. Clare and Woodbury-Smith (2009) provide some
information reporting upon case studies. The researchers observed how one
individual suspect referred to as Mr B demonstrated a poor understanding of
complex social situations, failed to appreciate the impact of his actions upon the
victim, and it was also noted that his expressive language was more sophisticated
than his ability to comprehend incoming information. With little empirical evidence
available to inform upon how people with ASD respond to investigative interviews, it
is necessary to turn to what is known about the behaviours of people with ASD and
assess any implications.

An investigative interview has been described as a dynamic environment reliant
upon the exchange of communication and interaction (Oxburgh & Dando, 2010).
Thus to be effective, an individual will require the necessary skills to successfully
communicate their information. In an interview scenario this is particularly important
because the quality of a person’s narrative will influence the amount of useful
forensic information an interviewing officer can obtain. Thus a narrative deplete in
information or lacking coherence may reduce the possibility of further investigation. The following section discusses what is known about the narrative ability of people with ASD.

Narrative delivery and people with ASD

A successful narrative portrays the views, understandings and experiences of a narrator, presented in a coherent style which is comprehensible to the listener (Capps, Losh, & Thurber, 2000). The drive behind a narrative is a desire or motivation to share information with another person (Goldman, 2008) while its effectiveness depends upon an ability to recognise what information is relevant to the listener. A narrator must therefore assess what the listener already knows, what they do not know and what they need to know (Colle, Baron-Cohen, Wheelwright & van der Lely, 2008). This suggests that a narrative is developed by building upon social, emotional, cognitive and linguistic skills. However, because ASD is defined in terms of social and communication impairments there is some concern that people with ASD may have difficulties when constructing narratives (Losh & Capps, 2003).

Colle, Baron-Cohen, Wheelwright & van der Lely (2008, p29) suggested that the quality of narratives delivered by people with ASD may be marred due to an ‘insensitivity’ towards the needs of the listener. This lack of sensitivity can be explained by impaired Theory of Mind skills (see Baron-Cohen, 1997; Baron-Cohen, Leslie & Frith, 1985; Frith & Happé, 1999). Difficulties recognising the mental state of others may cause problems when making inferences about what others are thinking or feeling. Consequently this may result in people with ASD providing ineffective narratives, failing to recognise what is important or relevant to the needs of their listeners (Colle, Baron-Cohen, Wheelwright & van der Lely, 2008). This has implications for the CJS. People with ASD may provide incomplete accounts of an event if they fail to implicitly understand what the interviewer requires from them.

When constructing a narrative it is understood that people rely upon gist interpretation, providing an overview of the recollected event. That is the meaning or sense of a situation is obtained by attending to its global features rather than an occupation with specific details. This perceptual process was noted in the early work of Bartlett (1932). After conducting a study where people were required to recall a
complex, unfamiliar story, Bartlett (1932) concluded that participants did not attempt to recall the story word for word, but rather constructed meaning by identifying the overall context, or bigger picture. Frith (1989) referred to the tendency to process information globally and in context as central coherence, and noted that this processing style spans across a continuum. People with ASD are thought to adopt a weak central coherence (WCC) perceptual style where focus is placed upon the parts rather than the whole (Booth, Charlton, Hughes & Happé, 2003; Frith, 1989; Frith & Happé, 1994). Colle, Baron-Cohen, Wheelwright & van der Lely (2008) warn that people with ASD may deliver narratives that focus too strongly upon localised, inconsequential aspects of a scene. Of course, if the local focus has forensic value then a person with a WCC style of processing information could provide valuable information. Alternatively, the damaging effect would be the collection of irrelevant information at the expense of the overall content of the event. Additionally, Baron-Cohen (2008) discusses a tendency people with ASD have to become trapped on specific detail, a behaviour he describes as being ‘stuck in a groove’. This inflexibility in switching attention may have some consequences in the quality of a narrative a person with ASD provides during a forensic interview. An interviewee with ASD may limit their accounts by being unable or reluctant to respond to requests to switch between different topics or focus their attention upon other aspects of the scene.

Finally, the social interaction deficits experienced by people diagnosed with ASD may have implications regarding the quality of a narrative. It is suggested that some people with ASD have little interest in other people (Baron-Cohen, 2008), and fail to attend to the salient features of social events (see Fletcher-Watson, Leekam & Findlay, 2013). To this effect people with ASD may fail to acknowledge social aspects of an event that could reduce the quantity and quality of their eyewitness accounts. In a study engaging eye tracking technology people with ASD who scored low on measures of social competence spent more time fixating upon objects rather than people (Klin, Jones, Schultz, Volkmar & Cohen, 2002). An implication for the forensic interview therefore, is that narratives may concentrate upon parts of the environment rather than the actions and features of individuals. However, there is some evidence from research that people with ASD do attend to social information, although the attention is less marked during the early stages of fixation compared to members of the general population (Fletcher-Watson, Leekam, Benson, Frank &
Findlay, 2009). Consequently, although social stimuli may be attended to any fleeting information or rapid changes during the social discourse may be lost due to a poorer quality of attention (Fletcher-Watson, Leekam, Benson, Frank & Findlay, 2009).

Other studies utilising eye tracking technology have reported that people with ASD spend less time scanning human faces compared to control groups (Mercadante, Macedo, Baptista, Paula & Schwartzman, 2006). Indeed, where controlled studies have asked people with ASD to focus upon human faces, atypical behaviour has been detected. It is generally understood that when the typically developing population look at faces they focus upon the eye region but studies indicate that people with ASD have a tendency to fixate upon the mouth area (Klin, Jones, Schultz, Volkmar & Cohen, 2002). Consequently, within the context of a forensic interview people with ASD may provide fewer details about a person’s face, or facial expression.

The quality of narratives in people with ASD has been briefly discussed with reference to the neuropsychological theories of autism. However, alternative observations suggest that impoverished narratives are associated with impaired memory skills (Bruck, London, Landa & Goodman, 2007). Although not part of the diagnostic criteria of ASD in accordance with DSM IV, there is concern that people with ASD have atypical memory patterns. Recognising that an impaired memory system may impact upon an investigative interview it is useful to spend some time exploring what is known about memory in people with ASD.

Memory in people with ASD

Research into memory has revealed that people with ASD have both spared and impaired functioning when compared to typically developing individuals. When guided to use implicit memory effects, both perceptual and conceptual priming has been seen to be intact (Bowler, Matthews & Gardiner, 1997; Gardiner, Bowler & Grice, 2003). Performance on explicit memory tasks utilising cued recall is also understood to be unimpaired (Bowler, Gaigg & Gardiner, 2008a; Bowler, Gaigg & Gardiner, 2008b; Bowler, Gardiner & Berthollier, 2004; Bowler, Matthews and Gardiner, 1997). As a result of studies where participants were required to recognise words, it is generally accepted that recognition and item-specific memory is spared
(Bowler, Gaigg & Gardiner, 2008b; Bowler, Gardiner & Grice, 2000; Bowler, Gardiner, Grice & Saavalainen, 2000, but see Bowler, Gardiner & Berthollier, 2004 for alternative findings). However, there is a suggestion that atypical processes are used in word recognition with a heavier reliance upon the physical characteristics of the word as opposed to semantic meaning (see Boucher & Mayes, 2011). People with ASD also have the appropriate skills to recognise visual material and pictures (Lind & Bowler, 2009). However, people with ASD do have difficulties in face recognition (see Weigelt, Koldewyn & Kanwisher, 2013). Such observations have forensic implications; this deficit may be problematic if a person with ASD is required to take part in identification procedures.

Memory difficulties in people with ASD have been attributed to impairments in the processing of complex information. While processing of simple information remains intact, when the integration of information and the use of organisational strategies are required then difficulties occur. These problems are thought to be associated with impaired brain connectivity (Minshew & Goldstein, 2001; Minshew, Goldstein & Siegel, 1997; Minshew & Williams, 2007). This has been supported by studies employing functional MRI scans. Atypical brain activity has been observed when people with ASD were required to process complex information.

There is also evidence that people with ASD employ different organisation strategies compared to typically developing individuals when retrieving information from memory. Performance during free recall tasks appears to be diminished only when there is a need to create conceptual or semantic relationships. This has led to the conclusion that people with ASD have difficulties when they are required to use complex organisation strategies to recall information (Bowler, Matthews & Gardiner, 1997). Bowler, Matthews & Gardiner (1997) presented adults with ASD with a list of related and unrelated words. They found that recall of unrelated words was unimpaired but difficulties were encountered when recalling the categorised words. Subsequent research has supported this finding, concluding that people with ASD are less likely to use subjective organisation to assist recall (Bowler, Gaigg & Gardiner, 2008b; Bowler, Limoges & Mottron, 2009). Rather than relying upon semantic or relational properties it is understood that people with ASD organise their memory recall by focusing upon more idiosyncratic features of the to be remembered
item (Bowler, Limoges & Mottron, 2009). For example, people with ASD may rely more upon phonological properties of the spoken word, or visual-perceptual features of written text (Bowler, Gaigg & Gardiner, 2008a). Additionally there is some indication that recall is slightly improved when participants with ASD are asked to provide written rather than verbal recall (Bowler, Gaigg & Gardiner, 2008a).

An important finding in the field of memory in people with ASD is that where appropriate cues are provided to assist recall people with ASD perform comparably to members of the general population. These findings have prompted the task support hypothesis (Bowler, Gaigg & Gardiner, 2008b; Bowler, Gardiner and Berthollier, 2004; Bowler, Matthews & Gardiner, 1997). This is exemplified in a study that included an orienting task. When cues were provided to assist in the categorisation of words, performance improved, suggesting that relational processing rather than being impaired is not spontaneously evoked in people with ASD (Gaigg, Gardiner & Bowler, 2008). Furthermore, these findings suggest that problems with memory function arise during retrieval strategies rather than difficulties during the encoding stage. This is important information for the purpose of an investigative interview, implying that if the appropriate cues are implemented, people with ASD should be able to provide reliable information.

Continuing the exploration into memory performance of people with ASD some evidence has been provided suggesting that people with ASD have a reduced primacy effect. It is generally understood that during free recall studies individuals are most likely to recall the first few items presented in a list, (the primacy effect), and the last few items mentioned (the recency effect) (see Baddeley, 2009). Regarding people with ASD there is some concern that their primacy effect is diminished compared to typically developing people (Bowler, Limoges & Mottron, 2009). Conclusions drawn indicate that people with ASD show a preference towards the latest item and learn by ‘working backwards’ (Toichi & Kamio, 2003). This is useful information to consider in the light of investigative interviewing. If people with ASD have a reduced primacy effect it may prove unhelpful if the interviewer request the interviewee to begin their recollection recalling the first things that happened. However, in a serial order study which required participants to recall semantic and episodic information enhanced primacy effects were detected during episodic tasks.
while enhanced recency effects were found during semantic tests and the study concluded that dissociation exists between information from semantic and episodic memory (Gaigg, Bowler & Gardiner, 2014). In receipt of this information it is now necessary to examine the memory function of people with ASD in light of what is known about semantic and episodic memory.

Tulving (1972) distinguishes between two memory systems; semantic memory and episodic memory. Briefly semantic memory is concerned with general knowledge, and episodic memory reflects an ability to re-write personally experienced events (see Baddeley, 2009). Regarding people with ASD it is generally accepted that they have intact semantic memory, having spared rote memory and memory for facts (Ben-Shalom, 2003; Lind & Bowler, 2008), and impaired episodic memory (Crane and Goddard, 2008; Lind & Bowler, 2010). A primary difference between these two memory types is the sort of consciousness each system employs during retrieval. Semantic memory provides information on facts and experiences about the world, and as such is rooted in familiarity and abstract knowledge (Gardiner and Richardson-Klavehn, 2000). Thus this memory system is associated with noetic consciousness (Tulving, 1985). In contrast episodic memory requires a conscious awareness of having experienced an event (Perner & Ruffman, 1995) and is related to a higher order of mental activity, requiring reflection, anticipation and imagination skills (Wheeler, 2000). Episodic memory therefore is associated with autonoetic consciousness (Tulving, 1985). These different levels of awareness distinguish between ‘knowing’ and ‘remembering’. Research has found that adults with ASD are more geared to using noetic awareness (knowing) rather than autonoetic awareness (Bowler, Gardiner & Grice, 2000). In a study, adults with ASD were asked to recall words from a list, and were then asked to explain ‘how’ they had remembered the words. This task was designed to explore if people with ASD remembered any specific experiences during encoding. For example, if participants were able to provide information regarding what they were thinking or picturing when they read the word, this would suggest autonoetic awareness. By contrast if participants just simply knew that the word was on the list and did not recall any specific details about the time that they read the word this would indicate noetic awareness. The study concluded that adults with ASD were more likely to give ‘know’ responses rather than ‘remembering’ (Bowler, Gardiner & Grice, 2000).
During an investigative interview a person may be called upon to extract information from autobiographical memory. This memory is comprised of episodic memories relating to personally experienced events and personal semantic memories which are concerned with information about one’s self (Crane & Goddard, 2008). The memory profile for people with ASD would suggest spared memory for self-related information but impaired memory for recounting experiences (see Crane & Goddard, 2008). However, in a study conducted by Bruck, London, Landa & Goodman (2007) children with ASD with an IQ >74 completed a questionnaire designed to measure autobiographical memory for key events. Compared to a control group, the memories of the ASD children, although accurate, were sparse for events in both their distant and recent past and this included both personal episodic and personal semantic memories.

For the purpose of an investigative interview, it is important to find out how competently a person with ASD can relay information about an observed or experienced incident. To this effect it is useful to look beyond studies which focus upon the ability to recall word lists and investigate memory for events. A second facet to the Bruck et al study (2007) required the children to take part in a staged event, a magic show. When asked to recall details, the free recall of children with ASD was less complete than that provided by children from the general population. Similarly in a study conducted by McCrory, Henry & Happé (2007) children with ASD were asked to use free recall to remember details of a scene involving a photography project acted out by two actors. It was found that the information the children with ASD provided was less detailed but no less accurate than the accounts provided by typically developing children (McCrory, Henry & Happé, 2007).

Maras & Bowler (2012) conducted a study exploring the impact of the context reinstatement of a physical environment. Adults with ASD were asked to recall details from photographs in a different room from which encoding had taken place, people with ASD were both less accurate and less detailed in their recall than members of the general population. However, as a point of interest for investigative interviews, when these participants were asked to recall their information in the room in which they had viewed the photograph their performance was equivalent to those of the general population group. However, the study did conclude that people with
ASD provided fewer details relating to person descriptors and action (Maras & Bowler, 2012). Similarly when adults with ASD were asked to use free recall after watching a slide show of photographs, their recall was less detailed and accurate than members of the control group (Maras & Bowler, 2011). However, by contrast in a study where people with ASD were questioned after watching a video clip, when a structured interview (free recall and questioning) was used there was no differences in the quantity and quality of the information provided by people with ASD and those from the general population (Maras & Bowler 2010).

A final concern affecting memory performance in people with ASD is related to the concept that people with ASD have a poor understanding of the self. This concept has been put forward to explain why there is a tendency amongst some people with ASD to refer to themselves in the third person and confuse pronouns such as ‘you’ and ‘I’ (Hare, Mellor & Azmi, 2007). Because autonoetic consciousness is obviously dependent upon a person having a sense of self (Bowler & Gaigg, 2008), a lack of self-concept or self-awareness has been put forward as one explanation of impaired autobiographical memory in people with ASD (Crane, Goddard & Pring, 2009). This deficit in self-awareness had been attributed to impairments in ToM (see Crane, Goddard & Pring, 2011) and impairments in self-related ToM (see Kristen, Rossmann & Sodian, 2014). Of concern to investigative procedures a lack of self-awareness may result in a reduced ability in recalling activities in which they themselves have been involved.

There has been some speculation that people with ASD are more likely to recall actions of others compared to their own actions. A finding that may be somewhat surprising considering what is known about the diminished social awareness skills of people with ASD. However, a study by Millward, Powell, Messer & Jordan (2000) found that a group of children with ASD (and mild learning disabilities) recalled more information about the activities of others during an outing rather than recounting their own experiences. Studies reporting upon memory for self and others have had mixed results (see Lind, 2010 for a review). For example, in a study which required children with ASD to conclude whether they themselves or another person had named a picture there was some evidence of deficits in source memory. That is they had some difficulties recalling who had named the pictures. However, there was no
impairment in their ability to recall their own activities demonstrating an intact enactment effect (Lind & Bowler, 2009). Similarly, a recent study which required adults with ASD to take part in a live event found that when adult participants were interviewed about the experience they recalled more actions which were pertinent to their own performances as opposed to the actions of others. However, the study found some source errors where people with ASD reported actions they had performed themselves as being performed by the experimenter (Maras, Memon, Lambrechts & Bowler 2013).

This section has highlighted some behavioural characteristics associated with ASD, and discussed potential problems delivering narrative and accessing memory. To assuage against the impact of these facets impeding an investigative interview it could be argued that police officers must be aware of these factors, understand their potential impact, and have the skills to address them. The following section discusses what police officers know about ASD.

1:2. What do police officers know about ASD?

Police officers are one of the first points of contact for an individual engaging with the CJS. As such they must be alert to any internal characteristics which may place the individual at risk during CJS procedures. As a result the decisions police officers make during initial contact will affect the quality of the individual’s journey throughout the CJS. For example, a failure to recognise that a person with ASD is potentially vulnerable during an investigative interview may result in that person being denied access to the support they are entitled to. The type of resources available to assist a person considered vulnerable will depend upon the role the individual plays while involved with the CJS. In accordance with PACE (1984) (Home Office, 2012), vulnerable suspects who are fit for interview must be interviewed in the presence of an Appropriate Adult (AA). Best practice for interviewing vulnerable witnesses recommends a Registered Intermediary be employed to assess and facilitate communication (see Achieving Best Evidence, Home Office, 2011). Furthermore officers will be required to set in motion any entitlements that may be befitting the vulnerable witness under the provisions made by the Youth Justice and Criminal Evidence Act (199) should the case go to court. For example, it may be appropriate to video an interview to use as evidence in chief. In addition the document Achieving
Best Evidence (Home Office, 2011) suggests that officers should create an environment conducive to the needs of people who may be at risk. This includes ensuring that the interviewee knows what is expected from them, the developing of rapport, and the adoption of an appropriate style of questioning. Early identification or suspicion that a person may have ASD is therefore vital to ensure appropriate resources are provided.

Concerning witnesses, the document Achieving Best Evidence (Home Office, 2011) lists people with ASD as being potentially vulnerable during contact with the CJS. Referring to suspects, the report, No one Knows, Police Responses to Suspects with Learning Disabilities and Learning Difficulties (Prison Reform Trust, 2008) also expresses concern that people with ASD will be at risk. Consequently it would be useful to discover what police officers know about ASD and what plans they make to accommodate for the manifestations of the condition.

In a study conducted by Allen, Evans, Hider, Hawkins, Peckett & Morgan (2008) information was collected from people with ASD who had been detained in custody and charged with a criminal offence. Six participants in this study discussed their negative experiences during the initial stages of arrest. It was reported that problems arose because they did not understand what was happening, felt ill at ease with people, and were subjected to several interviews where they were required to answer many questions. What cannot be determined from this study is if these reactions were specifically pertinent to the characteristics of ASD. It could be argued that many people detained in custody and charged with an offence would concentrate upon their negative experiences. However, the study did note that three participants reported good practice amongst police officers who had made efforts to understand their ASD (Allen et al, 2008). This study reveals important information, suggesting that the knowledge of the officer will predict how appropriately an interview is conducted.

Blackhurst (2012) interviewed 11 people with a diagnosis of Asperger's syndrome who had had contact with the CJS. The study reported that the majority of these participants indicated that they believed the police officers did not demonstrate an understanding of their condition. Sadly the study does not report the specifics of the participants’ complaints, thus no information is given regarding the behaviour of the
police officers. However, the study offers information suggesting that some people from the higher end of the autism spectrum have been left feeling dissatisfied after their experiences during investigative process. Research is therefore required to discover how officers perceive the needs of people with ASD and what they understand about the condition.

It is intimated that police officers have little understanding about ASD (Schofield, 2005). To find out what police officers know about the condition, a small scale survey of 47 participants was conducted (Blackhurst, 2012). Within the context of this study police officers were asked to detail what they knew about Asperger’s syndrome and fourteen respondents reported that they knew nothing or very little about this condition. The survey also asked participants to detail any special procedures they had adopted working with people with ASD and five respondents indicated that they had engaged an appropriate adult. Chown (2010) carried out a survey with a larger sample (120 participants) and sought to determine how aware police officers were about ASD. This research concluded that although some officers had an awareness of autism many were unclear about the term Asperger’s syndrome, and some respondents were not sure if this condition was related to autism. This finding is of some concern because it is understood that people with ASD who have contact with the CJS are likely to be from the higher end of the spectrum (National Autistic Society, 2008). Consequently there is a chance that police officers will be engaging with people who refer to themselves as having Asperger’s syndrome.

The lack of understanding of ASD reported in these studies could be attributed to the limited opportunities participating officers had to take part in training. Blackhurst (2012) stated that only 9% of the police officers taking part in the survey had received training. Chown (2010) reported that 30% of his sample had received ‘limited training’ but no officers had undertaken training which specifically focused upon autism awareness. In light of the autism strategy which advocates the training of all professionals, these findings indicate that as yet police forces are not fulfilling their obligations. However, there are some limitations to these studies. The study by Chown (2010) collected information from only two police forces, thus additional research is required to collect experiences from officers representing a wider geographical population.
In light of the Autism Act (2009) and recognising that police officers are the gateway to the criminal justice system it is timely to carry out research to discover how officers perceive the needs of interviewees with ASD and discover what they know about the characteristics of ASD. Chapter 2 of this thesis reports study 1, which is designed to address these issues.

As previously discussed, a vulnerable suspect, thought to be involved in a criminal offence must be interviewed in the presence of an AA. The following section gives consideration to what AAs know about ASD.

1:3. What do Appropriate Adults know about ASD?

Before this discussion focuses upon what AAs know about ASD it is useful to explain the role of the AA.

The role of the AA.

To protect vulnerable suspects during their time in police custody Code C of PACE (1984) detailed the use of AAs. It is envisaged that the role of the AA is to protect against the risk of a person providing unreliable, misleading and self-incriminating information (Murphy & Clare, 1998). It is the responsibility of the custody officer to engage the services of an AA (Cummins, 2007), and Code C stipulates that when an officer has any doubt about the mental capacity of a detainee the officer should proceed as if the individual were vulnerable and enlist the services of an AA (Home Office, 2012, 1G). Hence only a ‘low level’ of proof of vulnerability is required (Nemitz & Bean, 2001). Despite this, it is noted that the police regularly miss the opportunity to engage an AA (Prison Reform Trust, 2008), and this is attributed to a lack of awareness and training regarding identifying vulnerabilities (Williams, 2000).

Code C (Home Office, 2012) stipulates that the AA is not to act as a mere observer during interview procedures but is required to; i) advise the person being interviewed, ii) ensure the interview is conducted fairly, and, iii) facilitate communication. Any person over the age of 18 who has no involvement in the alleged offence and is not employed by the police can act as an AA (Pierpoint, 2011). However, in recent years there has been some concern over the use of parents and social workers taking on the role, in particular questions have been raised concerning their ability to remain impartial (see Pierpoint, 2000a; 2000b; Quinn
& Jackson, 2007). Consequently it is now suggested that the best people to carry out the role are those who are independent and have been educated about the nature of the role (Home Office, 2010). As a result there are now schemes located within the voluntary and private sectors that provide AAs who have undergone training (National Appropriate Adult Network, 2011). It is recommended that AAs receive 18 hours of training and before commencing their work have had the opportunity to shadow an experienced AA (Perks, 2010). The Bradley Report (2009) and the PACE Review (Home Office, 2010) both recommended the use of these trained AAs who it is understood are largely volunteers.

The requirement for an AA to attend an interview with a vulnerable suspect suggests that they offer a service additional to that provided by a solicitor (Quinn & Jackson, 2007). The purpose of this service is to safeguard and protect the interests of the vulnerable suspect (Pierpoint, 2000a). Nemitz & Bean (2001, p596) describe how protection during interview procedures is ‘inter alia’, that is the suspect has rights to be protected against unfair questioning so ensuring any admission of guilt is not produced under duress. To uphold ‘fairness’ AAs may be required to check the behaviour of those conducting the interview. If it is deemed that an interview style is inappropriate or contravening the suspect’s rights the AA can interrupt or even stop the interview (Nemitz & Bean, 2001). Unfortunately it is noted that Code C (Home Office, 2012) provides no instructions regarding the nature of interventions that should be made (White, 2002) and there are no adequate guidelines to explain what measures can be used to ascertain if an interview is acceptable or unacceptable (Cummins, 2011). Consequently it is unclear if such behaviour as an officer raising their voice, using sarcasm, or being persistent in their questioning are examples of unfairness which should prompt an AA to intervene (Nemitz & Bean, 2001).

How effective are AAs?

Gudjonsson, Hayes & Rowlands (2000) asked professionals such as police officers, legal reps and medical professionals if they thought AAs provided significant protection to vulnerable detained people. It was found that only 49% believed that significant protection was offered. Lawyers had least faith in the provision (35%) and the police had the most faith (58%). To examine the efficacy of AAs research was conducted by Medford, Gudjonsson & Pearse (2003). Their study concluded that
where an AA was present this increased the likelihood of the detained person, accepting legal advice. Furthermore, the presence of an AA appeared to have a positive impact on the behaviour of the police. That is officers who interviewed in the presence of an AA scored higher on all levels of interview competency. However, the study also revealed evidence of poor practice. It was stated that some AAs behaved inappropriately, answered questions on behalf of the suspect, appeared to adopt the role of investigative officer, challenged the detained person and insisted on truth. In some cases their behaviour was identified as obstructive and purposeless. Possibly the most damaging findings from this study was the revelation that AAs failed to intervene, and so did not make judgements regarding the fairness of the interview. Furthermore, AAs omitted to check that suspects understood their rights and did not ask police to further explain the caution when it was unclear if the suspects understood its implications.

A key role of an AA is to facilitate communication between the detained person and others involved in the interview procedure (Gendle & Woodhams, 2005). Indeed Pierpoint (2011) identified assisting communication as one of the main tasks of the AA. However, there has been some question regarding the competency of AAs to affectively deal with communication issues (O’Mahony, Milne & Grant, 2012). This is primarily based upon a comparison of the skills of an AA to those of a registered intermediary who traditionally assesses communication issues in vulnerable witnesses. Registered intermediaries are often professionals such as psychologists or speech and language therapists who have experience in the communication needs of vulnerable groups (Plotnikoff & Woolfson, 2007). Less is known about whom the trained AAs are and what skills and training they bring to the forensic interview scenario. In Scotland trained AAs are required to have had experience and training regarding vulnerable groups, as such demonstrating that they have an ability to utilise appropriate communicate tools with these populations (Thompson, Galt & Darjee, 2007). In the rest of the United Kingdom however, there are no official guidelines concerning the recruitment and selection criteria for AAs (Pierpoint, 2004). O’Mahony, Milne & Grant (2012) suggest that there is a dearth of AAs who have the professional skills to render them experts in the field of language and communication development. Unfortunately because little research has been conducted concerning who trained AAs are, there is no information concerning their background,
experiences and level of expertise. Therefore at present it is difficult to either uphold or refute the observation made by O’Mahony, Milne & Grant (2012).

The emerging role of the AA.

In recent years observations have been made suggesting that the role of the AA is being socially constructed by those who perform the tasks and elements of due process, crime control, crime prevention, and welfare are seeping in (Pierpoint, 2006; Pierpoint, 2008). This implies that the role is expanding beyond the stipulations set down in code C (Home Office, 2014). A concern of this emergence is that the individual values, personalities and attitudes of AAs or organisations may have some impact upon how and what duties are carried out. For example, with the emergence of the welfare model, there is some understanding that an AA could bring empathy to the role (Pierpoint, 2004). However, by contrast there is the possibility that the AA could be judged as a figure of authority (Pierpoint, 2004). For example, an AA is able to override the autonomy of the detained person. If the detained person states that they do not want a legal representative an AA can supersede this wish and insist that a legal representative is present (Cummins, 2011).

Pierpoint (2011) collected the views of 38 conference delegates who were mainly coordinators of AA services providing for the needs of young suspects, and asked them to interpret the role of the AA, identifying the duties they considered most significant. Findings indicated that the most noted duties were those of facilitating communication, upholding the rights of the detained person, checking on their understanding and offering support and assisting in welfare. A full list of the findings from this survey is provided in table 1:1 below. Other duties included helping procedures work expeditiously, providing advocacy and acting impartially. These findings actually suggest that there is some consistency concerning how AAs interpret their role. Indeed the most salient tasks cited remain in keeping with those identified in code C (Home Office, 2014). Research which extends to those volunteers who carry out the task would be useful to check if the role of the AA is indeed diverging. Study 2 of this thesis provides some findings which address this issue.
Table 1:1. *Coordinators and professionals’ interpretations of the role of the appropriate adult.*

<table>
<thead>
<tr>
<th>Appropriate adult’s main task (multiple response)</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitate communication</td>
<td>18</td>
</tr>
<tr>
<td>Ensure VPs rights upheld</td>
<td>16</td>
</tr>
<tr>
<td>Concern for VP’s welfare / wellbeing</td>
<td>11</td>
</tr>
<tr>
<td>‘Support’ VP</td>
<td>11</td>
</tr>
<tr>
<td>Ensure ‘fairness’</td>
<td>9</td>
</tr>
<tr>
<td>Ensure correct police procedure followed</td>
<td>8</td>
</tr>
<tr>
<td>Give ‘advice / guidance’</td>
<td>7</td>
</tr>
<tr>
<td>Act expeditiously</td>
<td>2</td>
</tr>
<tr>
<td>Act impartially</td>
<td>2</td>
</tr>
<tr>
<td>Advocacy</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
</tbody>
</table>

VP = vulnerable person. Note n = 38, data missing in one case. Reproduced from Pierpoint (2011, p166).

AAs and their understanding of ASD.

The presence of an AA is a safeguard against the vulnerable suspect providing unreliable, misleading or self-incriminating information (Code C, Home Office, 2014). As previously discussed, traditionally this is achieved by monitoring the behaviour of the interviewing officer. Thus it is assumed that the presence of inappropriate or confrontational style of questioning will be the reason why a vulnerable person will be at risk. Gudjonsson, Hayes & Rowlandson (2000) suggested that an AA should be prepared to safeguard against the individual’s own vulnerabilities impeding investigative procedures. This would suggest that an AA must not only monitor the behaviour of the interviewer but also that of the detained person. This is a sensible observation realising that an interview is an environment that can be influenced by the personalities of the interviewer and the interviewee. However, this implies that the AA is required to have an understanding about how a person’s vulnerability may manifest and have the appropriate skills to activate coping strategies. Currently there
is no information available to inform how prepared an AA is to carry out such tasks. Of particular interest, there is no research covering what AAs know about ASD, and how they react to the needs of an interviewee with ASD. The second study, chapter 3 of the research in this thesis, sought to address these issues.

One final duty of an AA as stipulated in code C (Home Office, 2014) is that of offering advice. Unfortunately, the vagueness of this instruction gives no indication as to the nature of advice an AA is expected to give. However, it is expected that a duty of an AA is to ensure that the detained person is aware of their rights while in custody (Cummins, 2011). Unfortunately, this brings some ambiguity to the role of the AA because it is understood that an AA is not allowed to offer legal advice (Gendle & Woodham, 2005). As a matter of procedure people detained in custody will have been read the police caution. As will be discussed in the following section the caution is known to be difficult to understand. However, at present it is uncertain if AAs should or are indeed capable of explaining this complex dictum to individuals. The following section considers the ability of people with ASD to understand the police caution.

1:4. The police caution and people with ASD.

In England and Wales a caution is read to a detained person during several stages of the criminal justice process. The caution is read when a person is arrested, before they are questioned, and if they are charged with an offence (Home Office, Code, C, 10, 2014). Furthermore, the detained person is reminded he or she are under caution when an interview is reconvened after any break or if new audio tapes are required during the recording of the interview (Rock, 2007). In England and Wales the caution is standardised and comprises of three sentences, although minor diversions are permitted during delivery (Home Office, Code C, 10, 2014). The current caution reads as follows;

“You do not have to say anything but it may harm your defence if you do not mention when questioned something which you later rely on in court.

Anything you do say may be given in evidence” (Home Office, Code C, 2014).
The current version of the caution introduces a modification to the right to silence. Those supporting this argue that a right to silence only benefits the guilty based upon the presumption that any innocent person would take the opportunity to declare their non-involvement in a criminal offence (Wasik &Taylor, 1995). However, such an attitude is at odds with the principle of criminal justice which emphasises the defendant is not required to do anything to prove their innocence; rather it is the responsibility of the prosecution to establish guilt (Rock, 2007). As a result of this modification, inferences are permitted. If a defendant produces new information during a trial judges can invite jurors to infer that because this information was not divulged during questioning either the defendant believed their evidence would not stand up to scrutiny or that they have tailored or invented this new evidence (Judicial Studies Board, 2010). It is therefore implied that due to the modification, remaining silent is no longer a 'risk free strategy' (Cotterill, 2005). Indeed, Rock (2007) noted that the focus of the current caution is on encouraging talk rather than silence.

The current caution requires a person to make a decision as to whether to answer questions or remain silent. To make such a choice the recipient must understand the caution and the consequences of any decisions they make. However, the caution is not easily understood in its entirety (Fenner, Gudjonsson & Clare, 2002). This is of some concern because a limited understanding of the caution may reduce an individual’s ability to make an informed decision. For example, a failure to realise that questions do not have to be answered may result in the delivery of unreliable and or self-incriminating evidence (Fenner, Gudjonsson & Clare, 2002).

Understanding of the police caution.

In practice, police officers have expressed concern over the clarity of the caution, questioning its ability to effectively deliver information (Rock, 2007). Experimental studies have concluded that several populations have demonstrated difficulties in explaining the caution in its entirety. These groups include ‘A’ level students and members of the general population (Clare, Gudjonsson & Harari, 1998); and people who have been detained in custody as suspects (Fenner, Gudjonsson & Clare, 2002). Interestingly, even police officers have some difficulties. Clare, Gudjonsson & Harari (1998) found that only 48% of police officers participating in an experimental study were able to explain the full caution. A common reason put forward to clarify
why the caution is not easily understood is its complex structure and content (Eastwood, Snook & Chaulk, 2010). There is also concern that the current caution places heavy demands upon a person’s working memory (Hughes, Bain, Gilchrist & Boyle, 2012). That is after hearing the caution the recipient is required to retain the information while attempting to make sense of its content (Eastwood & Snook, 2012). Understanding of the caution can be further exacerbated due to the condition under which it is delivered. Lindsay (2006) explained how emotional reactions due to the stress of the situation can cloud a person’s ability to comprehend a complex instruction. Additionally a person’s concentration on the wording of the caution while in custody may be fleeting due to their apprehension or concern over what is going to happen to them next (Rock, 2007).

Appreciating that the complexity of the current caution may result in some people failing to grasp its meaning, there is a need for police officers to check that the suspect understands its meaning. In practice some officers ask the detained person if they understand the caution, and are satisfied if the person affirms that they do (Rock, 2007). However, this is likely to be a poor method of assessing comprehension. That is, people say they understand it, but then demonstrate difficulties when attempting to explain it (Clare, Gudjonsson & Harari, 1998; Fenner, Gudjonsson & Clare, 2002). In practice, to check clarity, police officers may also ask a person to explain the caution using their own words. It is noted that there are some limitations in asking individuals to re contextualise information (Rock, 2007). In part this is because of the necessity for the individual to have the adequate vocabulary. For example, re contextualising such statements as ‘may harm your defence’ can prove a tasking problem (Rock, 2007).

Grisso (2003) in discussing the decisions to waiver Miranda rights in the United States of America identified three skills required to make informed decisions. Firstly an individual must have the capacity to understand, the words and phrases used in the warning. Secondly, it is suggested that the defendant must have a perception of the intended function of the warning, and thirdly it is noted that the defendant must have the functional ability to reason the consequences of any decisions they make. Attending to these requirements, asking people to explain the function of the caution may prove a useful way of assessing their understanding.
People with ASD and their understanding of the police caution

Information from the USA intimates that there is some concern that people with ASD may be disadvantaged when making decisions to waver their Miranda rights (Salseda, Dixon, Fass, Miora & Leark, 2011). However, to date little attention has been given to considering how people with ASD understand the police caution in England and Wales. Exploring what is known about ASD there could be some concern that people with this condition may be disadvantaged when attempting to glean clarity from the police caution. It is acknowledged that people with ASD have difficulties processing complex information. Indeed there is some suggestion that this problem is one of the key definitions of ASD (Williams, Goldstein & Minshew, 2006). As a result of this difficulty people with ASD may take longer than members of the general population to respond to information (Bogdashina, 2005). Consequently people with ASD will struggle with comprehension as information increases in complexity (Wing, 1996). Of interest to the topic of understanding the caution it is noted that people with ASD have particular problems comprehending complex language (Minshew, Goldstein & Siegel, 1995). Thus, it could be suggested that people with ASD will benefit from information which is delivered in a clear and succinct fashion (Müller, Schuler & Yates, 2008).

Having ascertained that the caution is considered complex and that people with ASD have problems processing complex information it may be useful to present the caution in a format which reduces processing demands. Research has provided evidence indicating that rather than delivering the caution in its entirety comprehension is improved when the sentences of the caution are presented one at a time (Clare, Gudjonsson & Harari, 1998; Fenner, Gudjonsson & Clare, 2002). This may prove useful to people with ASD.

It is understood that to respond to the caution an individual must activate their working memory. This is a system which caters for both the storage and processing of information in preparation for the performance of complex tasks (Baddeley, 2009). There are individual differences that predict the effectiveness of working memory in its capacity as a storage unit and the processing of information (Daneman & Merikle, 1996). Because working memory plays an important role in language comprehension (Daneman & Merikle, 1996) it is useful to know how effective working memory is in
people with ASD. Any impairment in this field may influence how readily people with ASD understand the police caution.

It is understood that working memory is dependent upon executive skills (Baddeley, Hitch & Allen, 2009) and there is some concern that people with ASD have impaired executive functioning (Ozonoff & McEvoy, 1994; Verté, Geurts, Roeyers, Oosterlaan & Sergeant, 2005). To this effect it could be predicted that people with ASD will have some difficulties with tasks dependent upon the efficacy of a working memory system. Unfortunately to date little is known about the capacity of working memory amongst people with ASD although the prospect of impaired verbal working memory has not been ruled out (Poirier & Martin, 2008). For the purpose of the research in this thesis it is worth holding on to the possibilities that impaired working memory may have some impact upon the ability of a person with ASD to understand the police caution. Bennetto, Pennington & Rogers (1996) found that people with ASD were impaired on verbal working memory tasks. Additionally it has also been found that children with ASD encounter difficulties on tasks which are dependent upon verbal rehearsal (Whitehouse, Mayberry & Durkin, 2006) and these problems have been related to poor inner speech skills which are necessary to create rehearsal strategies. Recognising these difficulties it could be suggested that people with ASD may require support in understanding the caution.

Koning & Magill-Evans (2001) discussed the impaired ability of people with ASD to interpret verbal language. Interestingly, visual memory is not impaired in people with ASD (Williams, Minshew & Goldstein, 2008). A study examining how members of the general population respond to the Scottish caution found that providing a written version of the caution in conjunction with verbal presentation significantly increased comprehension (Hughes, Bain, Gilchrist & Boyle, 2012). Research examining children with autism has shown that written material can assist learning (Boucher & Lewis, 1989). Indeed it is now accepted in the fields of education and therapy that providing written and visual materials improves understanding and learning in people with ASD (Mesibov & Shea, 2010). These findings suggest that a written copy of the caution may prove beneficial to people with ASD. A written copy can be continually referred to and so act as an aid memoire, reducing a reliance upon rehearsal strategies and verbal memory.
Study 3 of this thesis, therefore explored ways of helping people with ASD to understand the caution. This included providing a written copy of the caution and delivering the sentences of the caution one at a time.

How people with ASD may respond to a procedure in custody has been discussed. The following section turns to people with ASD as witnesses, with a specific focus upon the witness interview.

1:5. Interviewing witnesses who have ASD

Despite scientific advancement in forensic technology eyewitness accounts still remain vital to forensic procedures (Davis, McMahon & Greenwood, 2005). That is statements which are rich in both quality and quantity can provide leads to further investigation (Kebbell & Milne, 1998). Information is usually gleaned from a witness during a face to face interview, in an environment described as provoking both communication and interaction skills (Oxburgh & Dando, 2010). Recognising these prevailing dynamics there could be some concern that people with ASD who are known to have impoverished interaction skills may be disadvantaged. Bruck, London, Landa & Goodman (2007) concluded that children with ASD exhibited impoverished recall when responding to open ended questions about a witnessed event. Similarly McCrory, Henry & Happé (2007) found that when young people with Asperger’s syndrome were invited to use free recall to detail aspects of an event they reported 1/3 less information than participants from the general population. Tanweer, Rathbone & Souchay (2010) also reported that adults with ASD when asked to recall life experiences furnished less detail compared to adults without ASD.

A few studies have been conducted which explored how adults with ASD respond to a simulated forensic interviews. In a study conducted by Maras & Bowler (2010) people with ASD when using free recall to recall a video clip provided details that were equal in quantity and quality to members of the general population. However, during a subsequent experimental study participants with ASD were found to recall fewer correct details than a comparison group made up of the general population when using free recall (Maras & Bowler, 2011). In light of these conflicting findings research is required to further explore how adults from the higher end of the autism
spectrum react to a simulated forensic interview. It could be suggested that to effectively perform in a witness interview an individual must engage their memory and then communicate their recall in a narrative which is understood by the interviewer. However, as discussed earlier in this literature review, people with ASD have problems with autobiographical memory and constructing narratives. To this effect it may be concluded that people with ASD will provide less detailed accounts of an event compared to members of the general population.

It is suggested that memory difficulties are due to failures at the encoding stage caused by attention behaviour (Jordan, 2008) or ineffective labelling (Mottron, Morass & Belleville, 2001). However, there are indications that problems related to memory are specific to the retrieval process (Bowler, Gardiner & Berthollier, 2004) and deficits are noted when people with ASD have to use complex strategies to organise memory (Bowler, Mathews & Gardiner, 1997). However, with support people with ASD can overcome some of these problems (Bowler, Matthews & Gardiner, 1997). The fact that memory recall in people with ASD improves when support is provided is encouraging information for the purpose of interviewing witnesses with ASD. It would therefore, be beneficial to consider if current interview techniques designed to improve memorial performance in witnesses would be beneficial to the ASD population. One interview technique which has proved to be efficacious to memory recall is the cognitive interview (CI) and this method will now be discussed.

The Cognitive Interview

In the 1970’s research demonstrated how fragile and subsequently unreliable eyewitness memory is when exposed to misleading information (see Loftus, 1975; Loftus & Palmer, 1974). Consequently, those involved with forensic interviews realised the need to develop a means of gathering quality information from witnesses while at the same time preserving the integrity of memory. Psychologists addressed this issue by referring to recognised principles of memory behaviour, namely Tulving’s encoding specificity principle (Tulving, 1983; Tulving & Thompson, 1973), and the multiple trace theory (Tulving, 1974). Briefly, during encoding contextual cues from the physical environment and the emotional state of the individual, as well as physiological state are encoded along with the dominant information (Anderson,
2009). In turn these create a memory trace which can be used as a retrieval cue. Thus, when there is an overlap between the retrieval cue and the features of the encoding environment/conditions memorial performance will be more complete (Tulving 1983). This is exemplified in the early work of Godden & Baddeley (1975). Divers were asked to encode words either underwater or on land. The study found that when the environment for encoding and that of recalling were the same, recall was more efficient. Thus divers who encoded words underwater were more proficient at recall when asked to reconnect with the word list while underwater rather than on land. Additionally it is known that episodic memories are not stored as exact replicas of the to be remembered event. Rather as the work of Bartlett (1932) demonstrated, such memory has to be reconstructed. This means that accessing memory requires a searching process whereby traces and links have to be identified and connected with. The multiple trace theory (Tulving, 1974) is based upon the understanding that all experiences and events create their own memory traces and these traces are linked to each other by a connections referred to as associations (Anderson, 2009). This means that a memory can have more than one trace and so the multiple trace theory (Tulving, 1974) suggests that a memory can be evoked using a variety of retrieval cues.

Applying these theories Geiselman & Fisher created the cognitive interview (CI) (see Geiselman, Fisher, McMahon & Holland, 1985; Fisher, Milne & Bull, 2011). To activate memory systems the CI provides four cognitive instructions or mnemonics; i) mental reinstatement of context (MRC), ii) report everything, iii) change temporal order, and iv) change perspectives (see Fisher & Geiselman, 1992 for a detailed account of these mnemonics). For the purpose of the research in this thesis the MRC component was focused upon. Of interest to a forensic investigation and in keeping with the encoding specificity theory, returning to the scene of the crime should provoke contextual cues to activate memory. However, for various reasons it may not be possible to return to the scene. It may prove to be too costly, time consuming, emotionally damaging or the crime scene may have become a secured area. Furthermore the physical elements of the original scene may have altered. To address these issues the MRC element of the CI provides instructions to help a witness mentally rather than physically reconnect with the original environment. Instructions are provided to help the witness revisit the event in their mind’s eye (see
Memon & Stevenage, 1996; Milne & Bull, 1999). To achieve this, the interviewer encourages the witness to re-engage with the ambience that prevailed during encoding. That is the interviewee is steered to recollect any information relating to auditory, visual, olfactory, and tactile experiences. Additionally, the witness is guided to reconnect with their feeling, thoughts and moods at the time, in order to reinstate with their emotional self. Once the interviewee has mentally reinstated to the to-be remembered event, the witness is asked to use free recall to relay their memories.

The CI has been extensively researched (see Kőhnken, Milne, Memon & Bull, 1999: Memon, Meissner & Fraser, 2011 for a meta analyses) and is considered to be one of the most successful products of applied memory research (Bekarian & Dennett, 1993). When compared to the standard interview (a typical police style of interview) the CI can yield an increase of information by up to 35% (Kőhnken, Thürer & Zoberbier, 1994). It is intimated that the efficacy of the CI can result in less need for follow up interviews (Kebbell, Milne & Wagstaff, 1999) and in test conditions it has been found to guard participants against attempts made to manipulate their memories (Memon, Zaragoza, Clifford & Kidd, 2009). Research has also been conducted regarding the CI’s practical application (Dando, Wilcock, Milne & Henry, 2009; Kebbell, Milne & Wagstaff, 1999) and it has been subject to field research (Fisher, Geiselman & Amador, 1989). The robustness of the CI in experimental conditions has led to this technique being incorporated into police training around the globe (Fisher, Milne & Bull, 2011).

With encouraging results the CI has been studied for use with various populations; children (Milne & Bull, 2002), older witnesses (Mello & Fisher, 1996; Wright & Holliday 2007; Holliday, Humphries & Milne 2012), people from developing countries (Stein & Memon, 2006), and the learning disabled (Brown & Geiselman, 1990; Milne, Clare & Bull, 1999). However, to date only one study has researched the use of the CI with a population diagnosed with ASD.

The CI and interviewees with ASD.

In a study conducted by Maras & Bowler (2010) participants with ASD watched a film clip and were asked to recall its details using either a Structured Interview (SI) or the CI. The authors explained that the SI was similar in structure to the CI and differed ‘only on the additional CI techniques’ (Maras & Bowler, 2010, p 1353). The study
found that when responding to the SI (using free recall and questions) participants with ASD provided information that matched the quality and quantity of that elicited from members of the general population. The CI instructions however, failed to increase the quantity of information furnished by participants with ASD and rather, was seen to have a detrimental effect on the accuracy of the information. The researchers identified the MRC component of the CI as being particularly damaging to the memory recall of people with ASD (Maras & Bowler 2010). This is an interesting finding as generally the MRC is considered to be the most powerful tool for promoting memory performance (Davis, McMahon and Greenwood, 2005; Gwyer & Clifford, 1997; Wilcock, Bull & Milne, 2008).

It is suggested that impaired episodic memory may have an impact upon the effectiveness of the CI (Bekerian & Dennett, 1993). This may be particularly pertinent to the MRC component of the CI which encourages the use of autonoetic awareness in order to time travel back to the event to recreate the emotions and sensory experiences that had been prevalent. As it is established that people with ASD have impaired episodic memory this may account for the findings of Maras & Bowler (2010). Additionally, people with ASD have demonstrated problems binding experiences of events together in their memory (see Brock, Brown, Boucher & Rippon, 2002). This would mean that people with ASD would have problems collating information in order to create causal links.

However, because the MRC has been proven to be such an effective tool and only one study has applied it to adults with ASD, it was deemed worthwhile to examine its application for people with ASD. Study 4 of this thesis therefore sought to further explore the use of the MRC mnemonic while making some adaptations to the earlier work of Maras & Bowler (2010). Reflecting upon what is known about ASD, it was decided that consideration should be given to accommodating the communication and interaction impairments noted in people with ASD when delivering this instruction. Maras & Bowler (2010) mentally reinstated their participants using a formula which was comprised of over 500 words and lasted ten minutes. As has been previously discussed there is concern that ASD is defined by problems associated with processing complex and intricate information (Williams, Minshew & Goldstein, 2008). There is also some suggestion that a subsection of people with ASD are visual thinkers, and there is concern that visual thinkers have difficulties
with long, verbal dialogues (Bogdashina, 2003). Because complex instructions may put pressure upon the processing skills, people with ASD may benefit from specifically clear and explicit communication (Müller, Schuler & Yates, 2008, p184). To accommodate for this, study 4 looked to reduce the processing load emanating from instructions to mentally reinstate. Dando & Milne (2012) demonstrated how MRC directions can be delivered effectively using only 165 words. Thus it was considered that this more compact delivery may be more ASD friendly. Additionally it is worthy to note that a more concise format may be beneficial to the administrator; research has demonstrated that some officers find delivering the MRC ‘demanding’ and ‘cumbersome’ (Dando, Wilcock, Mine & Henry, 2009).

Maras & Bowler (2010) instructed their participants to recall their memories in a particular order. Participants were asked to recount details in chronological order starting with events at the beginning of the film clip. Memory recall is reconstructed (see Bartlett 1932) and recall may not by nature be veridical (Milne & Bull, 1999, Wilcock, Bull & Milne, 2008). As such proffering instructions which require a participant to provide recall in a specific order may be difficult. To safeguard against contaminating an individual’s natural recall study 4 adopted a technique as delivered in police training. That is, interviewees are encouraged to report details in their own order as the information ‘pops’ into their mind’ (Milne, 2004, p20). Therefore, no demands or restrictions are placed upon an individual as they attempt the operation of retrieving their recall. As previously mentioned in this literature review, there is some concern that people with ASD have a reduced primacy effect. Thus refraining from dictating the chronological order of memory retrieval may prove to be of use for people with ASD who have some problems recalling events from the start of a scene.

In an attempt to create an interview environment more conducive to the needs of people with ASD attention should also be given to the practice of developing rapport. The document *Achieving Best Evidence* (Home Office, 2011) discusses the need to develop ‘good’ rapport with the interviewee prior to the interview. The purpose of this is to alleviate any anxieties and encourage the interviewee to relax (Home Office, 2011). Adopted from the world of clinical therapy *rapport* between a clinician and therapist is used to create a ‘harmonious’ relationship (see Leach, 2005). As such rapport building in a forensic setting has looked towards the discussion of neutral
topics to create an empathetic, sympathetic, supportive environment (see Collins, Lincoln & Frank, 2011). Recognising that people with ASD may find it difficult to build relationships based upon empathy and are not comfortable partaking in general banter (Frith, 2008) some thought should be given to the appropriateness of using rapport as a means of establishing a relationship with a person with ASD. Advantages may be gained in using rapport in a more ASD friendly fashion.

Understanding that people with ASD are more geared towards collecting information about facts rather than general chit chat (Frith, 2008) consideration should be given to using the rapport section of the interview to deliver instructions and information about the interview. Especially as people with ASD do not instinctively understand social rules and therefore may not fully appreciate what is expected from them. This may be more advantageous than attempting to build a relationship based upon empathy and mutual interest.

Recognising that people with ASD benefit from cues and guidelines to access memories, it is useful to further explore how accurate and detailed memorial recall can be elicited from people with ASD. Another way to encourage context reinstatement which has been widely used is the sketch plan. The efficacies of this interview method will now be discussed.

The Sketch plan MRC

It is noted that narratives do not have to be purely verbal; narratives can be constructed from written text, imagery or sounds (Keats, 2009). The sketch MRC helps people to construct a narrative by creating a picture, diagram or sketch of the, to-be-remembered event. Fisher & Geiselman (1992) suggest that drawing a sketch may be useful to help witnesses describe events which may be difficult to verbalise, and may be of particular use when recalling spatial information (Fisher & Geiselman, 2010). During initial training, police recruits are introduced to the application of the sketch MRC (see Dando, Wilcock & Milne, 2009a), and research indicates that many officers utilise the sketch plan in their practice (Dando, Wilcock & Milne, 2009b). One reason why the sketch plan appears popular amongst officers is because its application places few cognitive demands upon the interviewer. The directions for the sketch plan involves asking the witness to simply draw details about the event to be remembered while encouraging the interviewee to describe out loud what they
are drawing (Dando, Wilcock, Milne & Henry, 2009). Such simplicity is welcomed as it is noted that when officers are required to deliver the more complex instructions as part of the MRC, these instructions are often given in a vague or incomplete manner (Dando, Wilcock, Milne & Henry, 2009). A further advantage of the sketch plan is that it encourages participants to generate their own contextual cues. During MRC directions, an interviewer may ask the witness to connect with cues from the environment which stimulate the senses. However, these guided cues may not be pertinent or salient features of the witnesses’ memory (Dando, Wilcock & Milne, 2009a). This may have specific significance regarding the ASD population. Although it is not part of a diagnosis of ASD, people on the autistic spectrum have sensory perceptions that differ from the general population (Bogdashina, 2003). People with ASD can be subjected to sensory overload or conversely may be under stimulated, and as such may not respond in a typical way to sensory stimuli (Hilton et al, 2010) Furthermore, it is understood that sensory stimuli can elicit associative memories, thus an instruction to remember lights, sounds, smells, may not direct a person back to the event intended by the interviewer but may trigger associative memories, relevant to a different area of the individual’s past (Bogdashina, 2003).

People with ASD respond well to visual information (Kunda & Goel, 2008). Indeed, compared to members of the general population people with ASD are thought to use visual imagery more readily to support their understanding (Kana, Keller, Cherkassky, Minshew & Just, 2006). Presentation of visual stimuli is thought to assist people with ASD in their processing of information (Bogdashina, 2003). However, less is known about people with ASD producing their own visual stimuli. Before considering the use of the sketch plan with people with ASD it is necessary to ascertain that they are in receipt of the required skill set. Concerning visual perception, teenagers with ASD are able to copy a picture of an object at the same speed and accuracy as members of the general population (Mottron, Belleville & Ménard, 1999). However, it was noted that during the initial drawing stages teenagers with ASD were more likely to favour local details rather than global (Mottron, Belleville & Ménard, 1999). The study conducted by Mottron, Belleville & Ménard (1999) required people with ASD to copy a picture, there is limited information available regarding the ability of people with ASD produce their own sketches from memory. Reports on people with ASD being assessed using the Rey-
Osterrieth test has shown mixed results. The Rey-Osterrieth test is used to measure visual recall by asking a participant to draw a previously seen complex figure. Minshew & Goldstein (2001) when administering this measure to a group of young adults with ASD found they underperformed compared to members of the general population. However, Gunter, Ghaziuddin, & Ellis (2002) found no significant differences between people with ASD and the general population when this test was administered. Thus, currently there is little evidence to suggest how effectively people with ASD will be able to draw a sketch depicting a remembered scene. However, it is understood that drawing abilities in people with ASD develop typically, indeed a small subset show considerably advanced skills (see Ford & Rees, 2008). Referring to what is known about ASD there may be some concern that a weak central coherence style of processing may result in people with ASD producing drawings in a ‘piecemeal’ fashion (Booth, Charlton, Hughes & Happé, 2003). Additionally because of a tendency to become ‘stuck in a groove’ some may become overly preoccupied in creating drawing which depicts an exact replica of the thing they want to represent (Frith, 2003). Research is needed to determine how readily people with ASD are able to create their own visual cues and use these to access memory of a previously witnessed event.

A further advantage of using the sketch plan with people who have ASD is that it reduces the degree of interaction and control the interviewer has during the memory retrieval stage of an investigative interview. Recognising that people with ASD perform better on tasks which reduce the demands of social interaction (Robinson, Goddard, Dritschel, Wisely & Howlin, 2009) this may prove a useful approach for people with ASD.

To maximise the quantity and quality of memorial recall from witnesses the use of memory jogs have been recommended. Thoughts will now turn to the opportunities of creating effective jogs to further nudge memorial recall.

Memory jogs.

Milne & Bull (1999) discuss the use of specific memory jogs which can be used in conjunction with the CI tools to elicit further information from a witness. The tip-of-the-tongue phenomenon is experienced when people cannot remember a piece of
information yet they strongly believe that this is information they should be able to recall (Schwartz & Metcalfe, 2011). This suggests that the information is temporarily unavailable, and so the tip-of-the-tongue phenomenon is interpreted as a *premonition* implying that the information will be available and recalled at a later time (Schwartz & Metcalfe, 2011). One method used to overcome tip-of-the-tongue scenarios is to encourage people to search the letters of the alphabet to provide cues to spark recall (see Milne & Bull, 1999). Research has indicated that using initial letters as a mnemonic provides a successful cue for effectively recalling words from a list (Nelson & Stark Archer, 1972). Less is known about the use of this system in an investigative interview. Encouraging people with ASD to perform letter searches may have some benefits. Research has indicated that although people with ASD do not instinctively use semantic cues to organise memory recall they do use phonological cues or characteristics of a written letter to activate organisational strategies (Bowler, Gaigg & Gardiner, 2008). Consequently to help search for memories relating to people’s names or objects (specific items rather than overall recall) there may be some benefit in using a letter search technique to create links to stored memories which are temporarily unavailable.

As previously discussed in this literature review contextual cues associated with an original event activate memorial recall, and this principal is embellished in the use of the MRC. Indeed the MRC encourages witnesses to actively seek out sensory cues related to vision, aural and olfactory senses. Therefore, it may be useful to further explore cues which could be used in an interview environment to stimulate sensory recall. One area of interest is the use of colour as a mnemonic. Colour, for most people is an ‘integral property’ of visual activities (Hanna & Remington, 1996), and is encoded automatically in adults and children (Ling & Blades, 2002). Perceptually, colour helps individuals to organise their environments, segregating objects and assisting spatial awareness (see Webster, 1996) and helps individuals to quickly identify and recognise objects (Wichmann, Sharpe & Gegenfurtner, 2002). If colour is stored in memory as part of the representation of an object then colour may be an effective retrieval cue (Hanna & Remington, 1996). Unfortunately, the use of colour to activate visual memory has not been as helpful in memorial recall as for example using odour to activate olfactory memory (Pointer & Bond, 1998). However, there has been some evidence to indicate that use of colour in experimental settings has a
strong effect on recognition memory. That is colour has increased the ability of recognising previously seen pictures of the natural environment (Wichmann, Sharpe & Gegenfurtner, 2002).

Understanding that colour is a vital part of daily life, it is not surprising that when police are in pursuit of a suspect, they need information regarding colour of skin, hair, clothing and any other objects involved, such as a getaway car. To this effect it may prove useful to further explore ways of using colour cues to help people recall single aspects of a witnessed scene.

In keeping with this research project, if colours are to be considered as a memory jog, it is useful to find out how people with ASD respond to colours. There are anecdotal reports that some people with ASD can become obsessed with particular colours while developing phobias about other colours. However, it is suggested that this affects only a small subset of the ASD population (Ludlow, Heaton, Hill & Franklin, 2014). There is concern regarding colour perception in children with ASD. Specifically, it has been observed that children with ASD are less accurate on colour search tasks (Franklin, Sowden, Burley, Notman & Alder, 2008). This can be explained by findings which indicate that children with ASD find it difficult to differentiate between the hues of colour (Franklin et al, 2010). However, children with ASD are able to name and sort colours according to their hue (Ludlow, Heaton, Hill & Franklin, 2014). Additionally, children with ASD have no deficits in colour memory, and are able to associate colours with relevant items (Ludlow, Heaton, Hill & Franklin, 2014). To further current understanding, it would be interesting to ascertain if the use of colour can activate visual memory in people with ASD and lead to the provision of single pieces of information from an observed event that verbal cues do not activate.

1:6. Conclusion

This chapter has examined literature and legislation which is relevant to the needs of people with ASD while they are in contact with the CJS. This then led to a discussion concerning the abilities of professionals involved in the initial stage of investigative procedures, namely police officers and AAs to recognise and accommodate for the needs of people with ASD. Additionally the characteristics of ASD have been
explored with the potential impact these traits may have upon understanding the police caution and responding to a witness interview. Arising from these concerns, this program of research consists of a series of studies aimed at addressing the issues that have been raised. Chapter 2, reports on the first empirical study which was designed to collect information about the perceptions police officers have about the needs of people with ASD and their understanding of the condition. Chapter 3 reports upon study 2 which sought to collect information about the knowledge and experiences of AAs who support people with ASD who are in custody. Chapter 4, which details study 3 was designed to find out if people with ASD understand the caution and are able to explain it using their own words and discuss its purpose. Chapter 5 sought to discover the efficacy of an alternative caution in assisting understanding in people with ASD. Exploring ways of eliciting information from witnesses with ASD, chapter 6 presents study 5, a simulated witness study where a standard interview, an MRC interview and a sketch plan were used as interview methods. Additionally memory jogs based upon letters of the alphabet and colours are included to investigate if these are effective in stimulating memorial recall for single items.
Chapter 2. The perceptions of police officers about interviewees with ASD and their understanding of the characteristics of the condition.

2:1 Introduction

As discussed in the introduction (Chapter 1) of this thesis, there has been media concern that some police officers have behaved inappropriately when dealing in public with people who have ASD. Furthermore, researchers have noted the dissatisfaction felt by some people with ASD regarding their contact with police officers (Allen et al, 2008; Blackhurst, 2012). In light of the Autism Act 2009, that requires officers to demonstrate a commitment to supporting people with ASD, it is now timely to explore what police officers really know, and think about ASD. To this effect, the purpose of this first study was to collect information that would give insight into perceptions police officers have about the needs of people with ASD, and determine what they know about the characteristics of the condition. To explore this, the study focused upon one of the initial stages of the CJS, planning for an investigative interview (witness or suspect).

Police officers are one of the gatekeepers within the CJS, and it is often their responsibility to raise initial suspicions that an individual may be vulnerable and subsequently at risk. Consequently, if a police officer fails to identify ASD or appreciate that a person with ASD may require appropriate support during procedures the person with ASD may be disadvantaged during their contact with the CJS. For this current study police officers were surveyed and asked to detail how they would plan for an interview with a person they knew had a diagnosis of ASD. The purpose of which was to discover if police officers perceived people on the autism spectrum as potentially vulnerable and if so how they would accommodate for their needs.

Chown (2010) found that officers had received only limited training regarding ASD and had a poor understanding of the condition. Indeed it was reported that several officers did not know that a diagnosis of Asperger’s syndrome meant the individual was on the autism spectrum. This first study in this thesis extended upon this earlier research and additionally examined whether there was a difference in knowledge across two groups i) frontline officers and ii) specialist officers.
The document *Demanding times. The Frontline and Police Visibility* (HMIC, 2011) provides a description of those personnel in the police force who should be classed as frontline officers. One of the criteria is their visibility; that is, they wear a uniform and are in daily contact with the public through general and continuous patrol (HMIC, 2011). The document indicates that the work of the frontline officer is to keep the general public safe and enforce the law. As such they respond to 999 calls, traffic accidents, and patrol neighbourhoods. National estimates suggest that frontline officers make up 41% of the police work force and include members of response teams, neighbourhood and community units, traffic, dog handling and mounted police (HMIC, 2011). The document also identifies a group of officers who are classed as having 'middle officer roles', and those who work in custody are included in this group (HMIC, 2011). For the purpose of this research, the small number of participants who described their role as working in custody were included in the frontline group, due to the fact they wear uniform and deal with a heterogenic group of criminals (that is they do not specialise). Specialist officers have accredited specialist skills, tend to work on cases which demand a higher level of complexity (for example crime scene investigation) and their work tends to be pre-planned (HMIC, 2011). Specialist officers work in smaller units and many of these have a specific focus according to the type of victim (children, vulnerable adult) or the type of crime (murder investigation, rape, fraud). Thus, in this study, this criteria was used to distinguish between frontline officers and specialist officers. A point of interest in this study was to discover if those who interact with the general public on a daily occurrence (frontline officers) compared to those who work in more discrete specialist areas are equally prepared / able to recognise and accommodate for people with ASD.

Aims of the study

The study aimed to explore the perceptions police officers have about the needs of people who have ASD during interviewing procedure and to determine if there are any differences between the perceptions of frontline officers and specialist officers. Additionally the study sought to explore what police officers know about ASD. Finally the study aimed to discover if training which focuses upon ASD is available to police officers.
2:2. Method

Participants.

Fourteen police forces took part in the survey. This sample included forces from the North of England, the Midlands, London, and the South of England. Amongst these forces both rural and inner city locations were represented. In total 196 completed questionnaires were received. These were returned to the researcher by post or email, no respondent chose to use the online questionnaire resource. 105 of the respondents were frontline officers, this included 77 officers who were part of neighbourhood patrol teams, and other roles included 15 participants who were members of response teams, 10 participants who indicated they were custody staff and 3 participants who worked in traffic. 91 of the respondents were specialist officers, 23 worked in child abuse investigation units, 20 trainers / advisors, 20 members of major investigation teams and 12 CID officers. Other specialist roles included, 5 assigned to homicide, 3 participants working in rape units, 2 intelligence, 2 participants worked in vulnerable witness units and 2 in adult protection, and 1 participant worked in covert policing and 1 participant reported their role as tier 5. Of those who reported their gender (n = 194), 105 were male (63 frontline officers and 42 specialists) and 80 were female (42 frontline officers, 47 specialists). Length of service ranged from 6months to 36 years, frontline officers $M = 8.28$ years (SD = 6.30) and specialists $M = 16.22$ years (SD = 8.20). 100 participants had completed the witness questionnaire (59 frontline, 41 specialists) and 96 the suspect questionnaire (46 frontline officers, 50 specialists).

Materials

In total the questionnaires were comprised of 41 questions. Closed questions were used, where participants had to choose between yes or no responses. To collect information about attitude towards a given statement, five point Likert scale questions were employed using a fixed scale where 1 = strongly agree, 2 = agree, 3 = not sure, 4 disagree and 5 = strongly disagree. Open ended questions were also used. These were designed to encourage participants to voice their opinions and develop their thoughts, allowing for the collection of qualitative data. The questionnaire focused upon two themes, i) the perceptions of police officers about the needs of a person with ASD and ii) what officers know about the condition.
To ensure that data reflected the participants’ current awareness the questionnaire was designed so that the first section (exploring perceptions of the needs of a person with ASD) did not contain any content which could influence responses. For example, no explanation of ASD or its traits were provided. An open ended question invited respondents to plan for an interview with a suspect or witness who has ASD. The second section focused upon what participants knew about the condition, and two tasks were used. Firstly, using a Likert scale, participants were asked to rate whether 19 statements were indicative of ASD. Nine of these statements had a relevance to behaviours / psychological concepts associated with ASD. These ASD ‘associated’ statements reflected the three key areas of ASD as laid out in DSM IV (2000), namely i) impaired communication, ii) impaired social interaction skills and iii) rigid and repetitive behaviours. Participants were required to indicate how strongly they agreed or disagreed that the statement was associated with a characteristic of ASD. Five of the associated statements required participants to ‘agree’ with the statement in order to establish its association with ASD. For example the statements ‘people with ASD are wary of new situations’ and ‘people with ASD often become preoccupied with a special interest or hobby’ would each require an ‘agree’ response to confirm their association with ASD. Four of the associated statements required participant to ‘disagree’ to seal their relevance to a characteristic of ASD. For example the statements ‘people with ASD are good at interpreting gestures and tone of voice’ and ‘people with ASD are good at showing empathy’ should elicit ‘disagree’ responses. The ASD associated statements were adapted from descriptive information cited in *Autism: a guide for criminal justice professionals* (National Autistic Society, 2008) (a resource it was thought officers may be familiar with), and the adult Autism spectrum Quotient (AQ) (Baron-Cohen, Wheelwright, Skinner, Martin & Clubley, 2001). The AQ is a self-administered questionnaire designed to measure the degree of autistic traits in an adult who has normal intelligence (Baron-Cohen et al, 2001). The remaining ten statements which featured in the questionnaire were not part of a diagnosis of ASD, nor supported by research as being psychological manifestations of the condition. Five of these statements were adapted from the Hare, psychopathy check list (Hare, 1993). These statements suggested people with ASD were callous, cunning, quick to blame others, do not show remorse and have a grandiose opinion of their own abilities. The remaining five statements reflected some of the ‘myths’ associated with ASD. For example, the
website, ‘Autism Spectrum Explained’ indicates that there is a common misconception that people with ASD are violent and aggressive. The National Autistic Society website also explains that there is a ‘myth’ that all people with ASD have a learning disability. Films and novels have also had an impact upon what people believe they know about ASD. For example the film ‘Rainman’ depicts an autistic savant who demonstrates an extraordinary memory (Baird, Cass and Slonims, 2003). Additionally a novel by Jodi Picoult (2010) tells the story of a young man with Asperger involved in the CJS and the work is premised upon the assumption that a person with ASD only tells the truth and cannot lie, and questions the ability to distinguish between right and wrong. To generate a complete picture of what respondents believe they know about ASD, statements were included based upon these myths suggesting people with ASD are aggressive, have learning disabilities, have an excellent memory, always tell the truth and cannot distinguish between right and wrong. Finally, to further explore what police officers know about the condition, respondents were asked to list three characteristics of ASD they believed may impact upon an investigative interview.

Additional questions were included concerned with demographic information about the participants and finding out about any specific ASD training the participants may have received.

**Design**

An independent group design was used to discover the perceptions and understanding of police officers about ASD. The role of the officer was the independent variable at two levels, i) frontline officers and ii) specialist officers. A questionnaire was used to collect qualitative and quantitative information to address the aims of study one

**Procedure**

The first task was to choose the appropriate terminology to describe people on the autism spectrum. It is suggested that most people with autism who engage with the CJS will be from the higher end of the spectrum (National Autistic Society, 2008). However, previous work concluded that police officers were unclear about the term Asperger’s syndrome, failing to realise this was a manifestation of autism (Blackhurst, 2012; Chown, 2010). It was therefore decided to use the term autism
spectrum disorder (ASD) to describe the targeted population. Additionally to ensure that the questionnaire reflected the actual knowledge of police officers, the researcher decided not to provide any details about the condition which could influence responses.

Upon receiving ethical approval from the University of Portsmouth to conduct this study, police forces were contacted and invited to take part in the research. A preliminary letter or email was sent explaining the nature and purpose of the study (see appendices section 2) along with a copy of the questionnaires. Two questionnaires were produced (see appendices section 2); one focused upon a witness interview, while the other referred to a suspect interview. The two types of questionnaires were distributed in equal numbers and participants were instructed to choose just one type to complete. It was thought necessary to discriminate between the two types of interview to delineate information regarding the type of support officers would employ. For example, in accordance with PACE (1984) in a suspect interview it would be expected that an officer would plan for the assistance of an appropriate adult (AA). The role of an AA is defined as one which monitors the suspect interview by checking that procedures are being followed correctly. Where an AA feels that the interview is contravening PACE (1984) and is becoming oppressive or unfair their job is to intervene or even stop the interview (Code C, Home Office, 2014). Additionally Code C (Home Office, 2014) states that an AA is required to attend to any problems relating to communication issues. However, in keeping with the Youth Justice and Criminal Evidence Act (1999) a respondent referring to the witness interview would consider the needs of a Registered Intermediary to assist with communication issues. Additionally it would be expected that officers working with a vulnerable witness would consider special measures, for example video recording the interview. Other than matters related to the type of support, the two questionnaires were identical in their content.

Where forces chose to take part in the survey a named person kindly took on the responsibility of disseminating and collecting of the questionnaires. Participants were offered the choice of completing a hard copy of the questionnaire with a self-addressed envelope for return, or use an online questionnaire resource.
Data analysis.

Responses to closed questions were coded for example, a ‘yes’ response was given the numerical code (1), a ‘no’ response was given the numerical code (2) and a ‘don’t know’ response was coded as (3). This data was entered into a spread sheet and tallies were calculated. To analyse qualitative data from open ended questions content analysis was used to code, categorise and identify themes (see Vaismoradi, Turumen & Bondas, 2013). The manifest (observable) content was identified and conceptual analysis was used to observe the frequency of concepts. For the purpose of this study inductive or conventional content analysis was used. That is categories were not pre-defined but rather evolved as a result of analysing the raw data (see Hsieh and Shannon, 2005 for a detailed discussion of inductive content analysis). Data was broken down into manageable categories and entered into a code book.

To examine relationships across categorical data Chi square tests were used. A chi square test is a non-parametric test comparing ‘counts’ rather than ‘means’. Of use to this study a chi square test provides information regarding the performance of different population groups identifying any associations (see McHugh, 2013). To explore data collected from Likert type questions Kruskal-Wallis tests were used. These are non-parametric tests, useful for the analysis of ranked data which explore the difference between more than two independent groups. Where significant effects were found follow up Mann-Whitney tests were used. These calculations identify differences between two independent variables, looking at differences in the ranked positions of scores.

2:3. Results

The following sections report the findings of the questionnaire. Firstly the number of officers who reported receiving training will be presented. This will be followed by the results of the planning exercise. Finally, findings from the exercises which sought to discover what participants know about ASD will be detailed.

Type of training officers reported

Seventy participants (35.71%) indicated that they had taken part in some form of ASD training. Over half of those who reported they had received training about ASD (54.29%) explained that they had attended courses where ASD had been
mentioned, although this was not the main theme. These respondents reported taking part in training concerned with the interviewing of vulnerable witnesses per se delivered as part of ABE training. Consequently when data was analysed to discover training that focused specifically upon ASD, the numbers were reduced. In total 32 participants (16.3%) reported that they had received training which was exclusively concerned with matters relating to ASD, and this total was comprised of 31 frontline officers and 1 specialist. Overall 61.4% of all officers indicated that it would be useful or very useful to receive further training about ASD.

Planning an interview with a person who has ASD.

184 participants in the study responded to an exercise whereby they were asked to plan an interview for an interviewee they were told had ASD. Of this total 180 provided detailed plans while 4 respondents wrote ‘don’t know’. Using content analysis four primary themes emerged; 1) planning for support, 2) seeking advice, 3) general interview skills, and 4) skills and strategies which addressed the traits of ASD. These themes will be reported upon separately across both questionnaires (suspect and witness).

Planning for support

Of the 184 respondents who took part in the planning activity, overall 116 (63.04%) reported that they would consider support for their interviewee with ASD. As can be seen in table 2:1, this total was comprised of 39 officers referring to a witness interview and 25 to a

Table 2:1 Number of officers who planned / did not plan support for an interviewee with ASD (N = 184)

<table>
<thead>
<tr>
<th></th>
<th>Frontline officers</th>
<th>Specialist officers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 94)</td>
<td>(n = 90)</td>
</tr>
<tr>
<td>Planned support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Witness (n = 56)</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>Suspect (n = 38)</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>Total (N = 184)</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>39</td>
<td>25</td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>116</td>
<td></td>
</tr>
</tbody>
</table>

Focusing upon the role of the officer, in total 68.1% (n = 64) of frontline officers mentioned support for their interviewee with ASD. As can be seen in table 2:1, this total was comprised of 39 officers referring to a witness interview and 25 to a
suspect interview. In total 57.8% (n = 52) of specialist officers also planned for support (21 witness and 31 suspect). Referring to the type of interview, 61.9% (n = 60) of those reporting on a witness interview considered support (39 frontline officers and 21 specialists) as did 64.4% (n = 56) of those involved with a suspect interview (25 frontline officers and 31 specialist officers).

Having established that in total 116 participants planned to enlist support for their interviewee with ASD, it was considered important to discover the type of support respondents favoured. When collating data it was noted that some officers (n = 17) made nonspecific comments regarding the type of support they would choose to use, i.e. they wrote comments such as ‘would arrange support’. This was termed ‘general support’. Where officers made more specific comments, it was noted that two forms of support would be called upon, namely an appropriate adult or an intermediary. Table 2:2 details the type of support officers chose for their interviewees.

**Table 2:2. Type of support officers chose for an interviewee with ASD (N = 116)**

<table>
<thead>
<tr>
<th>Type of support</th>
<th>Frontline officers (n = 64)</th>
<th>Specialist officers (n = 52)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Witness</td>
<td>(n = 39)</td>
<td>(n = 25)</td>
</tr>
<tr>
<td>Suspect</td>
<td>(n = 21)</td>
<td>(n = 31)</td>
</tr>
<tr>
<td>AA</td>
<td>37</td>
<td>20</td>
</tr>
<tr>
<td>Intermediary</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>General</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

It can be seen from table 2:2 that the majority of responding frontline officers (n = 37, 94.9%) would use an AA to support a witness, but only two specialist officers considered using an AA for a witness interview. At this point it should be noted that an AA is not considered to be the correct support for a witness interview (Home Office, 2011). The majority of specialists (n = 19, 76.2%) indicated the correct support for a witness as an intermediary. A chi square test revealed that frontline officers were significantly more likely to use AAs compared to specialist officers, $\chi^2 (3) = 46.65$, $p \leq .001$. Cramer’s V = .57, indicating a relatively strong association.
As may have been expected, an AA was the most referenced form of support for a suspect with ASD. This type of support was reported by 69.6% (20 frontline officers and 19 specialists). An intermediary was considered useful support for a suspect on 5 occasions, cited by 1 frontline officer and 4 specialists.

2) Planning to seek advice.

In total, 68 officers (36.96%) indicated they would seek guidance when informed they were to interview a person with ASD.

Table 2:3. *Number of officers planning to seek advice prior to interviewing a person with ASD (N = 184)*

<table>
<thead>
<tr>
<th>Seek advice</th>
<th>Frontline officers (n = 94)</th>
<th>Specialist officers (n = 90)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Witness (n = 56)</td>
<td>Suspect (n = 38)</td>
</tr>
<tr>
<td></td>
<td>Witness (n = 41)</td>
<td>Suspect (n = 49)</td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>No</td>
<td>45</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>44</td>
<td>44</td>
</tr>
</tbody>
</table>

Overall, 25.5% of frontline officers (n = 24) and 48.9% (n = 44) of specialist officers indicated that they would plan to seek advice. A Chi square test showed that specialist officers were significantly more likely to consider seeking advice compared to frontline officers, $\chi^2(1) = 10.77$, $p = .001$, phi $= .24$, a moderate association.

Data was further analysed to explore if specific training in ASD influenced whether or not a person would seek advice. Of the 116 participants who indicated that they would not seek advice, 100 had reported receiving no training specific to ASD.

There were three chief reasons why officers would seek advice, these were; i) to find out about ASD, ii) to collect information about the person being interviewed, and iii) to get guidance on the best way of conducting the interview. To collect this information participants referred to five sources namely; i) family members of the interviewee, ii) medical professionals, iii) carers, iv) colleagues and v) research material.
Table 2:4. Sources officers would refer to for advice (N = 68)

<table>
<thead>
<tr>
<th>Sources</th>
<th>Frontline officers (n = 24)</th>
<th>Specialist officers (n = 41)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Witness (n = 56)</td>
<td>Suspect (n = 38)</td>
<td></td>
</tr>
<tr>
<td>Family members</td>
<td>5</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Medical professionals</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Research</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Colleagues</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Carers</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

As can be seen from Table 2:4 seeking advice from family members was noted on 33 occasions. Specialist officers (n = 23) were significantly more likely to plan to consult with family members than frontline officers (n = 10), $\chi^2 (1) = 6.95$, p = .008, phi = .19, indicating a weak association. 22 references were made indicating that advice would be sought from medical professionals, namely custody nurses, and doctors. Officers indicated that it would be necessary to gather information from medical professionals to collect advice regarding any medication or medical attention the interviewee may require. Specialist officers (n = 17) were significantly more likely than frontline officers (n = 5) to consider support from medical professionals, $\chi^2 (1) = 8.04$, p = .005, phi = .21 demonstrating a moderate association. Looking to carers was mentioned 6 times (4 frontline officers and 2 specialists). It was explained that referring to carers and family members was useful to gather information about the interviewee as one respondent noted;

“Talk to carers and / or family to find out cognitive and verbal skills and / or abilities” (W2).

Seeking advice from colleagues was cited 9 times (5 frontline officers and 4 specialists). This was mentioned in order to find out how best to conduct the interview. A respondent referring to the witness interview commented;
“Due to the limited knowledge of this area, I would speak with officers from child protection or vulnerable witness even with a chance to review previous interviews and there (sic) structure” (W35).

Within the context of the questionnaire officers were asked if there was a person in their force they could refer to regarding matters related to ASD. Of those who responded (n = 184) 60 (28 frontline, 32 specialists) indicated there was such a person. Hence it is surprising that more officers did not refer to consulting a knowledgeable colleague in the planning exercise.

Finally 10 references were made (2 frontline officers and 8 specialists) indicating that they would carry out their own research to find out about ASD. This included reading up on the condition and accessing the internet for information. Within the context of the questionnaire respondents were asked if they had ever consulted the NAS document *Autism; A guide for Criminal Justice professionals*. Of the 195 participants who responded to this question only 21 officers reported they had read this document (5 frontline officers, 16 specialists). No participant referred to it when planning for their interview.

In the course of the planning exercise, officers made reference to the need to consider their own interview skills. These findings will now be reported.

3) General interview skills

151 officers collectively provided 342 comments which made reference to general interview skills. This total included 73 frontline officers who provided 129 of the comments and 78 specialists who made 213 comments. In total 192 of the observations were made in response to a witness interview and 150 a suspect interview. Using content analysis 16 general interview skills were identified and these were organised according to three noted recurring themes; i) structure of the interview, ii) facilitating the interview, and iii) interacting with the interviewee. Table 2:5 details these general interview skills.
Table 2.5 General interview skills identified during the planning exercise. Multiple responses (N = 152)

<table>
<thead>
<tr>
<th>Interview skills</th>
<th>Witness (n = 44)</th>
<th>Suspect (n = 29)</th>
<th>Witness (n = 39)</th>
<th>Suspect (9 = 39)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structure of interview</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interview method</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>15</td>
<td>29</td>
</tr>
<tr>
<td>Style of questions</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>Special measures</td>
<td>9</td>
<td>N/A</td>
<td>2</td>
<td>N/A</td>
<td>11</td>
</tr>
<tr>
<td><strong>Facilitating the interview</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check own behaviour</td>
<td>17</td>
<td>15</td>
<td>16</td>
<td>14</td>
<td>62</td>
</tr>
<tr>
<td>Best location</td>
<td>4</td>
<td>2</td>
<td>11</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>Length of interview</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Best time to interview</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Organise breaks</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td><strong>Interacting with interviewee</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>understand questions</td>
<td>15</td>
<td>10</td>
<td>2</td>
<td>9</td>
<td>36</td>
</tr>
<tr>
<td>Personal needs</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>10</td>
<td>29</td>
</tr>
<tr>
<td>Collect information</td>
<td>3</td>
<td>0</td>
<td>14</td>
<td>6</td>
<td>23</td>
</tr>
<tr>
<td>Assess communication</td>
<td>1</td>
<td>4</td>
<td>9</td>
<td>5</td>
<td>19</td>
</tr>
<tr>
<td>Develop rapport</td>
<td>1</td>
<td>3</td>
<td>7</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Explain process</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Meet prior to interview</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Fit for interview</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>56</td>
<td>119</td>
<td>94</td>
<td>342</td>
</tr>
</tbody>
</table>

*Other = liaising with solicitor, liaising with appropriate adult, conducting a multidisciplinary meeting, encouraging concentration, check understand right from*
wrong, check understand truth and lies, check understand the consequences of their actions, ensure a legal rep is present.

i) The structure of the interview

On 29 occasions the need to think about the interview method was referenced. Comments were made ensuring the interview was conducted ‘according to the requirements of PACE’, consideration was given to adopting the PEACE interview model as was utilising an ABE interview and the use of sketch plans. As can be seen in table 2:5 specialist officers made more comments about the structure (n = 23, 8 witness, 15 suspect) of the interview than did frontline officers (n = 6, 1 witness, 5 suspect), $\chi^2 (1) = 12.73$, $p \leq p.001$, phi = .27, a moderate association. Furthermore, the structure of the interview was given greater consideration by participants discussing a suspect interview compared to those referring to a witness interview, $\chi^2 (1) = 6.49$, $p = .011$, phi = .20, a moderate association.

Consideration was also given to the type of questions to be used. In total 23 observations were made, 8 from frontline officers (3 witness, 5 suspect) and 15 from specialists (6 witness, 9 suspect). Respondents noted the need to avoid leading questions.

Focusing upon the witness interview, special measures were considered on 11 occasions and participants noted that they would make plans to video record the interview, this was cited 9 times by frontline officers and twice by specialists.

ii) Facilitating the interview

Observations were made by respondents which indicated they would make some efforts to manipulate their own behaviour / environment in order to facilitate the interview. The need for officers to check their own behaviour was the most noted of all the general interview skill and was cited on 62 occasions. 32 comments were made by frontline officers (17 witness and 15 suspect) and 30 comments came from specialist officers (16 witness and 14 suspect). The behaviours mentioned included instructions that the interviewing officer must remain calm, should not rush the interviewee, and should consider whether to wear uniform or civilian clothes, avoid topics which may cause distress and think about their own use of language and communication, particularly checking upon the use of jargon.
19 comments were made which focused upon the most suitable location in which to conduct the interview, 6 of these observations were made by frontline officers (4 witness, 2 suspect) and 13 by specialists (11 witness, 2 suspect). As can be seen, considering the best location was mostly noted in reference to the witness interview, $\chi^2(1) = 8.49$, $p = .014$, phi = .22, demonstrating a moderate association. The length of the interview was also given consideration. Respondents were concerned that they would need to keep the interview brief. In total 12 such comments were made. This included 4 from frontline officers (2 witness, 2 suspect) and 8 specialists (5 witness, 3 suspect). As can be seen in table 2:5 more specialist officers (n = 9, 6 witness, 3 suspect) considered the best time to conduct the interview compared to 2 frontline officers (1 witness, 1 suspect), $\chi^2(1) = 5.07$, $p = .024$, phi = .17, a weak association. Finally 11 comments were made discussing the need to plan for breaks during the course of the interview. Table 2:5 shows that the majority of these responses were made by specialist officers (n = 10, 6 witness, 4 suspect), $\chi^2(1) = 8.26$, $p = .004$, phi = .21, indicating a moderate association.

iii) Interacting with the interviewee

Within the planning activity actions were mentioned which involved the interviewer directly interacting with the interviewee. The greatest consideration was ensuring that the interviewee understood the questions asked. In total this was referenced 36 times, frontline officers made 25 of these comments (15 witness, 10 suspect) and specialist officers’ made 11 comments (2 witness, 9 suspect), $\chi^2(1) = 6.04$, $p = .014$, phi = .18, a weak association. On 29 occasions reference was made to attend to the personal needs of their interviewee. Participants indicated they would check upon the physical comfort of the interviewee, ensuring they had been offered food and drink and rest. Additionally attention was given to the emotional needs of the interviewee and the need to minimise anxiety and stress was discussed. In total 7 comments were made by frontline officers (4 witness, 3 suspect). However, as can be seen from table 2:5 more specialist officers paid attention to personal needs (n = 22, 12 witness, 10 suspect), $\chi^2(1) = 10.79$, $p = .005$, phi = .24, demonstrating a moderate association.
Twenty three comments were made by officers, indicating that they would collect information about their interviewee and their needs directly from the interviewee. One officer explained;

“To find out about the witness and their specific needs spend time with the witness, familiarise myself with any communication issues and for the person to become familiar with me.” (W1).

Two respondents discussed how they would talk to their interviewees to find out about their likes and dislikes, and three officers noted they would ask the interviewee if they had previous experience of being in contact with the CJS. Only 3 comments from frontline officers all responding to a witness questionnaire discussed the importance of collecting information directly from their witness. As table 2:5 indicates, more specialist officers (n = 20, 14 witness, 6 suspect) referred to the need to consult with the interviewee compared to frontline officers (n = 3 witness), $\chi^2 (1) = 15.78$, $p = .003$, phi = .29, a moderate association. Assessing the interviewees’ communication skills was cited on 19 occasions. This included 5 references from frontline officers (1 witness, 4 suspect) and 14 comments made by specialists (9 witness, 5 suspect), $\chi^2 (1) = 5.20$, $p = .023$, phi = .17, indicating a weak association. Developing rapport was an interaction technique which was planned for on 15 occasions. Four of these observations were posed by frontline officers (1 witness, 3 suspect) and 11 comments came from specialists (7 witness, 4 suspect), $\chi^2 (1) = 3.90$, $p = .048$, phi = .15, a weak association. It was mentioned on 12 occasions that it would be necessary to explain the process of the interview to the person being questioned. Seven references were made by frontline officers (4 witness, 3 suspect) and 5 comments were made by specialist (3 witness, 2 suspect). Seven observations made suggested that officers would plan to meet with the interviewee prior to the interview, these were all made by specialist officers (6 witness, 1 suspect ), $\chi^2 (1) = 7.69$, $p = .006$, phi = .21, demonstrating a moderate association. A small number of participants (n = 7) indicated the need to check that the interviewee was fit to be interviewed. Of this total, 5 comments were made by frontline officers, (4 witness, 1 suspect) and 2 specialists, each reporting upon the suspect interview.
The above mentioned general interviewing skills are representative of good practice when interviewing a person considered vulnerable per se. However, they are not specific to accommodating for the particular characteristics of ASD. The following section focuses upon activities within the planning exercise which were cited because the interviewee had ASD.

4) Interview skills and strategies specific to ASD.

In total only 49 officers reported activities in the planning exercise which were identified as accommodating the specific characteristics of ASD. In total 67 comments were made. 27 frontline officers provided 32 of these comments while 22 specialists made 35 comments. Focusing upon interview type 27 of the comments were made during the planning of a witness interview and 40 for a suspect interview. Using content analysis five topics were identified; i) finding out the level of the person’s ASD, ii) addressing communication impairments, iii) addressing social interaction impairments, iv) addressing rigid / repetitive behaviours, and v) addressing sensory problems. Table 2:6 details the comments made by participating officers.

Table 2:6 Characteristics discussed pertinent to a diagnosis of ASD. Multiple responses (N = 49)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Frontline officers (n=27)</th>
<th>Specialist officers (n=22)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Witness (n=15) Suspect (n=12)</td>
<td>Witness (n=7) Suspect (n=15)</td>
</tr>
<tr>
<td>Find out level of ASD</td>
<td>14            6</td>
<td>4            7</td>
</tr>
<tr>
<td>communication</td>
<td>0            6</td>
<td>2            8</td>
</tr>
<tr>
<td>social interaction</td>
<td>1            2</td>
<td>3            3</td>
</tr>
<tr>
<td>rigid / repetitive behaviours</td>
<td>1            2</td>
<td>1            5</td>
</tr>
<tr>
<td>sensory problems</td>
<td>0            0</td>
<td>1            1</td>
</tr>
<tr>
<td>Total</td>
<td>16            16</td>
<td>11           24</td>
</tr>
</tbody>
</table>
The course of action given most consideration was that of finding out the level of the interviewees ASD. Respondents expressed the opinion that where a person lies on the autism spectrum would have implications for how the interview was conducted. In total this was referred to on 31 occasions, 20 comments were made by frontline officers (14 witnesses, 6 suspect) and 11 comments came from specialist officers (4 witness, 7 suspect). Consideration to communication issues was cited 16 times, 6 comments made by frontline officers all concerned with the suspect interview and 10 comments from specialist (2 witness, 8 suspect). A Chi square test found that officers referring to a suspect interview were significantly more likely to consider communication issues, $\chi^2 (1) = 11.71$, $p = .003$, phi = .25, indicating a moderate association. It was noted by 4 frontline officers and 6 specialist officers (all referring to the suspect interview) that some people with ASD have a tendency to interpret information literally. To accommodate for this, participants outlined that they should avoid using language which if interpreted literally could jeopardise communication. One respondent observed that reading the caution to a person with ASD may be problematic. It was explained that because the caution begins with the words ‘you do not have to say anything’ there was a danger that a person with ASD may interpret this as an order informing them that they must not say anything. It was also noted that officers should not rely upon the use of body language or gestures to convey implicit points of communication. It was explained that such actions should be avoided because some people with ASD have difficulty interpreting nonverbal communication.

Difficulties which may arise due to social interaction problems were cited on 9 occasions, 3 comments were made by frontline officers (1 witness interview 2 suspect) and 6 specialists (3 witness interview 3 suspect). Officers made provisions in their planning to inform all people present in the interview that because a person with ASD does not give eye contact then this must not be misinterpreted as a lack of attention or rudeness. Two respondents also noted that because people with ASD do not easily read the minds of others this may result in them not instinctively understanding the rules or purpose of the interview. One officer noted that due to poor skills understanding the minds of others a suspect with ASD may appear to lack any empathy for their victim.
On 9 occasions thought was given to difficulties which may arise because of the tendency of some people with ASD to exhibit rigid and repetitive behaviours. Three of these comments were made by frontline officers (1 witness, 2 suspect) and 6 from specialist (1 witness, 5 suspect). It was reported that people with ASD gain comfort and security from rigid routines. Concerns were voiced suggesting that because an interview may disrupt the individual’s regular routine this may result in the interviewee experiencing stress and anxiety. It was also observed that officers should prepare for any disruptions which may be the consequences of the interviewee becoming fixated upon a specific topic, word, special interest or feature of the environment.

Finally, on two occasions, sensory problems associated with ASD were cited as having a potential impact upon the interview. These comments were made by specialist officers (1 witness, 1 suspect). Problems people with ASD may have with bright lights or a noisy environment were discussed, and officers put plans into action to create an environment which would avoid sensory overload.

As a point of interest data collected from frontline officers were further analysed to see if those officers who had reported receiving training were more likely to make comments pertinent to ASD when compared to those without training. Referring to all five topics, training had no effect upon findings.

Having reported upon the perceptions officers have about the needs of a person with ASD during an investigative interview, this chapter will now focus upon what officers know about the characteristics of ASD.

What do police officers know about the characteristics of ASD?

To find out what police officer know about the characteristics of ASD 19 Likert scale questions were used and these are listed in table 2:7. Participants were asked to gauge their responses on a 1-5 scale where 1 = strongly agree, 2 = agree, 3 = not sure, 4 = disagree and 5 = strongly disagree. As reported earlier in this study, those who had received training specific to ASD were predominantly frontline line officers, therefore to analyse findings data was organised into three groups; i) frontline officers who had received training specific to ASD, ii) frontline officers with no training related to ASD, and iii) specialist officers. The findings will be divided into
two categories; i) statements associated with a diagnosis of ASD, and ii) statements not associated with a diagnosis of ASD.
Table 2:7. Recognising characteristics of ASD. Mean scores calculated from responses to Likert scale questions.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Frontline Officers (trained)</th>
<th>Frontline Officers (Not trained)</th>
<th>Specialist Officers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASD associated</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unable to give eye contact</td>
<td>2.19 (0.87)</td>
<td>2.81 (0.83)</td>
<td>2.86 (1.14)</td>
</tr>
<tr>
<td>Do not understand social rules</td>
<td>2.77 (0.81)</td>
<td>2.82 (1.01)</td>
<td>2.57 (0.97)</td>
</tr>
<tr>
<td>Interpret information literally</td>
<td>1.52 (0.63)</td>
<td>2.37 (0.93)</td>
<td>1.99 (0.77)</td>
</tr>
<tr>
<td>Are wary of new situations</td>
<td>2.03 (1.02)</td>
<td>2.17 (0.88)</td>
<td>2.03 (0.83)</td>
</tr>
<tr>
<td>Become preoccupied with a special interest / hobby</td>
<td>1.71 (0.74)</td>
<td>2.18 (0.87)</td>
<td>2.01 (0.82)</td>
</tr>
<tr>
<td>Good at understanding the minds of others</td>
<td>3.26 (0.93)</td>
<td>3.60 (0.82)</td>
<td>3.76 (0.91)</td>
</tr>
<tr>
<td>Do not like rigid routines</td>
<td>4.26 (0.86)</td>
<td>3.68 (1.09)</td>
<td>3.76 (1.08)</td>
</tr>
<tr>
<td>Are good at showing empathy</td>
<td>3.45 (0.81)</td>
<td>3.39 (0.86)</td>
<td>3.70 (0.95)</td>
</tr>
<tr>
<td>Good at interpreting gesture and tone of voice</td>
<td>3.94 (1.18)</td>
<td>3.30 (0.98)</td>
<td>3.74 (1.00)</td>
</tr>
<tr>
<td><strong>Not associated with ASD.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All have learning disabilities</td>
<td>3.97 (1.11)</td>
<td>3.51 (1.04)</td>
<td>3.95 (1.01)</td>
</tr>
<tr>
<td>Are quick to blame others for their own mistakes.</td>
<td>3.48 (1.03)</td>
<td>3.49 (0.83)</td>
<td>3.57 (0.86)</td>
</tr>
<tr>
<td>Overestimate their own abilities.</td>
<td>3.39 (0.99)</td>
<td>3.23 (0.90)</td>
<td>3.36 (0.92)</td>
</tr>
<tr>
<td>Tend to be cunning and manipulative.</td>
<td>4.29 (0.69)</td>
<td>3.68 (0.89)</td>
<td>4.33 (0.75)</td>
</tr>
<tr>
<td>Don’t show remorse.</td>
<td>3.06 (1.09)</td>
<td>3.32 (0.82)</td>
<td>3.31 (1.10)</td>
</tr>
<tr>
<td>Have a callous disregard for others.</td>
<td>3.84 (0.86)</td>
<td>3.63 (0.91)</td>
<td>3.73 (0.89)</td>
</tr>
<tr>
<td>Can’t distinguish between right and wrong</td>
<td>3.32 (1.11)</td>
<td>3.34 (0.89)</td>
<td>3.57 (0.96)</td>
</tr>
<tr>
<td>Always tell the truth</td>
<td>2.84 (0.97)</td>
<td>3.08 (0.89)</td>
<td>3.25 (0.94)</td>
</tr>
<tr>
<td>Have a good memory for all events</td>
<td>2.65 (0.71)</td>
<td>2.87 (0.87)</td>
<td>3.05 (0.81)</td>
</tr>
<tr>
<td>Can be very aggressive</td>
<td>2.68 (1.05)</td>
<td>2.86 (0.96)</td>
<td>3.07 (0.93)</td>
</tr>
</tbody>
</table>
i) Statements associated with a diagnosis of ASD.

Five statements were posed which if accompanied with an ‘agree’ response could be associated with ASD. The findings from these statements will now be reported.

People with ASD are unable to give eye contact (N= 187)

Untrained frontline officers (32.4%), trained frontline officers (64.5%) and specialist officers (42.4%) agreed / strongly agreed that eye contact would be difficult for people with ASD. A Kruskal-Wallis test found a difference between these groups H (2) = 10.17, p = .006, conducting a series of Mann-Whitney tests frontline officers with training were significantly more likely to agree with this statement (M = 2.19, SD = 0.87) than untrained frontline officers (M = 2.81, SD = 0.83), U= 657.00, z = -3.19, p = .001, r = .32, indicating a medium effect. Similarly trained frontline officers were significantly more likely to agree that people with ASD are unable to give eye contact than specialist officers (M = 2.86, SD = 1.14), U= 923.50, z = -2.78, p = .006, r = .25, a small effect.

People with ASD do not understand social rules (N = 187)

36.8% of untrained frontline officers, 38.7% of trained officers and 54.6% of specialists agreed / strongly agreed with this statement. Statistical tests showed no difference between mean scores across the three groups.

People with ASD interpret information literally (n = 191)

Untrained frontline officers (55.6%) and trained officers (93.6%) agreed with this statement as did specialist officers (76.2%). A significant difference was found between mean scores across the three groups H (2) = 22.30, p ≤.001. Mann-Whitney tests found that trained frontline officers were significantly more likely to agree with this statement (M = 1.52, SD = 0.63) than untrained frontline officers (M = 2.37, SD = 0.93) U = 533.50, z = -4.41, p ≤.001, r = .43, demonstrating a medium effect. Trained frontline officers were also significantly more likely to agree with this statement than specialist officers (M = 1.99, SD = 0.77) U = 903.00, z = -3.02, p = .003, r = 0.30, a medium effect.
People with ASD are wary of new situation (N = 189)

60% of untrained frontline officers agreed with this statement as did 67.7% of trained frontline officers and 78.4% of specialist officers. No difference was found between mean scores across the three groups.

People with ASD often become preoccupied with a special interest or hobby (N = 190)

67.6% of untrained frontline officers agreed with this statement as did 90.3% of trained frontline officers and 75% of specialists. A Kruskal Wallis test found a difference between the mean scores across the three groups H (2) = 7.40, p = .025. A Mann-Whitney test found that trained frontline officers were significantly more likely to agree with this statement (M = 1.71, SD = 0.74) than untrained frontline officers (M = 2.18, SD = 0.87) U = 753.50, z = -2.71, p = .007, r = .27, a small effect.

Statements which when ‘disagreed’ with could be associated with a characteristic of ASD.

People with ASD are very good at reading the minds and thoughts of others (N = 191)

51.4% of untrained frontline officers disagreed with this statement as did 45.2% of trained frontline officers and 63.6% of specialists. A Kruskal Wallis test identified a significant difference between the three groups H (2) = 7.06, p = 0.29. A Mann-Whitney test found that specialist officers were significantly more likely to disagree with this statement (M = 3.76, SD = 0.91) compared to trained frontline officers (M = 3.26, SD = 0.93) U = 970.50, z = -2.51, p = .012, r = .23, indicating a small effect.

People with ASD do not like rigid routines (N= 190).

54.9% of untrained frontline officers disagreed with this statement as did 87.1% of trained frontline officers and 67% of specialists. A Kruskal Wallis test recognised that there was a difference between the mean scores across the groups H (2) = 7.57, p = .023. A series of Mann-Whitney tests found trained frontline officers (M = 4.26, SD = 0.86) were significantly more likely to disagree with this statement than untrained frontline officers (M = 3.68, SD = 1.09), U = 756.50, z = -2.62, p = .009, r = .26, a small effect. Similarly trained frontline officers were significantly more likely to
disagree that people with ASD do not like rigid routines than specialist officers ($M = 3.76, SD = 1.08$) $U = 992.0$, $z = 2.38$, $p = .017$, $r = .18$, a small effect.

People with ASD are good at showing empathy ($N = 188$)

40% of untrained frontline officers disagreed with this statement as did 51.6% of trained frontline officers and 60.9% of specialists. No statistical differences were found between mean scores across all three groups.

People with ASD are good at interpreting gestures and tone of voice ($N = 190$)

47.9% of untrained police officers neither agreed nor disagreed with this statement. However, 70.9% of trained frontline officers and 67% of specialists disagreed. A Kruskal Wallis test indicated there was a significant difference between the mean scores across the groups $H (2) = 12.96$, $p = .002$. A series of Mann-Whitney tests found that trained frontline officers were significantly more likely to disagree with this statement ($M = 3.94, SD = 1.18$) than untrained frontline officers ($M = 3.30, SD = .098$), $U = 716.50$, $z = -2.91$, $p = .004$, $r = .29$. Additionally specialist officers ($M = 3.74, SD = 1.00$) were significantly more likely to disagree with this statement than untrained frontline officers $U = 2292.50$, $z = -3.00$, $p = .003$, $r = .24$, a small effect.

iii) Statements not associated with a diagnosis of ASD.

The following statements, whether agreed or disagreed with are not associated with a diagnosis of ASD.

All people with ASD have learning disabilities ($N = 187$)

47.1% of untrained officers disagreed with this statement as did 70.9% of trained frontline officers and 72.7% of specialist officers. A Kruskal Wallis test indicated a significant difference between responses $H (2) = 8.68$, $p = .013$. A series of Mann-Whitney tests found trained frontline officers ($M = 3.97, SD = 1.11$) were significantly more likely to disagree with this statement than untrained frontline officers ($M = 3.51, SD = 1.04$), $U = 797.00$, $z = -2.01$, $p = .044$, $r = .20$. Additionally, specialist officers performed better than untrained frontline officers ($M = 3.95, SD = 1.01$) $U = 2243.00$, $z = -2.79$, $p = .005$, $r = .22$, a small effect.
People with ASD are quick to blame others for their own mistakes

Untrained frontline officers (51.4%) neither agreed nor disagreed with this statement. However, 48.4% of trained frontline officers disagreed as did 53.4% of specialist officers.

People with ASD overestimate their abilities having a grandiose belief in their self (N = 188)

57.1% of untrained frontline officers neither agreed nor disagreed with this statement as did 58.1% of trained frontline officers and 46% of specialist officers.

People with ASD tend to be cunning and manipulative (N =191)

52.8% of untrained frontline officers disagreed with this statement as did 87.1% of trained frontline officers and 83% of specialists. A Kruskal Wallis test indicated there was a significant difference between the mean scores across the groups, H (2) = 23.86, P ≤.001. Mann-Whitney tests indicated trained frontline officers were more likely to disagree with this statement (M = 4.29, SD = 0.69) than untrained frontline officers (M = 3.68, SD = 0.89), U = 682.50, z = -3.30, p = .001, r = .33, a medium effect. Specialist officers (M = 4.33, SD = .075) were also significantly more likely to disagree with this statement compared to untrained frontline officers U = 1901.00, z = -4.60, p ≤.001 r = .36, demonstrating a medium effect.

People with ASD do not show remorse (N = 190)

47.9% of untrained officers indicated that they neither agreed nor disagreed with this statement as did 41.9% of trained frontline officers and 36.4% of specialists. No difference was found between the mean scores across all three groups.

People with ASD have a callous disregard for the wellbeing of others (n = 191)

47.2% of untrained frontline officers disagreed with this statement as did 61.2% of trained frontline officers and 62.5% of specialists. Statistical tests showed there was no difference between the mean scores across the three groups.

People with ASD can’t distinguish between right and wrong (N = 190)

52.1% of untrained police officers neither agreed nor disagreed with this statement. And 45.2% of trained frontline officers and 56.9% of specialists disagreed. However,
11.3% of untrained frontline officers, 16.1% of trained frontline officers and 14.8% of specialists indicated that the statement was true.

People with ASD always tell the truth (N = 190)

63.38% of untrained frontline officers neither agreed nor disagreed with this statement as did 54.8% of trained frontline officers. However, 39.8% of specialists disagreed that people with ASD always tell the truth. Additionally, 15.5% of untrained frontline officers, 29% of trained frontline officers and 22.7% of specialist officers agreed that people with ASD always tell the truth.

People with ASD have a good memory for all events (N = 188).

58.6% of untrained frontline officers neither agreed nor disagreed with this statement as did 58.1% of trained frontline officers and 49.4% of specialists. Additionally, 24.3% of untrained police officers, 35.5% of trained frontline officers and 24.1% of specialists agreed that people with ASD have a good memory for all events.

People with ASD can be very aggressive (N = 190)

53.5% of untrained frontline officers indicated they neither agreed nor disagreed with this statement as did 51.6% of trained frontline officers and 47.7% of specialists. However, 28.2% of untrained frontline officers, 32.6% of trained frontline officers and 23.9% of specialists agreed that people with ASD can be aggressive.

To continue the exploration regarding what police officers know about ASD, the following section reports upon the responses made by officers when asked to consider three characteristics of ASD which they believed may impact upon an investigative interview.

Characteristics of ASD which may impact upon an interview

In total 167 participants responded to this question, 84 frontline officers who collectively made 138 comments and 83 specialist officers who in total made 146 comments. Statements were firstly categorised according to their ability to reflect upon any of the three characteristics associated with ASD namely, i) impaired communication, ii) impaired social interaction and iii) rigid and repetitive behaviours. Comments which did not fit into this criteria were organised according to their specific behaviours / traits. In total 17 officers provided three comments which
covered each of the three key areas of ASD. This included 7 frontline officers and 10 specialists. Focusing upon the frontline officers, of these 7 participants, 5 had reported receiving specific training in ASD, \( \chi^2 (1) = 5.85, p = .016, \phi = .26 \), a moderate association. Table 2:8 lists the characteristics / behaviours officers referred to.

Table 2:8 Characteristics of ASD which may impact upon an investigative interview. *Multiple responses (N = 167)*

<table>
<thead>
<tr>
<th>Traits/ Behaviours</th>
<th>Frontline Officers (n = 84)</th>
<th>Specialist Officers (n = 83)</th>
<th>Total (N = 167)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Communication impairment</td>
<td>43</td>
<td>31.2</td>
<td>44</td>
</tr>
<tr>
<td>Rigid / repetitive behaviours</td>
<td>38</td>
<td>27.5</td>
<td>43</td>
</tr>
<tr>
<td>Social interaction impairment</td>
<td>23</td>
<td>16.7</td>
<td>35</td>
</tr>
<tr>
<td>Aggressiveness</td>
<td>15</td>
<td>10.9</td>
<td>1</td>
</tr>
<tr>
<td>Poor concentration</td>
<td>4</td>
<td>2.9</td>
<td>11</td>
</tr>
<tr>
<td>Not understand right from wrong</td>
<td>11</td>
<td>7.9</td>
<td>4</td>
</tr>
<tr>
<td>Compliant behaviour</td>
<td>4</td>
<td>2.9</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100</td>
<td>146</td>
</tr>
</tbody>
</table>
Communication impairment was the trait identified as a characteristic of ASD that would have the biggest impact upon an investigative interview. In total 30.1% of the comments made by all frontline officers and over 30% of the comments made by all specialist officers referred to problems associated with communication impairments. Amongst the comments made, thought was given to the tendency of some people with ASD to interpret language literally (23 frontline officers and 23 specialist officers). Consideration was also given to potential problems which may arise due to the fact that some people with ASD have an inability to understand the meaning behind nonverbal cues (5 frontline officer, 1 specialist officers). Attention was also drawn to the possibility that some people with ASD may fail to put correct interpretation on a person’s tone of voice and may not be able to understand irony (3 frontline officers, 2 specialist officers).

Difficulties resulting from rigid and repetitive behaviours were cited on 81 occasions, (27% of all comments from frontline officer and 30% specialists). Concerns were made implying that an interview may be disrupted because a person with ASD may become anxious due to being out of their usual routine (10 frontline officers, 13 specialist officers). It was also observed that a propensity to become obsessed or fixated upon a particular object, event or word may hamper procedures and interfere with the interviewees’ ability to engage in the main purpose of the interview (6 frontline officers, 8 specialist officers).

Social interaction difficulties were referred to on 58 occasions, (17% of all frontline comments and 24% specialists). 2 Statements were made by specialist officers that suggested that the interview may be hindered due to a person with ASD failing to appreciate social rules. 4 specialist officers indicated that there would be problems because a person with ASD would find it difficult to engage in rapport and not giving eye contact was referred to on 21 occasions (13 frontline officers, 8 specialists). It was also discussed that due to inferior skills of reading the minds of others this may result in some people with ASD failing to appreciate the purpose of the interview (5 frontline officers, 3 specialist officers).

Focusing upon frontline officers, it was considered useful to discover if those with training performed better than those without training when recognising characteristics which could impact upon an interview. However, after running a
series of Chi square tests no significant difference was found between frontline officers with and without training.

Some comments which are not specific to the three key traits of ASD were referenced by police officers as being so. In total 20.4% of all comments made had no association with the key characteristics of ASD. For example nearly 11% (n = 15) of frontline officers identified aggression as having an impact upon an interview. By comparison aggression was only considered by one specialist officer, $\chi^2 (1) = 14.13$, $p \leq .001$, phi = .32, indicating a moderate association.

15 statements (4 frontline officers and 11 specialists) referred to the idea that people with ASD would have poor concentration. Fifteen observations (11 frontline officers, 4 specialists) suggested that people with ASD would cause disruption to the interview because they do not know the difference between right and wrong. Finally 12 comments (4 frontline officers, 8 specialists) were made implying that people with ASD would demonstrate compliant behaviour.

Additional information

The final section of the questionnaires invited participants to relate any thoughts or responses regarding the nature of the survey. In total 32 respondents took advantage of this opportunity. Some officers (n = 5) expressed the opinion that because they did not know anything about ASD they found the questionnaire difficult to complete and 3 respondents suggested it would have been useful if they had been provided with information about ASD. A few respondent (n = 7) also noted that because ASD is a diverse condition this makes responding to a questionnaire problematic.

“Section D difficult to answer, autism so varied and wide” (W22)

“Question re how condition manifest itself are too prescriptive so not able to answer” (Su 30).

“A person response would partly depend on level of autism. Some much more autistic than others can’t generalise as to how an autistic person would react in given situation” (Su 92).
Some comments were made which indicated that officers were inspired by the questionnaire to reflect upon their own awareness of ASD and find out more about the condition (n = 6).

“I have enjoyed filling in the form as it made me stop and think and made me realise how very little in fact none has been put into my place of work with regards to ASD” (Su 36).

“Excellent area of work – we as practitioners are not as aware as we should be when interviewing individuals with ASD” (W67).

However, worryingly, a few officers suggested that the questionnaire and its content were of little consequence to police officers (n = 3);

“Unsuitable for police audience, little or no use to frontline officers, number of incidents of this nature attended” (W25).

“Survey unsuitable to police audience who have little knowledge on the subject” (W28).

“So many conditions how can police be expected to ID them all?” (Su15).

2:4. Discussion.

Just over 16% of participants reported having received training specific to ASD. This indicates some improvements since the earlier reported study by Chown (2010) who found that no officers to have had such training. However, this figure is a poor reflection upon the requirements of the Autism Act (2009) which advocates that all criminal justice professionals should be trained in matters related to ASD. The vast majority of officers who self-reported receiving training specific to ASD were frontline officers. However, there was some interest amongst all participants concerning the need for training in ASD. Nearly 62% indicated this would be useful / very useful.

In an earlier study by Blackhurst (2012) it was reported that out of 45 respondents only 5 (11.11%) engaged support for a suspect with ASD. This finding is worryingly low as it is established that where an officer has any suspicion that a suspect may be vulnerable they should ensure that an AA is present during custody procedures and the investigative interview (Home Office, 2012). Study 1 of this thesis provided a slightly more positive picture with almost two thirds of all participants indicating via
the planning exercise that they would consider seeking support for their interviewee with ASD. As may have been expected, in accordance with PACE (1984) the majority of respondents chose an AA as support for their suspect interviewee with ASD. A limitation to this study is that it is not known if these officers were referring to a trained, independent AA, or someone familiar to the suspect. Further research would be useful to discover how regularly police officers choose trained AAs. Interestingly a small number of respondents (1 frontline officer, 4 specialist officers) stated they would seek assistance during a suspect interview from intermediaries. Traditionally intermediaries are engaged during a witness interview when there is a concern about the interviewees' communication skills. Nevertheless, there has been a growing interest in the use of intermediaries to assist vulnerable defendants during trial procedures (Plontikoff & Woolfson, 2007) and the Coroners and Justice Act (2009) made provisions for using intermediaries to work with vulnerable suspects (National Police Improvement Agency, 2010). The benefits of using intermediaries to assist a suspect during their time in custody is being considered. However, the rigid time scales that govern how long a detained person can remain in custody is contrary to obtaining and fully utilising the assistance of registered intermediaries (see O'Mahony, 2010 for a more detailed debate.) Finally, concerning support during a suspect interview, in accordance with PACE (1984) there is a provision for health care professionals to sit in on the suspect interview to monitor a person's condition (Home Office, 2014). No officer planned for such provision.

The benefit of providing support for a vulnerable witness is documented in the publication Achieving Best Evidence (Home Officer, 2011). Nearly 62% of officers in this study indicated they would find support for a witness with ASD, thus indicating that nearly a third would not. There was also an over reliance upon the use of AAs by frontline officers. The document Achieving Best Evidence (Home Office, 2011) reports that since the revised edition of the code of practice to PACE (1984) which was implemented 1st April 2003, AAs are no longer required to assist vulnerable witnesses. Consequently there are no regulations or guidelines to detail what the role of the AA is when supporting a witness. However, findings from this study suggest officers are continuing to favour AAs as support for witnesses. Indeed this finding complements earlier research which suggests that some organisations that provide trained AAs are making colleagues available to work with witnesses.
(Pierpoint, 2011). It is recommended that a Registered Intermediary supports vulnerable witnesses when there is a concern that the interviewee may have issues related to communication (Home Office, 2011). Only a small number of officers made reference to the use of an intermediary, and all of these officers were specialists. Interestingly when asked to consider characteristics of ASD which may impact upon an interview, officers were most likely to refer to difficulties related to communication. Thus, officers are recognising potential difficulties with communication when interviewing witnesses with ASD yet many are not considering the employment of intermediaries who due to their expertise could alleviate such problems and give guidance. Further investigation is required to discover why intermediaries are largely being ignored as a suitable support for people with ASD.

It was also found that 37% of all respondents would be willing to liaise with groups of people either to seek advice about; ASD, the needs of the individual or the most effective way of conducting an interview. As only a very small number of respondents (less than 1/6th) reported receiving any training it may have been expected that more officers would consider finding out about ASD. The study found that specialists were more likely to consider seeking advice compared with frontline officers. Of course, a finding of this study was that specialist officers were least likely to have had specific training about ASD. As such it may have been presumed that this group were more likely to seek advice. However, analysis of data showed when the variable of training was removed; specialists were still more likely to seek assistance. A few officers (mainly specialists) suggested they would turn to doctors or nurses to gain medical advice about ASD; there was no mention of referring to psychologists or experts to collect information about the behaviours and psychological characteristics of the condition. Additionally a small number of officers mentioned carrying out their own research to find out about ASD. No participant discussed referring to their own training notes or national guidance documents. It was particularly disappointing that not one participant referred to the National Autistic Society’s document; *Autism, a Guide for Criminal Justice Professionals* (2008).

During the planning exercise, the majority of respondents recognised that a person with ASD would be vulnerable during interview procedures and accordingly it would be necessary to make adaptations to the interview, environment and their interviewing style. For example, officers noted they would consider their own
behaviour, remaining calm and giving attention to the language they used. Results showed there were some differences between the provisions made by specialist officers and frontline officers. For example, specialist officers were significantly more likely to consider; the structure of the interview, communication issues, use of rapport, the best time to interview, planning for breaks, considering the personal needs of the interviewee, collection of information from the interviewee about their needs and meeting with the interviewee prior to the interview. Frontline officers were more likely to check that the interviewee understood the questions.

A surprising finding, was the low number of officers who noted in the planning exercise they would check that their interviewee was fit to be interviewed \( n = 7 \). This suggests that in general officers failed to appreciate that the condition of ASD lies across a spectrum. If a person with ASD is low functioning (in possession of severe learning disabilities) it would be wise to ascertain if the person had the mental capacities to take part in an interview. Additionally, the number of participants referring to a witness interview who cited the need to consider special measures was very low. These findings suggest a lack of understanding of the potential impact of the vulnerabilities of some people with ASD.

The majority of comments made during the planning exercise were non-specific, culminating in a rather generic response to a person considered vulnerable. Although these observations reflected ‘good practice’ there was little activity in the planning exercise to suggest officers focused on the specific needs of people with ASD. For example only 31 responses were made indicating the need to find out where a person was on the autism spectrum. A few respondents had taken the opportunity to express that people with ASD did not form a homogenous group, and as such their needs would differ in accordance with where they were on the spectrum. Unfortunately the majority of respondents failed to consider the importance of finding out the level of a person’s ASD. Although a few respondents correctly referred to some of the key characteristics of ASD, and discussed issues pertinent to impaired communication, social interaction difficulties and rigid / repetitive behaviours, in total these comments were furnished by less than one quarter of all respondents. A particular concern is that training (amongst frontline officers) had no impact upon the likelihood of accommodating for the specifics of ASD. These findings suggest that as yet, police officers are a long way from fulfilling
the requirements of the Autism Act (2009) which proposes that professionals should have an understanding of ASD. Officers are currently unprepared for accommodating for the needs of an interviewee with ASD. To rectify this, information should be readily available to assist officers. It would prove useful if the document *Achieving Best Evidence* (Home Office, 2011) was revised and included information pertinent to specific conditions, referring to the specific internal characteristics and suggesting appropriate strategies to accommodate these needs.

Officers were invited to judge the relevance of a statements either associated or not associated with a characteristics of ASD. Those frontline officers who indicated they had received training performed, in general, better than those frontline officers without training. Untrained frontline officers showed a tendency to select a neutral option from the Likert scale where trained frontline officers and specialists were more likely to agree or disagree with a statement. However, overall there was some concordance amongst attitudes. The statements which received the greatest agreement from officers were concerned with interpreting information literally, being wary of new situations, having a preoccupation with a special interest, and a liking of rigid routines. To a lesser degree difficulties with mind reading skills and the ability to express empathy were also associated with ASD. However, the statement pertaining to social rules was given least attention. The majority of frontline officers failed to consider this statement as being relevant to ASD.

Interestingly, a statement which was not relevant to ASD suggesting that people with ASD are cunning and manipulative incurred one of the greatest consensus of opinion. Nearly three quarters of all respondents disagreed with this suggestion. However, the statement that all people with ASD have learning difficulties did not receive unanimous rejection, less than half of untrained frontline officers chose to disagree with this suggestion. This is a somewhat surprising find, if indeed some officers do believe that all people with ASD have learning disabilities, it begs the question why officers were not quick to consider if a person was fit for interview in the planning exercise.

There were some occasions where traits which are not part of a diagnosis of ASD were considered by some officers to be characteristic of the condition. For example, as reported upon in the results sections, some respondents indicated they believed
people with ASD cannot distinguish between right and wrong, always tell the truth, and can be very aggressive and have a good memory for all events. A particular point of concern is that being in receipt of training did not protect against the possibility of developing misunderstandings.

Participants were asked to consider three characteristics of the condition they felt may impact upon an interview. A very small number of respondents (n = 17) chose a characteristic from each of the three key areas of ASD in accordance with DSM IV. Interestingly, concerning frontline officers, those who had received training performed better on this task than those without training when identifying three characteristics. Overall communication issues featured the strongest. It is somewhat incongruous that although officers readily cited the impact of impaired communication, in the earlier planning exercise, little reference was made amongst those concerned with a witness interview to ensuring the support of an intermediary. Interestingly the key trait of ASD given least consideration was that of social impairment. This finding links to the earlier discussion where officers were less likely to recognise a deficit in social skills as being pertinent to ASD.

2:5. Conclusion and recommendations.

Unfortunately the study must conclude that as yet only a minority of police officers are meeting the requirements of the Autism Act (2009) and are able to perceive and cater for the specific needs of a person with ASD. Although many of the observations made during the planning exercise reflected good practice, the result was a provision which was generic in nature, adopting a one size fits all approach. Minimal attention was given to the traits which define ASD and the implications these may have on investigative procedures, even finding out where a person is on the autism spectrum was largely ignored. In conclusion, police officers require assistance to help them plan effectively for an interview with a person with ASD. To provide guidance it is recommended that police officers utilise a framework from which they can effectively plan their interview. To alert police officers to the needs of people with ASD it is recommended that a simple acronym is used to act as an aide-mémoire, and remind officers of the key areas of concern. This study suggests the use of the acronym ‘ACCESS’.
A. ASD manifests across a spectrum, some individuals may have additional learning disabilities while others may have average or above average intellectual skills. It is important that officers understand that individual differences will define the needs of people with ASD. Where a person lies on the autism spectrum will inform upon their cognitive and communication skills.

C. Characteristics of ASD; impaired communication skills, impaired interaction skills and repetitive and rigid behaviours may all impact upon investigative procedures.

C. Check your interviewee with ASD fully understands why they are being interviewed and are aware of the procedures. Explicit details are required.

E. Environment. People with ASD may be sensitive to sensory features of the environment, such as light, noise and smell. Additionally some may have high sensitivity to tactile experiences. Consider the room in which you will conduct the interview, check it is ‘ASD’ friendly.

S. Support. Remember even those on the higher end of the spectrum who appear to have average or above average cognitive and verbal skills must have support to assist them during the interview.

S. Strategies. Plan strategies to minimise the risk of the characteristics of ASD impeding procedures. For example, safe guard against the use of non- literal language, consider whether a rapport stage may be damaging, refrain from asking ‘tell me everything that happened’ consider the use of time charts to help the person with ASD understand what is going to happen next, think about creating a distraction free environment.

The acronym ACCESS can provide a useful framework from which officers can plan their interview. However, it can only be successful if officers have an understanding and awareness of the needs of people with ASD. Knowledge which should be gained from appropriate and informative training.

Unfortunately study 1 found that very few officers had received training specific to ASD. Thus it is highly recommended that police forces recognise their obligation to the Autism Act (2009) and ensure that all officers receive appropriate training. A disappointing finding from study 1 was that training had no impact upon the ability of an officer to plan an interview which accounted for the needs of people with ASD.
Additionally, familiarity with the traits of ASD was not equated with proficiency in planning. Consequently, this study strongly recommends that appropriate training packages are designed, providing officers with the ability to transfer their skills into practice. To be effective training packages should be devised with input from those proficient in the field of ASD, police practitioners and people with ASD. Providing the opportunity to explore case studies and engage in role play may prove useful. Additionally, training manuals and documents should be available and it would be useful if the document *Achieving Best Evidence*, detailed the specific characteristics of ASD and offered suggestion regarding the most appropriate methods of interviewing and interacting with a person with ASD. However, the most valuable information police officers should gain from training and literature is a comprehensive list of strategies they can adapt and employ to assist their interviewee with ASD. It is not within the remit of this research to provide a comprehensive list of strategies, police officers should consider, however a few examples are provided.

How do I help a person with ASD understand the question?

- Avoid the use of irrelevant words, be direct and specific. For example, “Now what I would like you to do next, is describe the girl you told me was standing at the bus stop, so when you are ready, in your own time could you tell me what you remember about the girl” can be reduced to ‘describe the girl who was at the bus stop’. Don’t worry about sounding ‘curt’ people with ASD appreciate succinct, precise instructions.

- Remember people with ASD may take longer to process information. If you wish to remind a person with ASD of the question, repeat the question with the words you initially used. If you use alternative wording this means the person with ASD will have to restart processing this new incoming information.

- Avoid the instruction ‘tell me everything that happened’. People with ASD find it difficult to make inferences and as such might not realise the interviewer requires only information relating to the incident being investigated. Be specific, for example ‘tell me everything you remember about the car crash’.
How do I prevent preoccupations with special interests disrupting the interview?

- Minimise the opportunities. Use the rapport stage to discuss the purpose and structure of the interview. Avoid a ‘getting to know you’ approach, rather keep this stage structured and focused.

- Immediately inform the interviewee when they are ‘going off on a tangent’ and ask them to remain focused upon the purpose of the interview. Using a physical gesture or producing a written / visual stop sign may be a useful way of reminding the interviewee to stay on task.

- If refraining from talking about a special interest becomes stressful for the interviewee, offer reassurance that they can engage in their discourse at a set time. For example, at the end of the interview.

- If the preoccupation with a special interest becomes overwhelming, stop the interview and provide the individual with a break.

Finally the study recommends that all officers (particularly frontline officers) understand that the recommended support for a vulnerable witness is an intermediary. This is a message that should be clearly delivered during police training. The importance of securing the most affective type of support is crucial. Recognising that the skills of those supporting a person with ASD during interview procedures is vital, the following chapter focuses upon trained AAs and seeks to discover what they know about ASD.
Chapter 3: Appropriate adults; their experiences and perceptions of ASD

3:1 Introduction

The introduction of PACE (1984) bought about a change to the way police officers’ conducted suspect interviews. Influenced by the Fisher report (1977), which commented upon the Confait case, changes were introduced to ensure confessions were not obtained as a result of applied duress during the interview. PACE (1984) also acknowledged that a group of adults, due to internal characteristics may be at particular risk during investigative procedures. Consequently, any suspect thought to be vulnerable must be interviewed in the presence of an appropriate adult (AA). A duty of an AA is to ensure that the interview is conducted fairly, if it is judged to be improper or oppressive the AA can intervene and even stop procedures. In accordance with Code C which accompanies PACE (Home Office, 2014) police officers are required to instruct AAs that they are not merely ‘observers’. In addition to upholding the fairness of the interview an AA may advise the suspect and assist with any communication problems. By law anyone over the age of eighteen who is not involved with the alleged offence and is independent of the police can act as an AA. Thus parents and relatives, if they are willing can take on the duties. There are some concerns however, that relatives are not the most suitable of people to take on this role for a variety of reasons. In a small study, Gendle & Woodhams (2005) reported on the opinions of police officers regarding family members acting as AAs. Police officers themselves noted that family members could be ‘untrustworthy’, and were prone to answer questions on behalf of the suspect (Gendle & Woodhams, 2005). Cummins (2011) also cited cases where relatives were found to be less than ideal when acting as AAs. A case was reported upon where it was deemed that a father should not have taken on the case due to his own low IQ (Cummins, 2011). A further study conducted by Leggettt, Goodman & Dinani, (2007) asked people with learning disabilities who had been interviewed as a suspected perpetrator to recount their experiences of using AAs. Participants who had had their parents as AAs gave negative reports. One participant discussed how their mother had started an argument with the police officer while another said his mother contributed nothing to the interview (Leggettt, Goodman & Dinani, 2007). Concerning the use of relatives one of the greatest concerns is whether they have the skills to recognise if an interview is being conducted fairly (Pierpoint 2000b). To alleviate such concerns, the
Bradley Report (2009) and the PACE Review (2010) both recommended the use of trained AAs. These AAs are largely volunteers and their work and training are overseen by organisations based in the voluntary or private sector (National Appropriate Adult Network, 2011). It is these trained AAs who will be the focus of this second study.

Research has also questioned the efficacy of AAs per se. Gudjonsson, Hayes & Rowlands (2000) carried out a survey which asked police officers, psychiatrists, doctors, and lawyers if they thought AAs gave ‘significant’ protection to vulnerable suspects and less than half believed AAs were effective, although it is unclear if these respondents were referring to trained or untrained AAs. However, the negativity was largely expressed by lawyers. In contrast police officers indicated they were generally satisfied with AAs (Gudjonsson, Hayes & Rowlands, 2000). A later study (Medford, Gudjonsson & Pearse, 2003) used actual audiotapes of police interviews to analyse the contributions made by both ‘lay’ and ‘professional’ AAs. Interestingly it was found that the ‘lay’ AAs made more appropriate and inappropriate responses than those who were trained. However, in the judgement of the researchers overall, both groups failed to intervene enough. For example, they did not prompt officers to remind suspects of their rights, or ask the police to check that the suspect understood the caution. It was also considered that they failed to take up opportunities to challenge the fairness of the interview (Medford, Gudjonsson & Pearse, 2003).

The role of the AA is also to protect a vulnerable person from providing unreliable or self-incriminating information (Murphy & Clare, 1998). To achieve this, AAs must be alert to any behaviour from the suspect which indicates they do not understand the question or are demonstrating acquiescent or suggestible tendencies (Murphy & Clare, 1998). In their research paper; Gudjonsson, Hayes & Rowlandson (2010) hinted at the possibilities of AAs safeguarding against personality traits and psychological vulnerabilities impacting negatively upon the interview. Thus the AA must not just oversee the behaviour of the interviewing officers but also be aware of and monitor the behaviour of the suspect.

As discussed in chapter 1, the role of the AA is ever evolving (Pierpoint; 2006, 2008, 2011). However, to date there is little research which examines the strategies AAs
adopt (if at all) in order to compensate for the individual characteristics of vulnerable groups impeding custody procedures. As noted in chapter 1 the characteristics of ASD may render an individual as vulnerable during their contact with the CJS. Thus, study 2 sought to discover if AAs identify and provide strategies to alleviate any issues which may arise due to the key characteristics of ASD; i) impaired communication, ii) impaired social interaction and iii) rigid repetitive behaviours. To date there is little information available to discover if and how AAs cater for the behavioural and psychological needs of people with ASD. This second study sought to collect information regarding; i) the role of the AA, ii) their experiences assisting people with ASD, iii) their perceptions about the needs of a suspect with ASD, iv) their perceptions regarding the characteristics of the condition and v) any awareness of characteristics which may impact upon an investigative interview.

To explore these research concerns a questionnaire was designed. The data was then examined to determine if any areas of the AAs' work would require or benefit from a specific knowledge of ASD. Additionally, AA's beliefs and expectations regarding people with ASD and the condition were sought. Consequently this information would help us to understand if AAs were using their awareness of ASD to inform their practice during their support of a vulnerable suspect.

Aims of the study.

The study sought to collect information from participants concerning their work as an AA and to discover if an understanding of the internal characteristics of ASD would benefit their work. The study also explored the perceptions AAs have regarding the needs of suspects with ASD, and find out what they know about the condition. Finally the study took the opportunity to find out if there is a difference between what AAs know about ASD and what police officers know.


Participants.

55 participants took part in the survey. In this sample 7.2% worked only with vulnerable adults, 36.4% worked only with young people and 56.4% worked with both vulnerable adults and young people. Sixty percent of respondents were female and 40% male. The age of participants ranged from 21 years – 76 years ($M = 51.6,$
SD = 15.32). Regarding their status 84% of AAs classified themselves as volunteers while 16% received a wage for their work, and length of service ranged from 3 months – 120 months (M = 37.3 months, SD = 32.67). Respondents were asked to give detail of any work / activities they undertook other than their AA duties; 11.5% of AAs reported no other work, 11.5% stated they were in higher education either as under graduates or post graduates, 29.5% were in paid employment, and 47.5% indicated they took part in other voluntary or charity work. This included activities such as witness support, rape crisis volunteers, voluntary work with prisoners, working on referral panels, and independent custody visitors. Regarding those who gave details of their employment history over half (52.2%) were in education, and this population included head teachers / teachers in main stream and special education and lecturers. Other professions included social workers, mental health workers, drug rehabilitation officers, and support workers in care homes and learning disabilities units.

Materials

To ensure that respondents were giving their own understanding and perceptions of ASD, the questionnaire did not provide a description of the condition which may influence responses. In total the questionnaire was comprised of 47 questions. These included closed questions where a simple yes or no answer were required, or where an option had to be selected from a given list. To develop an understanding of the perceptions of AAs about the needs of people with ASD while in custody, open-ended questions were used. To encourage participants to gauge their attitudes in response to a statement a series of 19, 5 point Likert scale questions were employed. These statements encouraged responses ranging from 1, strongly agree, to 5, strongly disagree. Thus if a ‘3’ was a chosen response this may indicate the participant neither agreed nor disagreed. This exercise was also presented to police officers as reported in study 1, chapter 2 of this thesis. As in chapter 2, the Likert scale questions included nine statement, each of which could be associated with ASD depending on whether participants agreed or disagreed. For example, regarding the statement ‘people with ASD interpret information literally’ a response indicating ‘agreement’ would be associated with a trait of ASD. As in study 1, chapter 2, ten of the statements were not associated with ASD, rather these
statements were adapted from the psychopathy check list (Hare, 1993) or were related to common myths regarding ASD.

Firstly, all AAs were asked to provide some demographic information. Participants were then asked if they believed they had supported a person with ASD in their role as an AA. Additionally respondents were asked if they had received any training from their organisation about ASD, and if they believed that training would be of use to them. To address the aims of the study questions were posed regarding i) the role of the AA, ii) their experiences of working with people with ASD, iii) their perceptions about the needs of a suspect with ASD and, iv) their knowledge of ASD.

i) The role of the AA.

Within the context of the questionnaire participants were asked to utilise an open ended question and discuss what they believed to be their main duties. To further an understanding of how the role is perceived additional questions were asked whereby participants were invited to describe what skills they believed were required to be successful in their work and to discuss the aspects of their work they found most satisfying.

ii) Experiences of AAs who reportedly had worked with people with ASD.

Those participants who believed they had assisted a vulnerable suspect with ASD were asked to give details of any incidents they had encountered which they believed were attributable to the characteristics of ASD. Where such behaviour had been noted, the participants were asked to give an account of any action they had taken to alleviate this situation.

iii) AAs perceptions of the needs of an individual with ASD.

All participants were invited to respond to a yes/no question as to whether they thought a person with ASD would find a suspect interview difficult. A follow up question asked participants to explain their reasoning. Additionally participants were asked to discuss any expectations they may have when informed they would be supporting a suspect with ASD.
iv) What do AAs know about ASD?

As mentioned previously, a series of Likert scale questions detailing characteristics associated and not associated with ASD were presented. AAs were encouraged to express how strongly they agreed or disagreed with a statement as being associated with a characteristic of ASD. Respondents were then asked to consider three characteristics of ASD which may possibly impact upon the progress of an interview with a suspect.

The questionnaire concluded with an open ended question inviting participants to furnish any thoughts, comments or additional information relating to the theme and content.

Design

A questionnaire survey was used to elicit information regarding the role of the AA, and their experiences and perceptions of ASD (see appendices section 3). The questionnaire was created to collect both qualitative and quantitative data.

Procedure

After receiving ethical approval from the University of Portsmouth, organisations that provide AAs for vulnerable adults and or young people were invited to take part in this study. In total 58 organisations across England and Wales were contacted. An initial E-mail was sent to the managers of the projects comprising a brief outline of the study. A copy of the questionnaire was attached for their consideration. Where an organisation chose to take up the offer of participating in the study, the manager kindly took on the role of disseminating hard copies of the questionnaire each with a letter explaining the nature of the research and a self-addressed envelope for return. Alternatively respondents were given the option of utilising an online resource if they wished to complete the questionnaire electronically. All respondents were ensured their data would be held in confidence, and no individual or organisation would be identified during reporting. An information sheet explaining the purpose of the study accompanied each questionnaire (see appendices section 3). In total 16 organisations agreed to take part in this study and 138 questionnaires were distributed.
Data analysis

Answers to closed questions and Likert style questions were coded and content analysis was used to organise qualitative data from open questions according to recurring themes. Descriptive statistics were used to identify frequencies, ranges and mean scores. To further explore nominal data, Mann-Whitney tests and Kruskal-Wallis tests were used.

3:3. Results.

Supporting people with ASD.

Participants were asked if during their work as an AA they had ever supported a suspect with ASD. Fifty three participants responded to this question out of which 26 (49.1%) reported that they believed they had supported a suspect with ASD. Respondents were invited to estimate how many people with ASD they had worked with over the last twelve months (May 2011- May 2012). In total, respondents perceived that they had collectively assisted 115 people with ASD; this included 71 adults and 44 children.

Training in ASD.

All participants were asked if the organisation which employed them had provided any training about ASD. Of those who responded to this question (n = 49) 14 (28.6%) reported that they had taken part in training. When asked to give details about the content of the training programmes participants listed; information about the characteristics of ASD, developing an understanding of the spectrum, discussion of behavioural issues, communication issues, and methods of diagnosis. Of those who had undergone training, 83.3% rated the training as good or very good. When all participants were asked if further training / training would be useful to them of those who responded (n = 48), 89.6% indicated that this would be beneficial.

The findings from this study will be disseminated in four sections; section 1, the role of the AA, section 2, the experiences of AAs who reported supporting a person with ASD, section 3, perceptions about the needs of a person with ASD and section 4, what AAs know about the characteristics of ASD.
53 AAs listed the tasks they considered most salient. Collectively participants made 248 comments. As can be seen in table 3:1 the need to ensure that the interview was fair was the most often cited task (n = 42). AAs also explained they would check that the detained person was treated with respect, that the interview was not oppressive, was conducted in accordance with PACE and to ensure that the style of questioning was appropriate. The second most noted task was a responsibility to safeguard the detained person’s welfare (n = 39). This involved checking any health needs were being met, that food and drink had been provided, and that the person was fit and well for interview. Concerning the need to check on welfare needs one respondent noted;

“Ensuring the welfare of the client i.e. make sure they are fit and mentally capable to be interviewed and have had appropriate food and drink” (AA 3).

Additionally, five observations were made stating that if a suspect was becoming confused or unwell they would intervene and insist upon a break.
Table 3:1 *Key duties of an AA (N = 53) (multiple responses)*

<table>
<thead>
<tr>
<th>Duty</th>
<th>Number of times cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure interview conducted fairly</td>
<td>42</td>
</tr>
<tr>
<td>Check upon the welfare of the suspect</td>
<td>39</td>
</tr>
<tr>
<td>Explain custody procedures</td>
<td>31</td>
</tr>
<tr>
<td>Assist communication</td>
<td>21</td>
</tr>
<tr>
<td>Offer moral support</td>
<td>18</td>
</tr>
<tr>
<td>Safeguard rights</td>
<td>18</td>
</tr>
<tr>
<td>Engage with Detained person</td>
<td>12</td>
</tr>
<tr>
<td>Pass on information to other support services</td>
<td>10</td>
</tr>
<tr>
<td>Encourage the use of legal representation</td>
<td>9</td>
</tr>
<tr>
<td>Observe custody procedures</td>
<td>8</td>
</tr>
<tr>
<td>Ensure juveniles get home safely</td>
<td>6</td>
</tr>
<tr>
<td>Administration work</td>
<td>6</td>
</tr>
<tr>
<td>Advise police about vulnerabilities</td>
<td>5</td>
</tr>
<tr>
<td>Not to give legal advice</td>
<td>5</td>
</tr>
<tr>
<td>Engage with police</td>
<td>5</td>
</tr>
<tr>
<td>Understand vulnerabilities</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
<tr>
<td>Identify risks of reoffending</td>
<td>2</td>
</tr>
<tr>
<td>Act as an advocate</td>
<td>2</td>
</tr>
<tr>
<td>Advise detained person</td>
<td>2</td>
</tr>
</tbody>
</table>

*Other = Speed up process, train other AAs, observe health and safety regulations.*
Explaining procedures was the next most referred to task (n = 31). AAs discussed the importance of ensuring the individual knew what was happening, the purpose of the interview, understood bail conditions, any charges, and had a full understanding of any documents they needed to sign. Assisting communication was also considered an important part of their role (n = 21). AAs highlighted the need to check that the individual understood the questions they were asked. To counteract problems AAs discussed the need to intervene and simplify any complex language and explain the meaning behind jargon. It was also stated that in facilitating communication AAs would advise police officers to check their own use of language and avoid using any language that ordinary members of the public would not understand. Offering moral support (n = 18) and safeguarding the individual’s rights (n = 18) were also amongst the most regularly cited tasks.

Additional duties indicated that AAs were not just concerned with the interview process. AAs intimated they were required to observe other custody procedures (n = 8), this included checking custody records, observing the taking of finger prints, VIPER procedures, and overseeing the return of belongings. Administration work was also mentioned (n = 6), and this involved writing reports and keeping records and with reference to young people writing letters to their parents. It was also reported that when working with juveniles the AA had the responsibility to ensure the young person got home safely (n = 6), and where necessary they would be required to pass on information to other agencies (n = 10).

What skills are required to be an effective AA?

Respondents were asked to cite the skills required to make a person a successful AA. In total, 53 AAs provided 234 observations. Table 3:2 details these responses.
Table 3:2 *Skills required to be an effective AA. (N = 53) multiple responses.*

<table>
<thead>
<tr>
<th>Skill (Category)</th>
<th>Number of times cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good communicator (In)</td>
<td>36</td>
</tr>
<tr>
<td>Non-Judgemental (In)</td>
<td>29</td>
</tr>
<tr>
<td>Assertive (P)</td>
<td>27</td>
</tr>
<tr>
<td>Good listener (In)</td>
<td>20</td>
</tr>
<tr>
<td>Empathetic (P)</td>
<td>18</td>
</tr>
<tr>
<td>Good interaction skills (In)</td>
<td>16</td>
</tr>
<tr>
<td>Patient (P)</td>
<td>15</td>
</tr>
<tr>
<td>Supportive (P)</td>
<td>14</td>
</tr>
<tr>
<td>Cope with own stress (As)</td>
<td>10</td>
</tr>
<tr>
<td>Administration skills (As)</td>
<td>8</td>
</tr>
<tr>
<td>Understand custody procedures (k)</td>
<td>8</td>
</tr>
<tr>
<td>Knowledge of PACE (k)</td>
<td>6</td>
</tr>
<tr>
<td>Act with confidentiality (As)</td>
<td>6</td>
</tr>
<tr>
<td>Organised thinking (As)</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
<tr>
<td>Understand vulnerabilities (K)</td>
<td>3</td>
</tr>
<tr>
<td>Sense of humour (P)</td>
<td>3</td>
</tr>
<tr>
<td>Ability to asses needs (As)</td>
<td>3</td>
</tr>
</tbody>
</table>

Other = be adaptive, professional, positive, have a knowledge of support services, be able to gather information and act as an advocate.

Using content analysis data was organised according to four categories; i) interpersonal skills (In), ii) personality traits (P), iii) acquired skills (As), and iv) knowledge (K).
i) Interpersonal skills

Being a good communicator was the most regularly cited skill (n = 36). AAs discussed the importance of having a good standard of the English language, an ability to use simple, clear language to explain complex concepts, and the skill of engaging with the individual at their own level. Being non-judgemental (n = 29) and being a good listener (n = 20) were also considered important. An ability to interact with others was also mentioned (n = 16). AAs discussed the need to build relationships both with the detained person and members of the police.

ii) Personality traits

Skills were referred to which reflect a specific personality trait. The need to be assertive was referred to on 27 occasions. Participants discussed the need to be able to make challenges, intervene when they believed things were not right, and speak out and raise concerns. Having a capacity for empathy was noted (n = 18), and a need to exercise patience (n = 15). Being supportive was also observed (n = 14). It was thought that AAs must be caring, friendly and helpful. Having an ability to ‘organise’ thinking was mentioned (n = 6). Finally, three references indicated that AAs required a good sense of humour.

iii) Acquired skills

Behaviours were mentioned which could be attributed to the acquisition of particular skills. For example, an ability to manage one’s own level of stress was highlighted (n = 10), and acting with confidentiality was given some consideration (n = 6). Being skilful in administration work was also noted (n = 8), as was skills in assessing a person’s needs (n = 3).

iv) Knowledge

Some of the skills listed intimated that an AA had to be in receipt of specific knowledge. An understanding of PACE (n = 6), was thought important as was a knowledge of custody procedures (n = 8). Only three references were made regarding the need for an AA to have an understanding of vulnerabilities.
Areas of work AAs found most satisfying.

Participants were asked to consider the aspects of their work they found most satisfying. In total 53 respondents provided 96 pieces of information. Table 3:3 shows that satisfaction was gained when AAs perceived their work as having a positive impact upon others. For example, the most referred to topic concerned helping the detained person (n = 28). Comments indicated AAs felt satisfied when they had been able to offer reassurance and information reducing the person’s stress, anxiety, and confusion. Additionally helping a person engage and proceed through procedures was important.

“Seeing that I’ve really helped someone who was scared and confused feel safer and have confidence someone is acting for them.” (AA 50)

Table 3:3. The most satisfying aspects of being an AA (N = 53) multiple responses

<table>
<thead>
<tr>
<th>Comments</th>
<th>Number of times cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping the detained person</td>
<td>28</td>
</tr>
<tr>
<td>Making a difference to the life of the suspect</td>
<td>19</td>
</tr>
<tr>
<td>Interacting with people</td>
<td>12</td>
</tr>
<tr>
<td>Keeping the process fair</td>
<td>8</td>
</tr>
<tr>
<td>Helping the police</td>
<td>7</td>
</tr>
<tr>
<td>Receiving thanks from the detained person</td>
<td>6</td>
</tr>
<tr>
<td>Sense of accomplishment</td>
<td>5</td>
</tr>
<tr>
<td>Receiving thanks from the police</td>
<td>5</td>
</tr>
<tr>
<td>Working in the CJS</td>
<td>2</td>
</tr>
<tr>
<td>Everything</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
</tbody>
</table>

Other = none of it, going home.

Making a difference to the life of the suspect (n = 19) was also noted. This included helping individuals’ to stop reoffending and changing their lives, attitudes and thinking for the better.
“Giving an individual support which then leads to them making a positive contribution to society” (AA 36).

“I find that putting a little time back into the community and hopefully changing peoples (sic) way of thinking by talking to them by explaining that life has choices and the choices made have good and bad consequences” (AA 42).

Keeping the process fair (n = 8) was also considered satisfying.

“I strongly believe that we help the process to run more smoothly and, at a deeper level, help keep the process honest and fair for the vulnerable detained person.” (AA 1).

Helping the police (n = 7) was considered important, particularly in educating them about matters related to vulnerabilities.

“Also I am able to remind some police officers of their duties under PACE so its helpful to know that they learn from me in terms of how they deal with a vulnerable person” (AA, 11).

Other comments indicated that satisfaction was gained from events which promoted the AAs personal sense of wellbeing. Interacting with people was mentioned (n =12), this included building relationships with both the detained person, police staff and other professionals. Being a recipient of positive feedback was considered rewarding. For example, AAs discussed the importance of receiving thanks from the detained person (n = 6) and from the police (n = 5).

“Positive feedback from the custody sergeants especially during busy periods in the custody suites. They show us alot (sic) of appreciation for the role we provide” (AA 1).

Satisfaction was also bred from a sense of personal accomplishment (n =5). This included finding resolutions to problems, contributing to society and meeting challenges and feeling useful.

“The role of an AA is an essential legal requirement. I need to feel I am doing something useful.” (AA 9).
Having reported upon data which reflects how AAs perceive their role, the following section attends to the experiences of those AAs who reported supporting a person with ASD.

Section 2. Experiences of AAs who reported supporting a person with ASD.

26 AAs reported that during their work as an AA they believed they had supported a suspect who had ASD. Of these 12 had stated that they had received training about ASD. Of those respondents who said they had supported a suspect with ASD (n = 26), 57.7% (n = 15) reported that they felt a situation had arisen which could be attributed to the characteristics of ASD and 8 of these had indicated they had received training about ASD. The open ended accounts noted that interviews were disrupted because the interviewees became distracted by environmental conditions such as the reflecting light on a computer screen or the noise of the tape recorder, and in one instance loose wires. Details were given describing how interviewees became fixated upon these objects which damaged the progress of the interview. That is the suspect became unable to detach their focus from the object of fixation and therefore could not engage with the content of the interview. One respondent provided a detailed account explaining how an interview broke down because an individual became focused upon a specific topic.

“Can’t remember how it happened but they started talking about people who inject. The detained person was totally fixated about this just kept going on and on about how disgusting it is etc etc. No matter what the police officer asked the detained person just kept on about using needles. Was going no-where so in end I had no choice but to put a stop to the interview.” (AA 3).

A further example of fixating behaviour interrupting the flow of the interview was discussed in one respondent’s account describing how a suspect needed continual reassurance regarding the precise finishing time of the interview. The respondent described how the questions posed by the interviewing officer were continually interrupted by a request to know the exact time the interview would end.

Two respondents discussed how the vulnerable suspects they were supporting became distressed because they could not make effective use of the solicitors’ advice to reply ‘no comment’ during questioning. In both instances it had been established that the suspect wanted to take the legal advice given but found it
difficult to resist the urge to answer the questions the officer posed. Reportedly this resulted in one of the suspects becoming increasing agitated and upset.

Comments were furnished which suggested that some suspects with ASD did not understand the consequences of their alleged offence and could not appreciate that their actions had been inappropriate. Subsequently an AA noted how a lack of understanding about the seriousness of an offence led one suspect to give too much information to the police without any awareness of the implications. This resulted in the detained person being charged with additional offences. One respondent also reported an incident whereby the interviewing officer accused the suspect of being rude because he/she would not give the officer eye contact.

Having reported on events perceived as being related to the behavioural characteristics of ASD, the questionnaire sought to discover if participants had actively intervened to address these issues.

Support offered by AAs to assist people with ASD.

Fourteen of the fifteen participants who discussed occurrences they believed were attributable to the characteristics of ASD reported that they had intervened and attempted to amend the situation. Their actions involved offering the person with ASD reassurance and information so allowing the detained person to achieve a better understanding of what was happening. One AA described that to help a suspect remember the advice given to reply ‘no comment’ they had written this instruction down on a piece of paper. The suspect was then able to refer to this written cue throughout the interview. AAs also discussed how they had made changes to the environment thus reducing the possibility of objects or conditions inflicting sensory overload upon the suspect. For example, one AA reported how they had asked the police to remove a computer from the room because the interviewee had become fixated with the reflected lights. Some respondents also explained how they had sought to talk to the police officers or legal representatives informing them that the behaviour being presented was due to the suspect’s ASD. It was also documented that the AAs provided information to the involved professionals in order to help them work more effectively with the detained person with ASD.
Having reported on the experiences of AAs supporting a person with ASD the next stage was to explore the perceptions AAs have about the characteristics of ASD.

Section 3. The perceptions AAs had about the needs of people with ASD.

Would a person with ASD find a suspect interview difficult?

All respondents were asked to give a yes or no answer to the question “In general do you think a person with ASD would find a police interview problematic?” Of those who responded to this question (n = 49), 83.7% (n = 41) indicated yes (this total included 12 AAs who had received training in ASD) while 6 replied no, of this total 1 AA had stated they had undertaken training in ASD. 1 person wrote ‘don’t know’ while another wrote ‘possibly’. In total 32 participants made 75 comments highlighting why a person with ASD would have problems. Conversely 4 AAs provided explanations why a person with ASD would not find a suspect interview difficult. Reasons why some difficulties would be expected are detailed in table 3:4.

Table 3:4 *Reasons why people with ASD would find a suspect interview problematic (N = 42) multiple responses.*

<table>
<thead>
<tr>
<th>Reason</th>
<th>Number of times cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication issues</td>
<td>19</td>
</tr>
<tr>
<td>New environment / situation</td>
<td>12</td>
</tr>
<tr>
<td>Social interaction problems</td>
<td>10</td>
</tr>
<tr>
<td>Depends on level of ASD</td>
<td>7</td>
</tr>
<tr>
<td>High levels of stress</td>
<td>5</td>
</tr>
<tr>
<td>Inappropriate police behaviour</td>
<td>5</td>
</tr>
<tr>
<td>Emotional issues</td>
<td>5</td>
</tr>
<tr>
<td>Easily confused</td>
<td>3</td>
</tr>
<tr>
<td>Poor concentration</td>
<td>3</td>
</tr>
<tr>
<td>Aggressive behaviour</td>
<td>3</td>
</tr>
<tr>
<td>Sensory problems</td>
<td>3</td>
</tr>
</tbody>
</table>
As can be seen in table 3:4 communication issues was cited as the primary reason why a person with ASD would find the interview difficult (n = 19). 7 of these comments referred to a person not being able to understand the questions. Additionally thoughts were given to difficulties coping with too many questions, not understanding complex language, not being able to explain something they themselves did not understand, not understanding the caution, and giving confusing answers. One respondent suggested:

“It is important that any question directed at the person with ASD that you start each sentence with their name so they know you are addressing them and not others in the room.” (AA 39).

The impact of a new environment or situation was the second most mentioned difficulty (n = 12). Concern was given over the implications of being kept in a small cell and being in an environment where there was a lack of routine.

“Every new situation is threatening. Being in a cell can be scary and claustrophic (sic). Seeing unknown people is disturbing.” (AA 44).

Social interaction difficulties were also mentioned as a problem (n = 10). This included not understanding the purpose of the interview, appearing detached and uninterested and being easily led or needing to please.

“The DP may give the answer he/she expects is desired, rather than the correct one. Uniforms, tape recorders, number of people (including me) may be very upsetting and could cause panic attack or refusal to respond” (AA 5).

Additionally one AA described how a person with ASD may not understand the consequences of their actions.

“A detainee can sometimes present as not accepting what they have done is wrong. They feel no harm was meant so how can harm be done.” (AA 13).

On seven occasions AAs referred to the need to know the level of the person’s ASD. That is where the person is on the autism spectrum would determine their needs. One participant explained;
“Each specific ASD has quite broad symptoms and some people are better at developing coping strategies than others. With Asperger’s Syndrome particularly the range of issues experienced can be truly vast.” (AA. 7).

Poor police practice was cited on five occasions, comments suggested police do not understand the condition, would misunderstand the person with ASD and there was one suggestion that the police may take the opportunity to purposefully ‘trip the person up’. Having high levels of stress (n = 5) and having strong emotions such as fear (n =5) were also considered. One AA recounted an experience;

“They can be very frightened. One asked every officer he came into contact with “Are you going to kill me?” (A 13).

Becoming easily confused (n =3), having poor concentration (n = 3) and being volatile (n =3) were also noted as reasons why a person with ASD would find the interview problematic. Finally, problems associated with sensory overload were observed (n =3). It was considered that bright lights and excessive noise could make conditions difficult for a person with ASD.

Where participants had said that a person with ASD would not find the interview difficult, respondents provided the following reasons;

“Most police officers with my help can manage” (AA, 8),

“I would be there to help to iron out any problems” (AA, 16),

“In all the interviews involving a person with ASD they have not had any impact (negatively) on the person” (AA 18).

“From my experience the police are very aware of how an interview should be conducted and take extra time and consideration when dealing with a person who has ASD.” (AA 36).

To collect further information about the perceptions AAs had about a suspect with ASD, participants were asked to consider what their expectations would be when they knew they were to support a person with ASD.
Expectations of AAs when informed they would be supporting a person who has ASD.

4 AAs wrote that they would not know what to expect when informed that they were to support a person with ASD. In total, 44 participants provided 110 comments and these are recorded in table 3:5. Where respondents made specific observations the need to address communication issues was given the greatest consideration ($n = 26$). AAs discussed how they expected a person with ASD to have some problems due to a tendency to interpret language literally. Respondents described how they would take measures to attend to their own behaviour to avoid a breakdown in communication. Such steps included abstaining from using irony, innuendos, sarcasm, humour, any word which had more than one meaning and phrases or figures of speech which would lose their impact if interpreted literally. It was also noted that they would inform interviewing officers to adopt the same precautions. Furthermore, it was suggested concentrating on details rather than banter would be advisable. AAs also described how it would be wise to avoid relying upon facial expression, gestures or tone of voice because people with ASD have difficulty interpreting the subtleties of nonverbal communication. AAs expected they would be required to help the individual understand custody procedures ($n = 17$), explaining the reason for the interview, why they are there and why the police will be asking them questions. One respondent noted that because some people with ASD do not readily read the minds of others, they may not implicitly understand the reason for the interview.

“Some folk with ASD may actually think we all know what they know. (Not work out what’s happening in other heads). Have to be told about why police need to get at information they don’t know about from them.” (AA 3).
Concern was also given to problems arising from poor social interaction skills ($n = 11$). An inability to give eye contact was discussed and it was noted that AAs would inform the police that this behaviour did not imply that the person was rude or was not listening. Avoiding physical contact with a person who has ASD was mentioned but it was also observed that some with ASD may fail to appreciate the rules that govern the personal space of others. It was also noted that a suspect with ASD may

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Number of times cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address communication difficulties</td>
<td>26</td>
</tr>
<tr>
<td>Help individual understand custody procedures</td>
<td>17</td>
</tr>
<tr>
<td>Address problems arising from poor social interaction skills</td>
<td>11</td>
</tr>
<tr>
<td>Find out level of ASD</td>
<td>9</td>
</tr>
<tr>
<td>Ensure person has been seen by a medical professional</td>
<td>6</td>
</tr>
<tr>
<td>Monitor environment</td>
<td>5</td>
</tr>
<tr>
<td>Exercise Patience</td>
<td>5</td>
</tr>
<tr>
<td>Consult with the detained person</td>
<td>4</td>
</tr>
<tr>
<td>Don’t know</td>
<td>4</td>
</tr>
<tr>
<td>Expect aggressive behaviour</td>
<td>3</td>
</tr>
<tr>
<td>Expect problems because person is out of their routine</td>
<td>3</td>
</tr>
<tr>
<td>Insist legal representative is present</td>
<td>2</td>
</tr>
<tr>
<td>Brief police about ASD</td>
<td>2</td>
</tr>
<tr>
<td>Interview may be disrupted due to repetitive behaviours</td>
<td>2</td>
</tr>
<tr>
<td>High level of anxiety</td>
<td>2</td>
</tr>
<tr>
<td>Would have a learning disability</td>
<td>1</td>
</tr>
<tr>
<td>Would be no different than anyone else</td>
<td>1</td>
</tr>
</tbody>
</table>
not demonstrate any empathy towards their victim or fully understand the consequences of their actions.

To work effectively with a person with ASD, it was thought important to determine the person’s level of ASD (n = 9). This was considered necessary as it was noted that where a person lies upon the autism spectrum may determine how they respond to a suspect interview and consequently may dictate the level of support they require.

Comments were also made regarding the need to ensure that the person had been seen by a medical professional (n = 6). That is it would be necessary to check the person was fit for interview, was being provided with any necessary medication and had been properly assessed. To help the individual during their time in custody 5 references were made regarding the need to monitor the environment. It was explained that some people with ASD are sensitive to sensory overload and as such it would be necessary to check the lighting and level of noise in the custody areas. It was also thought that an AA should be prepared to exercise patience when working with a person with ASD (n = 5), and that it would be useful to consult with the individual (n = 4) in order to collect information about their likes and dislikes and any concerns they had about the custody procedures. There was some mention that aggressive behaviour should be expected (n = 3) and that problems may be exacerbated because the person with ASD would be out of their routine. It was believed to be necessary to insist upon the presence of a legal representative (n = 2), brief police about the characteristics of ASD (n = 2), and expect the person with ASD to demonstrate a high level of anxiety (n = 2). 2 comments suggested that the manifestations of repetitive behaviour would impede procedures. That is a suspect may become fixated upon an object or action and find it difficult to disengage. Finally one comment suggested that they would expect a person with ASD to have a learning disability and one AA believed that a person with ASD would have no different needs from any other suspect.

“There (sic) needs would be the same as everybody elses (sic) in this situation. Depending on how they react in a police station you just expect nothing different and police will be dealing with them.” (AA 47).
Having reported upon the expectations AAs have when informed they would be working with a person with ASD, the following exercise was designed to elicit information regarding understanding about the characteristics of ASD.

Section 4. What do AAs know about the characteristics of ASD?

Using Likert style questions participants were presented with statements each describing a characteristic or behaviour. Nine of these statements were associated with ASD in accordance with the key characteristics as identified in DSM IV, the remaining ten statements were not associated with what is known about ASD. Table 3:6 shows the mean scores achieved. The characteristics are organised according to their association / non association with ASD.
Table 3:6. Recognising characteristics of ASD. Mean scores from Likert scale questions.

<table>
<thead>
<tr>
<th>Statements associated with ASD</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to give eye contact</td>
<td>2.44</td>
<td>0.94</td>
</tr>
<tr>
<td>Do not understand social rules</td>
<td>2.34</td>
<td>1.06</td>
</tr>
<tr>
<td>Interpret information literally</td>
<td>2.24</td>
<td>0.98</td>
</tr>
<tr>
<td>Are Wary of new situations</td>
<td>1.77</td>
<td>0.96</td>
</tr>
<tr>
<td>Become preoccupied with a special interest / hobby</td>
<td>1.95</td>
<td>0.96</td>
</tr>
<tr>
<td>Good at understanding the minds of others</td>
<td>3.93</td>
<td>0.96</td>
</tr>
<tr>
<td>Do not like rigid routines</td>
<td>3.67</td>
<td>1.32</td>
</tr>
<tr>
<td>Are good at showing empathy</td>
<td>3.66</td>
<td>0.99</td>
</tr>
<tr>
<td>Good at interpreting gesture and tone of voice</td>
<td>3.68</td>
<td>1.16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statements not associated with ASD</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All have learning disabilities</td>
<td>3.80</td>
<td>0.99</td>
</tr>
<tr>
<td>Are quick to blame others for their own mistakes</td>
<td>3.55</td>
<td>1.04</td>
</tr>
<tr>
<td>Overestimate their own abilities</td>
<td>3.37</td>
<td>0.92</td>
</tr>
<tr>
<td>Tend to be cunning and manipulative</td>
<td>4.07</td>
<td>1.07</td>
</tr>
<tr>
<td>Do not show remorse</td>
<td>3.37</td>
<td>1.00</td>
</tr>
<tr>
<td>Have a callous disregard for others</td>
<td>3.70</td>
<td>1.15</td>
</tr>
<tr>
<td>Can’t distinguish between right and wrong</td>
<td>3.65</td>
<td>1.02</td>
</tr>
<tr>
<td>Always tell the truth</td>
<td>3.39</td>
<td>0.99</td>
</tr>
<tr>
<td>Have a good memory for all events</td>
<td>3.05</td>
<td>0.98</td>
</tr>
<tr>
<td>Can be very aggressive</td>
<td>2.79</td>
<td>0.86</td>
</tr>
</tbody>
</table>
Statements associated with ASD.

Five of the statements had an association with a characteristics of ASD when supported by an ‘agree’ response and the responses to these statements will now be reported upon.

People with ASD are unable to give eye contact (N = 45)

As can be seen from table 3:6 participants tended to agree with this statement. In total 55.6%, (n = 25) indicated they agreed / strongly agreed. However, 31.11% (n = 14) stated that they neither agreed nor disagreed with this statement.

People with ASD do not understand social rules (N = 44)

61.4% (n = 27) of AAs agreed / strongly agreed while 22.7% (n = 10) indicated that they neither agreed nor disagreed.

People with ASD interpret information literally (N = 45)

66.7% (n = 30) agreed with this statement. However, 22.2% (n = 10) reported that they were not sure if this statement was associated / not associated to ASD.

People with ASD are wary of new situations (N = 44)

The vast majority of respondents agreed with this statement (86.4%, n = 38). 9.1% indicated that they neither agreed nor disagreed with this statement.

People with ASD often become preoccupied with a special interest or hobby (N = 44).

Mean scores indicated that the majority of respondents, 72.7% (n = 32) agreed with this statement while 22.7% neither agreed nor disagreed.

The following four statements had an association with ASD when supported with a ‘disagree’ response.

People with ASD are very good at understanding the minds and thoughts of other people (N = 45)

Mean scores found AAs disagreed with this statement (73.3%, n = 33) while 22.2% (n = 10) neither agreed nor disagreed.
People with ASD do not like rigid routines (N = 43)

As can be seen from table 3:6, mean scored indicated that AAs disagreed with this statement (62.8%, n = 27). However, 20.9% (n = 9) agreed with the statement.

People with ASD are good at showing empathy (N = 44)

Mean scores indicated that AAs disagreed with this statement (56.8%, n = 25). 29.5% (n = 13) of AAs were unsure whether this statement was associated with ASD.

People with ASD are good at interpreting gestures and tone of voice (N = 44)

Mean scores show that AAs disagreed (59.1%, n = 26) with this statement. while 25% (n = 11) neither agreed nor disagreed with this statement.

The remaining ten statements are not associated with a traits of ASD.

iii) Traits not associated with ASD.

All people with ASD have learning disabilities (N = 45)

As can be seen in table 3:6 on average AAs indicated they disagreed with this statement. In total 55.6% (n = 25) disagreed while 40% of AAs (n = 18) were not sure.

People with ASD are quick to blame others for their own mistakes (N = 44)

On average AAs disagreed with the statement (47.7%, n= 21) and 38.6% (n = 17) of AAs neither agreed nor disagreed.

People with ASD overestimate their abilities having a grandiose belief in their self (N = 41)

On average 48.7% (n = 20) neither agreed nor disagreed with this statement although 39% (n = 16) disagreed.

People with ASD tend to be cunning and manipulative (N = 45)

AAs mainly disagreed with this statement (68.9%, n= 31) although 26.7% (n = 12) indicated that they neither agreed nor disagreed.
People with ASD do not show remorse (N = 43)

On average AAs indicated they neither agreed nor disagreed with this statement (44.2%, n = 19). 39.5% of AAs disagreed with this statement, however

People with ASD have a callous disregard for the wellbeing of others (N = 44)

On average AAs disagreed with this statement (56.8%, n = 25) however, (29.5%, n = 13) neither agreed nor disagreed.

People with ASD can’t distinguish between right and wrong (N = 43)

On average AAs disagreed with this statement (51.2%, n = 22) and 39.5% (n = 17) neither agreed nor disagreed.

People with ASD always tell the truth (N= 44)

Overall AAs neither agreed nor disagreed with this statement (50%, n = 22) but 38.6% (n = 17) disagreed.

People with ASD have a good memory for all events (N = 43)

On average AAs neither agreed nor disagreed with this statement (48.8%). However, 25.6% (n = 11) agreed that it was true.

People with ASD can be very aggressive (N = 43)

Overall AAs neither agreed nor disagreed with this statement (51.1%, n = 22), however, 34.9% (n = 15) indicated that they agreed.

Comparing what AAs know about ASD and what police officers know about ASD.

In chapter two of this thesis, police officers had been presented with the same exercise reported upon here. As a point of interest, the mean scores achieved by AAs were compared with those achieved by police officers and these are detailed in table 3:8.
Table 3.7. Recognising the characteristics of ASD. The mean scores of AAs and the mean scores of police officers (as reported in chapter 2).

<table>
<thead>
<tr>
<th>Statements associated with ASD</th>
<th>AAs</th>
<th>Frontline Officers (Trained)</th>
<th>Frontline Officers (Not trained)</th>
<th>Specialist Officers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Unable to give eye contact</td>
<td>2.44 (0.94)</td>
<td>2.19 (0.87)</td>
<td>2.81 (0.83)</td>
<td>2.86 (1.14)</td>
</tr>
<tr>
<td>Do not understand social rules</td>
<td>2.34 (1.06)</td>
<td>2.77 (0.81)</td>
<td>2.82 (1.01)</td>
<td>2.57 (0.97)</td>
</tr>
<tr>
<td>Interpret information literally</td>
<td>2.24 (0.98)</td>
<td>1.52 (0.63)</td>
<td>2.37 (0.93)</td>
<td>1.99 (0.77)</td>
</tr>
<tr>
<td>Are Wary of new situations</td>
<td>1.77 (0.96)</td>
<td>2.03 (1.02)</td>
<td>2.17 (0.88)</td>
<td>2.03 (0.83)</td>
</tr>
<tr>
<td>Become preoccupied with a special interest / hobby</td>
<td>1.95 (0.96)</td>
<td>1.71 (0.74)</td>
<td>2.18 (0.87)</td>
<td>2.01 (0.82)</td>
</tr>
<tr>
<td>Good at understanding the minds of others</td>
<td>3.93 (0.96)</td>
<td>3.26 (0.93)</td>
<td>3.60 (0.82)</td>
<td>3.76 (0.91)</td>
</tr>
<tr>
<td>Do not like rigid routines</td>
<td>3.67 (1.32)</td>
<td>4.26 (0.86)</td>
<td>3.68 (1.09)</td>
<td>3.76 (1.08)</td>
</tr>
<tr>
<td>Are good at showing empathy</td>
<td>3.66 (0.99)</td>
<td>3.45 (0.81)</td>
<td>3.39 (0.86)</td>
<td>3.70 (0.95)</td>
</tr>
<tr>
<td>Good at interpreting gesture and tone of voice</td>
<td>3.68 (1.16)</td>
<td>3.94 (1.18)</td>
<td>3.30 (0.98)</td>
<td>3.74 (1.00)</td>
</tr>
</tbody>
</table>

**Statements not associated with ASD**

| All have learning disabilities | 3.80 (0.99) | 3.97 (1.11) | 3.51 (1.04) | 3.95 (1.01) |
| Are quick to blame others for their own mistakes | 3.55 (1.04) | 3.48 (1.03) | 3.49 (0.83) | 3.57 (0.86) |
| Overestimate their own abilities | 3.37 (0.92) | 3.39 (0.99) | 3.23 (0.90) | 3.36 (0.92) |
| Tend to be cunning and manipulative | 4.07 (1.07) | 4.29 (0.69) | 3.68 (0.98) | 4.33 (0.75) |
| Do not show remorse | 3.37 (1.00) | 3.06 (1.09) | 3.32 (0.82) | 3.31 (1.10) |
| Have a callous disregard for others | 3.70 (1.15) | 3.84 (0.86) | 3.63 (0.91) | 3.73 (0.89) |
| Can’t distinguish between right and wrong | 3.65 (1.02) | 3.32 (1.11) | 3.34 (0.89) | 3.57 (0.96) |
| Always tell the truth | 3.39 (0.99) | 2.84 (0.97) | 3.08 (0.89) | 3.25 (0.94) |
| Have a good memory for all events | 3.05 (0.98) | 2.65 (0.71) | 2.87 (0.87) | 3.09 (0.81) |
| Can be very aggressive | 2.79 (0.86) | 2.68 (1.05) | 2.86 (0.96) | 3.07 (0.93) |

Kruskal-Wallis tests and follow up Mann-Whitney tests examined if any differences were found comparing what AA know about ASD to what police officers know.
People with ASD are unable to give eye contact.

A Kruskal – Wallis test identified a difference between the AA population and police groups $H(3) = 13.16, p = .004$. A follow up Mann-Whitney test found that AAs were significantly more likely to agree with this statement ($M = 2.44, SD = 0.94$) than untrained frontline officers ($M = 2.81, SD = 0.83$), $U = 1169.00, z = -2.25, p = .025, r = .21$, indicating a small effect.

People with ASD do not understand social rules.

A Kruskal-Wallis test found a significant difference $H(3) = 8.51, p = .037$. A series of Mann-Whitney tests found AAs were significantly more likely to agree ($M = 2.34, SD = 1.06$) compared to untrained frontline officers ($M = 2.82, SD = 1.01$) $U = 1100.50, z = 2.46, p = .014, r = .23$, and compared to trained frontline officers ($M = 2.77, SD = 0.81$) $U = 499.50, z = -2.06, p = .040, r = .24$, a small effect.

People with ASD interpret information literally.

A Kruskal-Wallis test found a significant difference between AAs and police populations $H(3) = 23.12, p \leq .001$. A Mann-Whitney follow up test indicated that trained frontline officers were significantly more likely to agree with this statement ($M = 1.52, SD = 0.63$) than AAs ($M = 2.24, SD = 0.98$) $U = 395.00, z = -3.42, p = .001, r = .39$, demonstrating a medium effect.

People with ASD are wary of new situations.

A significant difference was found between AAs and police populations $H(3) = 8.14, p = .043$. AAs were significantly more likely to agree to this statement ($M = 1.77, SD = 0.96$) than untrained frontline officers ($M = 2.17, SD = 0.88$) $U = 1097.00, z = -2.72, p = .006, r = .25$, a small effect.

People with ASD are very good at understanding the minds and thoughts of other people.

A significant difference was found comparing AAs and police groups $H(3) = 14.16, p = .003$. A Mann-Whitney tests found that AA were significantly more likely to disagree with this statement ($M = 3.93, SD = 0.96$) than frontline officers without training ($M = 3.60, SD = 0.82$) $U = 1136.50, z = -2.72, p = .007, r = .25$, a small effect.
effect. Additionally AAs were significantly more likely to disagree with this statement than frontline officers who had received training ($M = 3.26$, SD = 0.93) $U = 389.00$, $z = -3.33$, $p = .001$, $r = .38$, a medium effect.

People with ASD are good at interpreting gestures and tone of voice.

A significant difference was found between AAs and police populations $H(3) = 13.01$, $p = .005$. AAs were significantly more likely to disagree with this statement ($M = 3.68$, SD = 1.16) than untrained frontline officers ($M = 3.30$, SD = 0.98) $U = 1214.50$, $z = -2.09$, $p = .037$, $r = .19$, indicating a small effect.

People with ASD tend to be cunning and manipulative.

A Kruskal-Wallis test found a significant difference between AAs and the police populations, $H(3) = 23.00$, $p ≤ .001$. A series of Mann-Whitney tests found AAs were significantly more likely to disagree with this statement ($M = 4.07$, SD = 1.07) than untrained frontline officers ($M = 3.68$, SD = 0.89), $U = 1207.50$, $z = -2.44$, $p = .015$, $r = .23$, a small effect.

Having invited participants to gauge their opinions upon whether a particular behaviour or characteristic was relevant to ASD, participants were then asked to consider three characteristics of ASD they felt could impact upon a suspect interview.

Characteristics of ASD which may impact upon a suspect interview

9 AAs wrote that they did not know of any characteristics of ASD which may impact upon an interview. In total 32 participants provided information which related to; i) communication impairment, ii) interaction impairment, iii) rigid and repetitive behaviour, and iv) sensory problems. In total 74 comments were made. These findings are presented in table 3:8. It was found that only 7 respondents made references to a characteristic from each of the three key feature of ASD as indicated in DSM IV.
Table 3:8. Characteristics of ASD which may impact upon a suspect interview. 

Number of times characteristic cited, multiple responses (N = 32)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number of times cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rigid and repetitive behaviours</td>
<td>28</td>
</tr>
<tr>
<td>Communication impairments</td>
<td>27</td>
</tr>
<tr>
<td>Interactions impairments</td>
<td>18</td>
</tr>
<tr>
<td>Sensory impairments</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
</tr>
</tbody>
</table>

Rigid and repetitive behaviours

As can be seen in table 3:8, 28 observations made by 19 participants highlighted rigid and repetitive behaviours as being damaging to an interview procedure. Concern was expressed over the potential problems which could arise because some people with ASD become overly fixated upon a topic, object or event. It was envisaged that problems would arise trying to disengage the person with ASD from their fixations in order to concentrate upon the contents of the interview.

Communication impairment

In total 27 comments (n = 27 participants) cited impaired communication skills as having the propensity to impact upon a suspect interview. It was explained that interpreting information literally, being unable to understand irony and finding it difficult to detect meaning from nonverbal communication would impede procedures.

Social interaction impairment

18 observations (n = 17 participants) were made indicating that poor social interaction skills would impede procedures. Difficulties interpreting social rules, problems with engagement, the avoidance of eye contact, and an inability to understand the implicit demands of an interview were considered risk factors to the flow of an interview.
In total 41 observations made by 22 AAs considered behaviours which are not associated with what is known about ASD. That is they are not part of a diagnosis of ASD nor supported by research as being associated with the condition. These comments are presented in table 3:9.

Table 3:9. *Characteristics that are not associated with a diagnosis of ASD (N = 22).* *(Multiple responses)*

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Number of times cites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would find it difficult to concentrate</td>
<td>10</td>
</tr>
<tr>
<td>Would not be able to answer the questions</td>
<td>6</td>
</tr>
<tr>
<td>May become aggressive</td>
<td>6</td>
</tr>
<tr>
<td>Would give answer to please others</td>
<td>4</td>
</tr>
<tr>
<td>Would not understand right from wrong</td>
<td>3</td>
</tr>
<tr>
<td>Would become emotional / upset</td>
<td>3</td>
</tr>
<tr>
<td>Would have a lack of concern re own welfare</td>
<td>1</td>
</tr>
<tr>
<td>Impatience</td>
<td>1</td>
</tr>
<tr>
<td>Not like discipline</td>
<td>1</td>
</tr>
<tr>
<td>Suffer confusion</td>
<td>1</td>
</tr>
<tr>
<td>Have a sense of injustice</td>
<td>1</td>
</tr>
<tr>
<td>Blame others for their own actions</td>
<td>1</td>
</tr>
<tr>
<td>Refuse to admit guilt</td>
<td>1</td>
</tr>
<tr>
<td>Be suggestible</td>
<td>1</td>
</tr>
<tr>
<td>Would not tell the truth</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
</tr>
</tbody>
</table>

As can be seen in table 3:9 the possibility of a person with ASD being unable to concentrate in a suspect interview was most regularly cited (n = 10). The second most noted concerns were that people with ASD would not be able to understand the questions (n = 6) and that people with ASD can become aggressive and so disrupt
the interview \( n = 6 \). There was also some concern that because people with ASD have a need to please others this would have an impact upon procedures \( n = 4 \).

Additional Comments

At the end of the questionnaire all participants were invited to provide any comments or additional information related to the content or topic of the questionnaire. In total 7 participants took the time to express their thoughts. One participant explained that they had not enjoyed filling out the questionnaire, two comments were made regarding a need for more training and three observations referred to the difficulty of referring to people with ASD as a homogenous entity.

“no one size fits all” (AA 13)

“People are individuals with differing needs… some statements apply to some, others quite the reverse, can’t generalise” (AA 17).

One participant took the opportunity to give details of working with a suspect with autism.

“I do remember while writing this one ASD detainee. He was a compulsive gambler and found communication very difficult no eye contact. He was intelligent, but no social skills…did things his own way. Refused a solicitor. Police were well aware of his autism and he was charged.” (AA 44).

Additionally one AA took the time to further explain what they knew about ASD.

“I have an awareness of some traits such as the need for structure and routine, sometimes literal interpretation, and recognise the importance of those traits in an interview setting. I would be prepared to advocate….but not to generalise.” (AA 17).

3:4. Discussion

There was a degree of consistency amongst the ‘type’ of people who chose to be AAs. In this study the majority of volunteers tended to be older people who were involved in other activities, either employed or taking on additional voluntary activities. This finding is at odds with the early work of Pierpoint (2008) who found that the majority of AAs were young women in higher education. The tasks that AAs identified as being key to their work also had a consensus; checking the fairness of
the interview, attending to communication issues, monitoring welfare issues, and ensuring the detained person was aware of their rights were all regularly cited by respondents to study 2. These tasks were also identified as being central to the role of the AA in an earlier survey conducted by Pierpoint (2011). However, some doubt has been raised regarding the abilities of AAs to cater for the communication needs of vulnerable people detained in custody. It has been proposed that an AA may be suited to take on a supportive role but may be ineffective as a communication expert (O’Mahony, Milne & Grant, 2012). AAs when discussing their role intimated they would clarify meaning behind complex language while encouraging interviewing officers to simplify their own use of language and refrain from using jargon. Indeed O’Mahony, Milne & Grant (2012) suggest a facet of assisting communication is to help with the interpretation of complex language. Some respondents to the survey stated they were or had been professionals from education, special education, social work, mental health and health care or involved in voluntary work with other vulnerable groups. Thus it could be intimated that due to a past or current career AAs possessed some abilities and experience in promoting and maintaining communication in people with impaired skills.

In this current study there was also a consensus of opinion regarding the skills required to be an effective AA, having good communication skills was considered important by most respondents (n = 36). AAs also generally agreed that the area of the work they found most satisfying was their ability to help the detained person (n = 28). Observations have been made which suggest that AAs do not intervene as required during suspect interviews (Medford, Gudjonsson & Pearse, 2003). Of course within the constraints of the design of study 2 it cannot be measured how often or how appropriately AAs intervene. However, the AAs themselves note that they are prepared to intervene. That is, amongst the skills stipulated to be an effective AA much consideration was given to the need to be assertive and challenge police as and when necessary.

Gudjonsson, Hayes & Rowlandson (2010) suggested that AAs should be responsible for checking that the internal characteristics of an individual do not impede interview procedures. Thus study 2 aimed to find out if this was an integral part of the role of the AA. Participants were asked to discuss what they considered to be their key tasks. Findings suggest that indeed there are duties which would benefit from an
understanding of internal characteristics. For example, being able to respond to communication needs and assist welfare concerns which included checking the person was fit for interview could all be more effectively achieved if the AA knew about ASD. Furthermore, albeit to a lesser degree AAs claimed that part of their role was to advise the police upon the nature of vulnerabilities, a task which can only be effective if the AA is in possession of specific knowledge and understanding about the condition. Being a good communicator and having the ability to converse with a person at their own level, being empathetic and having good interaction skills were amongst the skills AAs mentioned. This study suggests that if AAs were aware that people with ASD may adopt a different style of engaging with others, this would be useful in adopting the most effective means of interacting

The greatest evidence to suggest that AAs need to attend to internal characteristics came from the examples given by a few AAs regarding their experiences working with people they believed had ASD. These reflections showed that an interview broke down not because of the behaviour of the interviewer, rather because of the internal characteristics of the interviewee. During these accounts AAs attributed behaviours, mainly concerning difficulties disengaging from topics or objects within the environment and discussed the deleterious effects these had upon the progress of the interview. Some AAs reported on how they had attempted to intervene and alleviate problems they believed had arisen due to the detained person’s internal characteristics. For example, one AA discussed the importance of informing the police that an inability to give eye contact should not be judged as ignorance or disinterest and one AA relayed how they had overcome a suspect’s difficulty with giving a ‘no comment’ interview by writing the instructions down on a piece of paper to act as an aide memoire. These few examples show that potentially the internal characteristics of ASD can disrupt an interview. Hence it is vital that AAs do have the skills and strategies to cope with such occurrences. Checking the fairness of the interview and the behaviour of the interviewing officer is in itself not enough. In summary this study found that it would indeed be useful for AAs to attend to internal characteristics, a finding which will be given greater consideration in the final discussion chapter of this thesis.

The study also found that the vast majority of AAs stated that they believed a person with ASD would find an interview difficult. However, when asked to give reasons
why, their thoughts did not always relate to issues pertinent to what is known about ASD. For example, although communication issues were raised, the points made tended to be non-specific that is statements such as ‘would not be able to cope with the number of questions’, or ‘have difficulty understanding the questions’ issues that could be indicative of many people regardless of their diagnosed condition.

In a follow up exercise when AAs were asked to detail their expectations of working with a suspect with ASD four people responded they would not know how to support a person with this condition, while one individual suggested the needs of a person with ASD would be no different from those of any other person in custody. This is a worrying finding if AAs are required to check innate characteristics. Surprisingly only a few comments were made regarding the importance of determining the person’s level of ASD. Where a person lies on the autism spectrum was generally not considered and no mention was given to the needs of a person on the lower end of the spectrum being very different from a person on the higher end. When describing their expectations AAs provided a slightly better understanding of ASD compared to the earlier task where they were asked to explain why a person with ASD would find the interview difficult. For example, respondents were more specific concerning communication needs. Attention was given to problems around interpreting information literally, having difficulty with non-verbal information, behaviours which could be associated with communication problems in people with ASD. Interestingly when referring to communication difficulties, AAs volunteered information to demonstrate how they would attempt to alleviate these problems. Namely AAs would check their own behaviour, avoid the use of any language which if interpreted literally would compromise understanding. AAs also discussed how they would instruct the police on appropriate use of language. Discussing expectations of working with a person with ASD some thought was also given to social interaction difficulties. Issues relating to lack of eye contact was given the greatest attention. AAs described how they would instruct police not to misinterpret this behaviour.

To find out what AAs know about ASD, participants were asked to consider how readily they agreed or disagreed to a statement being indicative of a characteristic of the condition. AAs had some success in recognising traits which could be related to one of the core features and generally refuted statements that had no relationship with the condition. The comments which received the greatest attention were
concerned with people with ASD being wary of new situations, having problems reading the minds of others and being preoccupied with a special interest or topic. Least attention was given to understanding social rules and the ability to empathise. However, some AAs indicated that they believed people with ASD would have a good memory for all events, and would be prone to aggressive behaviour. Only half of participants disagreed with the statement that all people with ASD have learning disabilities. This demonstrates that many AAs failed to understand that ASD lies upon a spectrum and those from the higher end will not have learning disabilities. However, this finding links with the previous discussion which found that only a small number of AAs discussed the need to find out the level of a person’s ASD.

The study took the opportunity to explore if there was a difference between what AAs know about ASD compared to the knowledge of police officers (as reported in chapter 2). It was a somewhat surprising find that AAs did not consistently perform better than police officers, a finding that is particularly pertinent when a few AAs considered that part of their role was to inform officers about vulnerabilities. AAs were more likely to have greater awareness of problems related to social rules, mind reading, and problems that may be experienced interpreting gestures when compared with untrained frontline officers, but overall their performance did not exceed the knowledge shown by trained frontline officers and specialists.

When AAs were asked to consider characteristics of ASD which may impact upon an interview, the majority of respondents were able to provide at least one observation, related to the key characteristics of ASD. It should, however be noted that very few AAs took into account all three of the core features of ASD. Some references were made to traits which do not form part of a diagnosis of ASD. In particular it was intimated that stress and anxiety levels may impact. Although not part of a clinical diagnosis the association between stress and people with ASD has been identified (Farrugia & Hudson, 2006; Park, Park, Kim & Yoo, 2013).

Overall, when analysing the perceptions AAs have about ASD a rather haphazard picture is created. That is AAs seem aware of some of the characteristics of the condition yet this does not influence their understanding regarding why a person with ASD may find an interview difficult, nor effect their expectations of the needs of a person with ASD while in custody. While this remains the case, this suggest that AAs
will not be effective in safeguarding against the internal characteristics of a person with ASD impinging upon investigative procedures. For example, an AA reported upon an incident where a suspect received additional charges due to giving self-incriminating information. It is suggested that the role of the AA is to safeguard against such an occurrence (Murphy & Clare, 1998), yet in the reported account the AA was not able to take preventative actions. However, what actions are available to the AA to counteract such occurrences are not forthcoming. If a ‘no comment’ interview is the best safeguard, an AA who is bound not to give legal advice may be compromised. If the presence of a legal representative is required to promote safeguards it is unfortunate that when considering their expectations for supporting a person with ASD, only two comments referred to the importance of insuring a legal representative was present.

Within the context of the questionnaire it was reported that nearly half of all participants reported they had supported a person with ASD, and it was estimated that collectively this amounted to 115 people with ASD (adults and children). Thus it can be intimated that supporting people with ASD is not an unusual or indeed rare occurrence. However, surprisingly less than 29% of participants reported receiving specific training regarding ASD. Therefore it has to be questioned why organisations are failing to prepare AAs with the relevant skills and knowledge for the likelihood of supporting a person with ASD. It has been suggested that intermediaries may be better suited to assist people in custody (Plotnikoff & Woolfson, 2007). Indeed intermediaries who have skills in assessing communication skills may be more proficient at promoting successful communication. However, it is unclear if intermediaries are any more proficient than AAs in devising strategies to attend to internal vulnerabilities which may manifest as behavioural issues during the interview. It is possibly unwise to increase the number of people who are required to assist a vulnerable suspect while in custody. The practicalities of arranging for an intermediary, an AA and a legal representative to all attend at the same time may impact upon the PACE clock. When considering the use of intermediaries in custody, decisions will have to be made determining if part of their role is to ensure that the interview is fair and conducted in accordance with PACE (Home Office, 2014) and if they are prepared to take on the additional duties such as being present during
finger printing, VIPER procedures, liaising with other agencies and in the case of children contacting their guardians and even taking them home.

Finally, findings from this study concur with earlier research which suggests that the role of the AA is evolving (Pierpoint, 2011). Responses were made referring to the need to check on the personal needs and wellbeing of the detained person indicating a welfare model is being adopted. A few respondents discussed the need to change the behaviours of the detained person moulding them into better citizens, indicating a leaning towards a crime prevention model. Thus, the individual perspectives of AAs and or the ethos of the organisations they work for may impact upon how AAs prioritise their duties. A dangerous consequence of which is a service where the individual’s judgements or prejudices override the needs of the vulnerable suspect.

3:5. Conclusion and recommendations.

This study concludes that AAs recognise that their key duty is to ensure that the vulnerable suspect experiences a ‘fair’ interview conducted according to the requirements of PACE (1984). Responses from AAs indicated that their chief concern was to check the behaviour of interviewing officers and respondents intimated that they were prepared to intervene should the behaviour become inappropriate. However, less attention was given to monitoring the internal characteristics of the detained person. Although AAs were able to identify the key characteristics of ASD they were less able to demonstrate how this information would shape their expectations of supporting a person with ASD. Furthermore AAs were not able to explain why the internal characteristics of ASD could be potential risk factors during custody procedures. This is of some concern as the reported incidents from a few AAs described how the characteristics of ASD disrupted custody procedures. To this effect this study recommends that all AAs should receive training regarding ASD. Training must be both informative and practical. AAs should be provided with strategies to help them effectively offer support to a person with ASD. To promote best practice it is recommended that a national training package be developed with input from experts in ASD, practitioners within the CJS and people with ASD. The Autism Act (2009) refers to the needs of personnel involved with the CJS to have training in ASD, and as a result of this study it is suggested that this includes those who support people with ASD while in custody.
A concern of this research project was to recognise best practice for assisting people with ASD through custody procedures. In light of this it is recommended that the current role of the AA is revised. To maintain consistency and appropriate support a ‘national’ job description must be developed. Additionally it is recommended that Code C (2014) provides a more detailed account of the role of the supporter. This is vital if the practice of employing untrained support is continued. Where parents or carers are called upon to take on the role, they must be fully informed of their responsibilities and powers. Taking into account the information participants in study 2 provided concerning the duties, skills and satisfaction of being an AA the following section details the key areas which should feature in a job description.

i) Custody procedures.

Ensuring that the suspect interview is conducted in accordance with PACE (1984) is of paramount importance. This includes checking that the interview is fair, and free from intimidation techniques. Therefore, the supporter must have knowledge of PACE and code C which supports PACE (Home Office, 2014) and be prepared to intervene and stop the interview when necessary. Additionally, the supporter must assist in other custody procedures; overseeing the signing of documents, the taking of finger prints and VIPER procedures. The supporter must also ensure that the interviewing officers have succinctly informed the detained person of their rights while in custody and taken appropriate measures to make certain that the individual understands the caution. It is also recommended that the supporter checks that the detained person understands the outcome of their custody experience such as no further action, bail conditions, or charge. The supporter should also inform the detained person of the benefits of having a legal representative present.

ii) Checking internal characteristics.

The supporter must aim to minimise the risk of internal characteristics impeding custody procedures. This requires an ability to utilise assessment skills and tools to identify behavioural, psychological and communication issues which may impact upon the interview. Additionally, the supporter must monitor the detained person’s behaviour, identify potential risk factors and intervene with appropriate strategies when behaviours or a failure in communication impinge upon procedures. To achieve this it is recommended that the supporter is equipped to attend to the...
specific needs of the detained person. Thus in keeping with the concerns of this research project it is recommended that the supporter has experience and knowledge specific to ASD. The supporter must have an understanding of the characteristics which define ASD and must recognise the heterogenic nature of the condition. At the first opportunity the supporter must ascertain where the person lies on the autism spectrum. This will provide information concerning their level of need and the degree of support they require.

iii) Advice to police

The supporter must be able to advise police officers on the nature of the internal characteristics of ASD. This includes providing information which explains particular behaviours such as why the individual may avoid eye contact or why the detained person may find physical contact problematic. The supporter should also provide information on any assessments they have undertaken and highlight potential risk factors. Additionally, supporters should share their skills and provide information to assist communication and help officers create an environment conducive to the needs of a person with ASD. To achieve this supporters must have good communication skills with the ability to express information clearly and succinctly.

iv) Welfare needs

The supporter must attend to the welfare needs of the individual. This includes insisting upon a medical examination if there is any doubt that the individual is fit for interview. It is also necessary to check that police officers have provided a duty of care (offering food, drink, and rest periods). Additionally, the supporter must ensure that any medical needs are being met. An attempt should also be made to allay the fears and stress of the detained person by helping them to understand what will happen during custody procedures. For people with ASD very precise, concise details may be required. Finally if a detained person appears to be overly anxious or upset during the interview the supporter must insist that that the detained person is allowed a break.
v) Impartial support

The supporter should be independent of the police and have no personal involvement in the alleged offence. Engaging in conversation with the detained person related to the specific offence must be avoided. The supporter should remain non-judgemental and refrain from offering comments upon the detained person’s lifestyle and life choices. The supporter should not take on the role of a councillor or therapist nor best friend.

In redefining the role of the AA, attention must be given as to who is best suited to carry out these duties. Some participants in study 2 indicated via their responses to the questionnaire that they had an awareness of the needs of people with ASD and there was evidence that some AAs used appropriate strategies to assist people with ASD during custody procedures. However, other AAs confessed they had no knowledge of ASD and had no idea of the specific needs of this group. A few AAs intimated the needs of a person with ASD would be no different from those of any other person. Indeed a small number of AAs stated a person with ASD would not find an interview problematic. It is therefore recommended that more stringent recruitment procedures are employed to ensure that the supporter has the necessary attitude and skills to carry out the duties. Recognising that an ability to assess needs is integral to the monitoring of internal characteristics it is recommended that potential supporters have previous experience of working with people with ASD.

Reflecting upon the skills that are required to facilitate procedures in custody it is recommended that untrained persons should not be used. A reliance upon using parents, carers or friends who may not have the skills to fulfil the requirements of a supporter will place some individuals at risk from receiving an inferior or incomplete service. To accommodate for the revised role of the supporter this study also questions how useful the term ‘appropriate adult’ is to encapsulate the duties and responsibilities of an effective supporter. The title offers little information regarding what is expected. It is recommended that a job title is created which more affectively reflects the role of supporter. For example, the term facilitator may better describe the task of monitoring the behaviour of both the interviewer and interviewee in order to maintain affective communication and minimise the emergence of risk factors emanating from disruptive from behaviours.
A few respondents to the questionnaire indicated they would check that a person with ASD understood the police caution. The following chapter focusses upon the ability of people with ASD to understand the police caution.
Chapter 4. Do people from the higher end of the autism spectrum understand the police caution?

4:1 Introduction.

A police officer will recite the caution to an individual suspected of an offence at the point of arrest, prior to questioning, and when charged. This caution contains important information regarding legal rights. Firstly, the caution informs the individual that he or she can choose to remain silent, that is they do not have to answer any questions put to them by the interviewing officers. However, the current caution comes with a modification to the right to silence and this is explained in the second sentence. Remaining silent can have ramifications. A judge can instruct a jury to make inferences if a defendant produces information at trial that they had not revealed during questioning. The final sentence of the caution informs that any information given from the time of arrest may be used as evidence in court. The current caution reads;

“You do not have to say anything. But it may harm your defence if you do not mention when questioned something which you later rely on in court. Anything you do say may be given in evidence.” (Home Office, Code C, 2014).

As can be seen, this dictum is difficult to understand. Indeed, various populations have difficulties comprehending the caution, including members of the general population, A'level students, and even some police officers (Clare, Gudjonsson & Harari, 1998). There is also a suggestion that comprehension is related to intellectual ability. Members of the general population and people detained in custody who had an average, or below average IQ, failed to understand the caution in its entirety (Fenner, Gudjonsson & Clare, 2002). This is worrying as a lack of understanding, places an individual at risk, preventing them from making informed decisions. For example, if a person has failed to realise that they do not have to answer questions, there is a possibility of giving self-incriminating information (Fenner, Gudjonsson & Clare, 2002). Conversely if they withhold information which they later produce at court as part of their defence inferences may be drawn, and the veracity of the information may be questioned. Consequently understanding of the caution is vital.
To date no research has been conducted to explore if people from the higher end of the autism spectrum comprehend the police caution. Thus, the purpose of the third study was to address this gap in both research and literature.

It is suggested that listening to verbally presented material creates cognitive demands upon the listener, requiring an ability to ‘backward scan’ to assess meaning (see Hughes, Bain, Gilchrist & Boyle, 2012, p 4). The impairments associated with ASD are thought to reflect difficulties processing complex information (see Minshew & Goldstein, 1998). Indeed children with ASD have problems responding to tasks which rely upon the interpretation of complex verbal instructions (Goldstein, Minshew & Siegel, 1994). Consequently, although people from the higher end of the autism spectrum may demonstrate verbal fluency and show grammatical competency, this may mask problems with comprehension particularly where complex verbal language is used (Minshew, Goldstein & Siegel, 1995; Minshew, Siegel & Goldstein, 1994). Indeed in support of this understanding, images obtained from functional MRI scanning have displayed brain irregularities when people with ASD are required to perform high level tasks, such as attempting to process complex sentences (Just, Cherkassky, Keller & Minshew, 2004). Because the caution is considered to be both complex in structure and content (see Rock, 2007), it was hypothesised that people with ASD would find it difficult to explain the caution and describe its function when compared to members of the general population.

A study which focused upon how members of the general population comprehended the Scottish caution concluded that a written copy of the caution (presented both with and without verbal recitation) increased understanding by 30% when compared to participants who had been in receipt of only a verbal presentation (Hughes, Bain, Gilchrist & Boyle, 2012). This is an interesting finding because it is believed that people with ASD benefit from visual information (Williams, Minshew & Goldstein, 2008). For example, children with ASD have been found to perform better on tasks when they were supplied with written information (Boucher & Lewis, 1989). Indeed in therapeutic and educational settings there is now a reliance upon using written and visual stimuli to help people with ASD access information and achieve understanding and clarity (see Mesibov & Shea, 2010). Therefore, study 3 of this thesis sought to explore if a written copy of the caution when accompanied with a verbal recitation would improve comprehension in people with ASD. Recognising that the written copy
could be referred to and so help reduce the cognitive demands, it was hypothesised that the presence of a written copy would increase comprehension in people who have ASD. To further help to reduce cognitive demands study 3 adopted a procedure used in earlier research (see Fenner, Gudjonsson & Clare, 2002) whereby the caution was presented one sentence at a time, so reducing the amount of words an individual must process. Thus to assess understanding of the caution this study adopted the following stages of assessment; participants were asked to use their own words to i) explain the caution after it had been presented in its entirety, and ii) explain the caution when sentences were presented one at a time. There is some concern that asking people to recontextualise the wording of the caution has limitations (Rock, 2007). Simple reiteration may not be an effective means of testing understanding. This method may not demonstrate that a person actually understands the meaning behind the words. To address this issue attention turned to the observations of Grisso (2003) who discussed the need to focus upon the function of the caution. To this effect study 3 incorporated an element which required participants to consider the ‘purpose’ of the caution.

People claim that they understand the caution, despite their poor performance during assessments (Fenner, Gudjonsson & Clare, 2002). However, to assess the purpose of the caution it was necessary for participants to appreciate that not everyone will understand it. To achieve this participants were asked if they thought that some individuals due to circumstances or individual characteristics may fail to understand the caution. They were then asked if they thought that failing to understand the caution would have any consequences. The study adopted the premise that where people could provide examples of such consequences this would indicate they had understood the purpose of the caution. It was hypothesised that due to problems with processing and responding to complex information, people with ASD would have greater difficulties giving such responses compared to the general population group. Additionally people with ASD have difficulties processing responses which require an awareness of their own thoughts. For example, a study involving children with ASD found that children failed to use contextual information in order to explain their thoughts and responses to questions (Loukusa, et al 2007). Thus people with ASD may have difficulties expressing their reasons and explanations.
Aims of study 3.
This study aimed to discover if a written copy of the caution presented with a verbal recitation increases the ability of people with ASD to reiterate the caution and discuss its purpose. Additionally the study sought to explore if being able to explain the caution and describe its purpose is improved in people with ASD when the caution is presented one sentence at a time. Finally the study aimed to compare the performance of people with ASD with those of the GP in explaining the caution and describing its purpose.

4:2 Method

Participants.

Sampling measures.

i) Demographic data. Data were collected on age and gender. For the purpose of this study, no participant was recruited who was under the age of 16. Because it is understood that within the ASD population males outnumber females 3:1 (Wing, 1997) it was anticipated that the ASD group would be predominantly male.

i) Verbal IQ (VIQ). It was necessary to ensure that poor verbal skills did not act as a confound and influence findings. Participants were only included in this study who had English as their first language. Additionally, all participants were required to demonstrate an average or above average level of verbal dexterity. To this effect all participants were assessed using the vocabulary and similarities sections of the Wechsler Abbreviated Scale of Intelligence (Wechsler, 2011). The study only recruited participants who scored 77 or above.

iii) Autism Quotient (AQ). To establish the likely presence of ASD characteristics all participants who took part in this study were asked to complete the Autism Quotient (AQ) (Baron-Cohen, Wheelwright, Skinner, Martin & Clubley, 2001). The AQ is a self-administered questionnaire designed to measure the degree of autistic traits in an adult who has normal intelligence. (See Appendices, section 4). It is comprised of fifty statements and participants judge their own behaviour and preferences utilising forced choice responses ranging from definitely agree to definitely disagree. Where a response is equated to autistic like behaviour a score of one point is awarded. Generally a cut off score of 26 is considered sensitive enough to identify the presence of autism like traits (Woodbury-Smith, Robinson, Wheelwright & Baron-
Cohen, 2005). It is noted that the AQ is not a diagnostic instrument; its efficacy is as a screening tool designed for use in clinical settings. Empirical research has supported the validity of the AQ (Baron-Cohen, Wheelwright, Skinner, Martin & Clubley, 2001; Woodbury-Smith, Robinson, Wheelwright & Baron-Cohen, 2005).

After receiving ethical approval from the University of Portsmouth, two groups of participants were recruited for this study, i) people with a diagnosis which places them on the higher end of the autism spectrum and ii) members of the general population.

i) Participants with ASD.

Convenience sampling was used to recruit people who have ASD. All participants had volunteered to take part in a witness study event which will be reported in chapter 6 of this thesis. These participants had been recruited via advertisements in; local newspapers, on a local radio station, University of Portsmouth website, and support groups. During the witness study (see chapter 6) participants were invited to take part in distraction tasks. The study reported here which assessed comprehension of the caution was one of the distraction tasks.

All participants with ASD (N = 22) who took part in study 3 referred to themselves as having Asperger syndrome. Diagnosis of ASD was confirmed in all cases by parents, carers, service providers and documentation which established that a diagnosis of ASD had been made by psychologists and clinicians in accordance with DSM IV (American Association of Psychiatry, 2000).

ii) General population (GP)

Members of the General population (GP) group were also recruited from participants who had volunteered to take part in the study reported in chapter 6. Volunteers responded to advertisements on the University of Portsmouth website and advertisements placed within the local community. In total 52 people were recruited. All of these participants informed the researcher that they did not have a diagnosis which placed them on the autism spectrum.

Participants from both groups were paid a small fee in appreciation of their time.
In total 74 participants took part in this study. This included 22 people with a diagnosis of ASD, this group was comprised of 5 females (23%) and 17 males (77%). 52 people were in the GP group including 38 females (73.1%) and 14 males (26.9%). Participants from each population group were randomly allocated to one of the caution presentations, either verbal or written. 37 participants (11 ASD, 26 GP) were allocated to the verbal presentation of the caution and 37 participants (11 ASD, 26 GP) were assigned to the written presentation of the caution. Table 4:1 details the ages, VIQ levels and AQ scores of all participants according to their population group and the assessment group they were assigned to.

Table 4:1 The mean age, AQ and VIQ scores of participants according to population and caution presentation (N = 74)

<table>
<thead>
<tr>
<th>Variable</th>
<th>ASD (n = 22)</th>
<th>GP (n = 52)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Verbal presentation (n = 11)</td>
<td>Written presentation (n = 11)</td>
</tr>
<tr>
<td>Age</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>30.18 (10.59)</td>
<td>27.64 (10.01)</td>
</tr>
<tr>
<td>AQ</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>32.00 (2.28)</td>
<td>33.27 (3.88)</td>
</tr>
<tr>
<td>VIQ</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>113.82 (15.43)</td>
<td>112.18 (8.75)</td>
</tr>
</tbody>
</table>

As expected, ANOVA calculations revealed a significant main effect for AQ, with those in the ASD group scoring higher than those in the GP group, $F(1, 70) = 446.20, p \leq .001, r = .86$, demonstrating a large effect. Also there was a significant main effect for VIQ with those in the ASD group scoring higher on verbal intelligence than those in the GP group $F(1, 70) = 13.19, p = .001, r = .16$, a small effect. There were no other differences between the groups.
Design

The study employed a 2x2 factorial design with population at two levels: i) people with a diagnosis of ASD, and ii) people from the general population (GP). The presentation of the caution was also at two levels: i) comprehension was assessed in a group of participants who received only a verbal presentation of the caution. From here on this will be referred to as the verbal presentation, and ii) comprehension was assessed in participants who in addition to the verbal presentation were given a written copy of the caution to refer to. From here on this will be referred to as the written presentation. The dependent variables were the correct / incorrect responses made during the assessment procedures.

Procedure

All who volunteered to take part in this study were informed of their rights as participants and were told they could withdraw any time they wished. The researcher asked each participant for their permission to audio record the session and two people with ASD said they did not want to be audio recorded. However, they agreed for the researcher to take notes as a record of their responses. All sessions were conducted individually and lasted 10 minutes.

The researcher conducted all of the sessions and followed a set script. Deviation from this script only occurred if it appeared that the participant failed to understand or misunderstood any of the stages of the assessment. In such instances alternative words were used to help generate clarity for the participant. If at any stage a participant asked the researcher to repeat any part of the caution the researcher did so, however this only happened on two occasions and these requests were made by members of the general population.

The assessment session was comprised of six stages and followed a format similar to that used in the study conducted by Fenner, Gudjonsson & Clare (2002). The following section gives a step by step account of the assessment procedure.

i) Stage 1. Familiarity with the caution.

Research has established that previous experience of the caution does not have a significant relationship to understanding (see Clare, Gudjonsson & Harari, 1998 for information about the performance of police officers and Fenner, Gudjonsson &
Clare, 2002 for details about people who have been detained in custody). To further examine these findings, participants at the beginning of this study were asked if they were familiar with the caution. If they said yes, the researcher then asked them if they could recite it.

ii) Stage 2. Self-assessment of their own understanding of the caution.

Asking a person if they understand the caution is not an accurate means of establishing comprehension. That is during experimental studies people are likely to say that they do understand the caution yet their subsequent performance during assessment refutes this (Fenner, Gudjonsson & Clare, 2002). The researcher recited the caution in its entirety. At this stage those participants assigned to the written condition were provided with a written copy to refer to. All participants were then asked if they understood the caution. A question posed to elicit a yes/no/not sure response.

iii) Stage 3. Explanation of the caution in its entirety.

After hearing the caution recited in its entirety participants in both presentations of the caution (written and verbal) were asked if they could use their own words to explain the caution.

iv) Stage 4. Explanation of the caution one sentence at a time.

The researcher pointed out that the caution was comprised of three sentences, and informed the participants they were going to look at each sentence individually. The first sentence was read aloud by the researcher (those in the written condition were encouraged to follow the sentence using their written copy) after which the participants were asked to explain this sentence using their own words. This procedure was repeated for the second and third sentences of the caution.

v) Stage 5. Situations and circumstances which may prevent a person from understanding the caution.

Participants were then asked to consider the possibility that not everybody would understand the caution. They were encouraged to describe circumstances, situations or internal characteristics which may impede a person from understanding the content of the caution.
vi) Stage 6. Understanding the purpose of the caution.

All participants were finally asked if there would be consequences if a person did not understand the caution and responses were recorded as ‘yes’ ‘no’ or ‘don’t know’. Where participants had replied ‘yes’ they were invited to provide some examples detailing the consequences. To encourage people to access their thoughts prompts were used such as ‘tell me why it is important to understand the caution?’ ‘What might happen if someone did not understand the caution?’

Scoring and analysis.

The audio recordings and notes were transcribed. To assist analysis categorical data was pre-coded, for example a ‘no’ response was coded as 0, while a ‘yes’ response was coded as 1. All data was entered into a coding book and onto a spread sheet using IBM SPSS version 20. Loglinear analysis were conducted to test the relationship between more than two categorical variables, enabling the detection of main effects and interactions. Thus this allowed for the exploration of a possible three way interaction effect between for example, population x type of caution x explanation of sentence. Additionally a Loglinear analysis identifies two way interaction; population x type of caution, population x explanation of sentence and type of caution x explanation of sentence. To explore relationships between two categorical variables chi square tests were run. Where qualitative data was gathered content analysis was used to organise data and identify the salient topics and calculate tallies.

Scoring; Stage 1 - familiarity with the caution

Each participant was asked if they knew the caution. Responses were recorded as yes / no /not sure. Where a participant indicated they knew the caution they were asked to recite the caution. Responses were recorded and transcribed. Small deviations from the exact wording were permitted and the recitations were logged as i) complete, ii) partial, and iii) not able to recite any of the caution across each presentation.

Scoring: Stage 2. Self-assessment of their own understanding of the caution.

Responses were recorded as yes, no and not sure across each presentation.
Scoring; Stages 3 and 4. Explaining the caution presented in its entirety and a sentence at a time.

A scoring system was adopted which followed the method used by Fenner, Gudjonsson & Clare (2002). The scoring framework was structured around correct interpretation of each of the three sentences in accordance with the Criminal Justice Public Order Act 1994 (Wasik & Taylor, 1995). Thus data was scored as either correct or incorrect. Each sentence of the caution was perceived as carrying specific information. Sentence 1 informs upon the choice a person has regarding not to say anything. This includes deciding whether or not to respond to some, all or none of the questions asked by interviewing officers. Where a respondent reiterated or implied this meaning, this was recorded as a correct explanation of the first sentence. The second sentence refers to the modification to the right to silence. In certain circumstances courts are now permitted to make inferences about a defence which includes new information. Any response which encapsulated this meaning was recorded as correct. Finally the third sentence was recorded as correct if a respondent was able to convey that the information a person provided may be used as evidence in a court of law.

An example of responses and how they were interpreted by the researcher are provided below;

“If you say anything about what has happened then it can be used in court either for or against you.” (GP018, written condition). This was recorded as a correct explanation of the 3rd sentence of the caution.

“If you are put to trial by saying, well it’s basically saying that if you say something relevant to the case but that you hadn’t mentioned before like it will maybe not be believed and be harmful to your case in court.” (ASD012, written condition). This was recorded as a correct explanation of the 2nd sentence of the caution.

“You obviously don’t have to say anything when they question you but if you don’t give details of things now if you suddenly bring them up in court like your, like you are making it up or holding things back beforehand people might not believe you if that is what you are claiming. Obviously anything that you do say will be used in a case either against you or in your defence” (GP020, written condition). This was recorded as a correct explanation of all of the three sentences of the caution.
The number of participants who correctly interpreted all three sentences was calculated for both the entirety stage (stage 3) and individual sentence stage (stage 4) across each of the presentation conditions.

Scoring stage 5. Situations and circumstances which may prevent a person from understanding the caution.

Content analysis was used to collapse data according to the most salient topics. Frequencies were calculated according to the number of times each theme was referred to across population groups.

Scoring stage 6. Understanding the purpose of the caution.

When asked if there would be any consequences for not understanding the caution responses were recorded as yes, no or don’t know. Those who indicated that there would be consequences were asked to further explain their thoughts. A response was interpreted as correct if it clearly described what could go wrong if a person had not understood one of the sentences of the caution. For example, looking at the following response;

“I suppose the consequences could be for the person is they might say something that they might not want to be included, too much information landing them in deeper trouble.” (GP,C017, verbal condition).

This was recorded as correctly identifying what might happen if a person failed to understand the first sentence of the caution which informs a person that they do not have to answer questions. Failing to grasp this meaning may result in a person providing 'too much information' leading to self-incriminating information.

The following quote was recorded as a correct consequence of what could happen if a person did not understand that what they say can be used in evidence.

“If they don’t mention something and then want to say it in court it may be disbelieved and so go against them and so can’t be relied upon.” GPA09, written condition).

The final quote was recorded as a correct observation of what might happen if a person did not understand that what they say can be used in evidence.
“Well when people don’t understand that it will be become (sic) in evidence maybe say too much they will be less cautious about what they are going to say” (GP010, written condition).

A random selection of 8 transcripts from the ASD population (2 x written, 2x verbal) and GP group (2 x written, 2 x verbal) were marked by a second researcher. Independence and reliability was good, Kappa= .08, p = 005.

Data was analysed to identify the number of participants who correctly identified consequences arising from a failure to understand all three sentences of the caution 4:3. Results of study 3.

Analyses were carried out to discover; i) do people with ASD perform comparatively to the GP when explaining the caution? ii) does a verbal presentation of the caution with a written copy increase the ability to explain the caution, specifically amongst people with ASD? iii) is the ability to explain the caution increased when the caution is presented one sentence at a time? and iv) do people with ASD understand the function of the caution? The results from these analyses are now presented across each of the assessment stages.

Stage 1. Familiarity with the caution.

40.9% (n = 9) of the ASD group and 50% (n = 26) from the GP group said that they did not know the caution. Of those who said they knew the caution, 40.9% (n = 9) of people with ASD and 48.1% (n = 25) of the GP group were able to provide a partial recitation and 18.2% (n =4) of the ASD group and 1.9% (n =1) of the GP group recited the caution in full. Participants explained that they knew the caution from watching television and films. However once the caution was recited participants who had initially reported they did not know it commented that they had heard it before but did not realise it was called the caution.

Stage 2. Self-assessment of understanding the caution.

100% of participants with ASD reported that they understood the caution. 96.2% (n = 50) of the GP group said ‘yes’ they understood the caution. In the GP group 3.8% (n = 2) said that they were not sure and this included one participant who was in the verbal presentation and one from the written presentation.
Stage 3. Explanation of the caution when the caution was presented in its entirety.

18.2% of the ASD group (n = 4, including 2 in the written presentation and 2 in the verbal presentation) were unable to explain any of the sentences of the caution. Similarly, 9.6% of the GP group (n = 5, including 1 in the written presentation, 4 in the verbal presentation) were not able to explain any of the sentences of the caution. Of those participants who failed to correctly explain any of the sentences of the caution there was a tendency to try and attach a philosophy to the caution. In particularly there was a misconception that the caution was an instruction reminding people to tell the truth. For example, one GP participant interpreted the caution in terms of the oath given in court and described it as a warning to tell the whole truth and nothing but the truth. The following quote from a GP participant encapsulates this ethos.

“That they expect you to tell the truth and if you don’t tell the truth you have to suffer the consequences” (GPC005, verbal condition).

Explaining the caution in its entirety proved difficult and some responses lacked clarity as demonstrated in the following quote.

“That there are defined rules that the person arrested should be aware of... As the terms condition, clarifications, to avoid occurrences that could possibly harm their rights” (GPA015, Verbal condition).

Stage 4. Explanation of the caution when sentences were presented one at a time.

The caution was next presented to each participant one sentence at a time. After each sentence the participant was asked to use their own words to explain this sentence. During this stage all participants across both presentation groups (verbal and written) were able to correctly explain at least one of the sentences of the caution.

Data collected from stage 3 and stage 4 was scored as either a correct or incorrect response. Table 4:2 details the number of correct responses made explaining a sentence of the caution i) when the caution was presented in its entirety and ii) when sentences were presented one at a time. The data is recorded according to population group and caution type.
Table 4:2. *Number of correct responses when the caution was presented i) in its entirety and ii) sentence by sentence (N = 74)*

<table>
<thead>
<tr>
<th></th>
<th>ASD</th>
<th></th>
<th>GP</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Verbal (n = 11)</td>
<td>Written (n = 11)</td>
<td>Verbal (n = 26)</td>
<td>Written (n = 26)</td>
</tr>
<tr>
<td><strong>Sentence 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Entirety</td>
<td>6</td>
<td>7</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>ii) Sentence by sentence</td>
<td>11</td>
<td>11</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td><strong>Sentence 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Entirety</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>ii) Sentence by sentence</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td><strong>Sentence 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Entirety</td>
<td>5</td>
<td>7</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td>ii) Sentence by sentence</td>
<td>10</td>
<td>9</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td><strong>All three sentences</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Entirety</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>ii) Sentence by sentence</td>
<td>6</td>
<td>8</td>
<td>12</td>
<td>13</td>
</tr>
</tbody>
</table>

**i)** Interpretation of the caution presented in its entirety.

Sentence 1. ‘You do not have to say anything’.

A Loglinear analysis found no significant three way interaction effect (population x caution type x understanding sentence 1) $\chi^2 (1) = .06, p = .812$, and neither was there a two way interaction effect (population x type of caution, population x understanding sentence, type of caution x understanding sentence 1) $\chi^2 (3) = 2.41, p = .491$. 
Sentence 2. ‘But it may harm your defence if you do not mention when questioned something which you later rely on in court’.

Loglinear analysis found no significant three way interaction effect, \( \chi^2 (1) = .13, p = .723 \) nor two way interaction effects \( \chi^2 (3) = 5.36, p = .147 \).

Sentence 3. ‘Anything you do say may be given in evidence’.

No three way interaction effect was detected, \( \chi^2 (1) = .08, P = .780 \) nor two way interaction effects, \( \chi^2 (3) = 4.66, p = .198 \).

Correct explanation of all three sentences of the caution.

No three way interaction effect was found, \( \chi^2 (1) = 1.56, p = .212 \). However, there was a two way interaction effect for type of caution x correct explanation of all three sentences, \( \chi^2 (1) = 9.60, p = .002 \). Follow up analysis found that of all participants only 2 in the verbal condition (both members of the GP group) correctly explained all three sentences of the caution compared to 12 participants in the written condition (4 ASD, 8 GP), \( \chi^2 (1) = 8.81, p = .003, \phi = .35 \), indicating a moderate association.

The impact of VIQ scores and familiarity of the caution when the caution was presented in its entirety.

Referring back to table 4:1 reported earlier in this chapter, it can be seen that on average the ASD population had a significantly higher VIQ score compared to members of the GP group. To explore any correlation between VIQ scores and the ability to explain all three sentences of the caution a Spearman’s rho statistical test was carried out. There was no relationship between VIQ scores and the ability to explain all three sentences of the caution, \( r_s = .09, p \) (two tailed) = .431. Additionally analysis was carried out to see if there was a correlation between the ability to recite part of or all of the caution and successfully explaining all three sentences. No correlation was found between being able to recite the caution and understanding all three sentences, \( r_s=.14, p \) (two tailed) = .240, thus suggesting that familiarity with the caution had no impact upon the ability to explain it.
ii) Interpretation of the caution when presented one sentence at a time.

Sentence 1. ‘You do not have to say anything’.

When the caution was presented a sentence at a time all participants in the ASD group (n = 22) and all of those in the GP population (n = 52) correctly explained the first sentence of the caution.

Sentence 2. But it may harm your defence if you do not mention when questioned something which you later rely on in court.

The second sentence of the caution was the most problematic for participants to explain. However no three way interaction effect was found, $\chi^2 (1) = 1.10, p = .293$ nor were two way interaction effects detected, $\chi^2 (3) = 3.47, p = .325$.

Sentence 3. Anything you do say may be given in evidence.

Analysis found no three way interaction effect $\chi^2 (1) = 1.80, p = .180$ nor two way interaction effects, $\chi^2 (3) = 3.71, p = .294$.

Explaining all three sentences of the caution

No three way interaction effect was detected $\chi^2 (1) = .37, P = .543$ nor two way interaction effects, $\chi^2 (3) = 2.02, p = .569$.

The impact of VIQ scores and familiarity of the caution when the caution was presented one sentence at a time.

The previously presented Table 4:1, showed that on average the participants with ASD had a higher VIQ score than those in the GP group, and as discussed earlier this difference was seen to be significant. However, a Spearman’s rho test showed there was no correlation between VIQ and the ability to explain all three sentences of the caution when the caution was presented one sentence at a time, $r_s = .173, p = .140$. Additionally, the study collected information regarding how familiar people were with the caution. That is participants were asked if they knew the caution, and if they could recite it. A Spearman’s rho test found a positive correlation between explaining all three sentences of the caution when the caution had been presented one sentence at a time and participants who were initially able to recite part of or all of the caution, $r_s = .255, p = .028$. 
Does presenting the caution one sentence at a time help participants explain the caution?

Loglinear analysis were performed to explore any significant interaction between i) type of caution, ii) explaining the caution presented in its entirety and iii) explaining the caution one sentence at a time. A significant two way interaction effect was found, for explaining the second sentence of the caution, $\chi^2 (3) = 20.11, p \leq .001$, this effect indicated an effect for explaining the modification to the right to silence after the caution had been presented its entirety and explaining after the caution had been delivered one sentence at a time, $\chi^2 (1) = 16.24, p \leq .001$. Follow up analysis found that in total 26 participants (10, ASD, 16 GP) correctly explained the second sentence after the caution had been presented in its entirety, however 40 participants (15 ASD, 25 GP) correctly explained this sentence after the caution had been presented one sentence at a time, $\chi^2 (1) = 15.07, p \leq .001$, phi = .45 demonstrating a relatively strong association. Additionally, a significant two way interaction effect was found for the correct explanation of all three sentences of the caution, $\chi^2 (3) = 22.92, p \leq .001$. An association was found between explaining all three sentences after the caution had been delivered in its entirety and after the caution had been presented one sentence at a time, $\chi^2 (1) = 12.83, p \leq .001$. Follow up analysis found that 14 participants (4 ASD, 10 GP) correctly explained all three sentences after the caution had been presented in its entirety while 39 participants (14 ASD, 25 GP) correctly explained all three sentences after the caution had been presented one sentence at a time, $\chi^2 (1) = 13.37, p \leq .001$, phi = .51 demonstrating a relatively strong association.

Stage 5. Situations / Circumstances which may prevent a person from understanding the caution.

Five participants (3 ASD and 2 GP) did not provide any examples of situations or circumstances which could impede the ability of a person to understand the caution. One participant in the GP group explained that they believed everybody would understand it. The remaining 69 participants provided 183 comments. 42 of these comments (29.7%) were made by people with ASD and 141 (70.3%) from the GP population. Table 4:3 lists the examples given to explain why some people may not understand the caution.
As can be seen in table 4:3 members of the GP group gave greatest consideration to people with learning difficulties (n = 36) as having problems understanding the caution. No participant with ASD referred to people with learning disabilities, rather their main concerns were for children (n = 13) and those who do not have English as their first language (n = 12), and these groups were also noted by participants in the GP group. Interestingly 6 people from the ASD population explained that people on
the autism spectrum would have problems understanding the caution, compared to only one member of the GP group.

Stage 6. Understanding the purpose of the caution.

When asked, all participants in the ASD group and all participants in the GP group across both presentation conditions said that they believed that there would be consequences if a person did not understand the caution. However, as the following quotes indicate, participants appeared to struggle when they were asked to give specific details about the things that may go wrong if a person did not understand the caution.

“Depends really if they are willing to remonstrate about it or if they didn’t quite understand the consequences.” (ASD008, verbal presentation).

“Well yes because those words of the caution form part of the prosecution and not understanding the portion will lead to prosecution.” (GP019, verbal presentation).

“The whole system depends on it if they don’t understand that they won’t understand the whole system that follows on from that if they understand the first things they come up against whether they are innocent or guilty” (GP010, written presentation)

Table 4:4 details the numbers of participants who correctly / incorrectly described a consequence arising from not understanding the caution. Data is recorded according to population group and type of caution presentation.
Table 4:4. Explaining a consequence of not understanding a sentence of the caution. Number of correct responses (N = 74).

<table>
<thead>
<tr>
<th></th>
<th>ASD Verbal (n = 11)</th>
<th>ASD Written (n = 11)</th>
<th>GP Verbal (n = 26)</th>
<th>GP Written (n = 26)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sentence 1</strong></td>
<td>Correct</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>Sentence 2</strong></td>
<td>Correct</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>Sentence 3</strong></td>
<td>Correct</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>All three sentences</strong></td>
<td>Yes</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

As can be seen from table 4:4 all participants performed poorly when attempting to discuss any consequences which may arise from not understanding the caution.

Sentence 1. You do not have to say anything.

Participants who correctly discussed consequences suggested problems would arise if a person did not understand that they did not have to answer questions. Consequently people could end up giving too much information and provide self-incriminating information. Loglinear analysis found there to be no three way interaction effect, $\chi^2 (1) = 1.83$, $p = .176$ nor were there any two way interaction effects, $\chi^2 (3) = 2.93$, $p = .403$.

Sentence 2. But it may harm your defence if you do not mention when questioned something which you later rely on in court.

No participant in the ASD population, either in the verbal presentation or written presentation was able to provide a consequence of not understanding the second sentence of the caution. Where people from the GP group responded appropriately they discussed the problems people would have if at court they were dependent upon evidence they had not produced during questioning. It was explained that
reliance upon undisclosed evidence could be damaging because courts can make inferences about new pieces of information. Consequently new evidence may not be believed. No three way interaction effect was detected, $\chi^2 (1) = .00, p = 1.00$ and nor where there any two way interaction effects, $\chi^2 (1) = 6.77, p = .08$.

Sentence 3. Anything you do say may be given in evidence.

No participant in the ASD group was able to provide a consequence for not understanding the third sentence in either of the caution presentations. Of the GP population who correctly identified a consequence participants discussed that problems would arise if a person did not understood what they said would be recorded and used as evidence. This could results in providing information they did not want revealed to the courts. No three way interaction effect was found, $\chi^2 (1) = .00, p = 1.00$ nor two way interactions, $\chi^2 (3) = 6.77, p = .080$.

All three sentences of the caution

As table 4:4 shows, participants, overall, were not able to explain consequences which could arise from failing to understand all of the three sentences of the caution. Indeed no participant with ASD achieved this in either caution presentation. Within the GP population, the one participant who did attend to all three sentences of the caution was in the written condition. No three way interaction effect was found, $\chi^2 (1) = .00, p = 1.00$ nor two way interaction effects, $\chi^2 (3) = 2.12, p = .548$.

4:4 Discussion

The research for this study aimed to discover if people with ASD were able to explain and understand the caution. Study 3 explored if presenting the caution one sentence at a time was beneficial. Additionally, the study sought to discover if a written copy of the caution assisted participants in explaining and understanding the caution.

When the caution was presented in its entirety 4 members of the ASD group (18.2%) were unable to correctly explain any of the sentences of the caution, this included 2 participants in the verbal presentation and 2 in the written presentation. In the GP group 5 participants (9.6%) also failed to correctly explain any of the sentences of the caution, and this included 4 participants who had been assigned to the verbal presentation and 1 participant in the written presentation. In comparison, when the
caution was presented one sentence at a time all participants were able to correctly explain at least one of the sentences. Indeed, it was found that overall performance improved in both the ASD and GP populations when explaining sentences of the caution which were presented one at a time. For example, when the caution had been presented in its entirety only just over 18% (n = 4) of people in the ASD group were able to correctly explain all three sentences as did just under 18% (n = 10) of the GP group. However, when responding to individually presented sentences performance was significantly better and 63% (n =14) of participants in the ASD group correctly explained all three sentences. Consequently three and a half times more participants with ASD were successful during the individual presentation. Similarly two and a half times more participants in the GP group responded appropriately when the caution was presented a sentence at a time, this resulted in 48% (n = 25) of the GP correctly explaining all three sentences of the caution. Additionally, presenting the caution one sentence at a time significantly increased the ability of all participants to explain the second sentence of the caution. This is a useful finding because it is noted that the sentence of the caution referring to the modification to the right to silence is difficult for individuals to understand (Clare, Gudjonsson & Harari, 1998). In total 10 participants with ASD (4 in the verbal condition, 6 in the written condition) and 16 participants in the GP group (5 in the verbal condition and 11 in the written condition) correctly explained the second sentence after the caution had been presented in its entirety. However, after sentences were presented individually 15 participants in the ASD group (6 in the verbal condition, 9 in the written condition) responded appropriately as did 25 members of the GP group (12 in the verbal condition, 13 the written condition).

Study 3 also found that having access to a written copy of the caution was useful. This was particularly evident when all participants explained the caution in its entirety. Participants in the written presentation of the caution performed significantly better than those in the verbal presentation when explaining all three sentences of the caution. For example, of those participants in the ASD group who correctly explained all three sentences of the caution (n = 4) all of these participants were in receipt of a written copy of the caution. In the GP group of those who correctly explained all sentences (n=10), 80% (n = 8) were in the written condition.
A written copy of the caution was also useful when participants explained the caution after sentences had been presented one at a time. In the ASD population 14 participants correctly explained all of the caution of which over 57% (n = 8) were in the written condition. Similarly, in the GP group of the 25 participants who correctly explained all of the caution, 52% (n = 13) had receipt of a written copy. Generally a written copy of the caution assisted participants when they attempted to explain the contents of the caution. Indeed there was only one exception. In the ASD population having a written copy of the caution did not increase participants’ ability to explain the third sentence of the caution, when sentences had been presented one at a time. Whereas over 90% (n = 10) of participants with ASD explained this sentence correctly in the verbal presentation, just under 82% (n = 9) explained this sentence in the written condition. This was a surprising finding as it was hypothesised written material would be useful. Within the confines of this study it is difficult to determine why one participant with ASD failed to make use of the written copy to explain this sentence. To explore potential difficulties further testing is required employing larger sample sizes. However, as will be seen in the course of this discussion, the sentence informing that anything said may be given in evidence offers some concerns for people with ASD.

An initial hypothesis of study 3 was that people with ASD would perform less competently than members of the GP when explaining the caution. However, the results of the study found that people with ASD reported upon the caution similar to members of the GP. Indeed, in some instances people with ASD were slightly better at correctly explaining sentences of the caution. For example, when reporting upon the first sentence, when the caution was presented in its entirety just under 60% (n = 13) of people in the ASD group provided a correct explanation compared to just over 46% (n = 24) of the GP group. Both populations performed least well explaining the second sentence of the caution which explains the modification to the right to silence. However, those in the ASD group performed slightly better than those in the GP group when the caution was presented in its entirety (ASD, 45%, n = 10, GP 31%, n = 16,) and when the caution was presented one sentence at a time (ASD, 68%, n = 15, GP 48%, n = 25,). The third sentence of the caution which informs that anything said may be used in evidence was the only sentence of the caution which found people from the GP group performing better than those in the ASD population. This
was noted when the caution was presented both in its entirety, (ASD, 55%, n = 12, GP 77%, n = 40) and when the caution was delivered sentence by sentence (ASD, 86%, n = 19, GP, 98%, n = 51). It is therefore necessary to consider why the structure of the third sentence prevents people with ASD from performing as well as the GP when explaining this sentence. The third sentence reads ‘anything said may be given in evidence’. It is noted that people with ASD have difficulties processing complex information (Minshew, Goldstein & Siegel, 1997). What is less clear is what defines a sentence as complex to a person with ASD. It could be presumed that the number of words and type of words would go some way to predicting the level of complexity. However, the third sentence of the caution is relatively short and offers little semantic challenges. The problem thus, may be attributed to the inclusion of words which activate doubt or ambiguity. The use of the word ‘may’ introduces a degree of vagueness which people with ASD find difficult. That is people with ASD prefer clear, explicit information (Müller, Schuler & Yates, 2008). Indeed it is somewhat incongruous that a sentence which informs a person on their rights contains a word such as ‘may’ which by definition breeds uncertainty. However, it is noted that in the second sentence of the current caution where recipients are informed that any omitted evidence ‘may’ harm a defence, the presence of this word does not appear to damage the performance of people with ASD when compared to that of members of the GP. People with ASD have a reduced ability to use context to assist comprehension (see Koolen, Vissersm, Egger & Verhoeven, 2014) and as such have a tendency to interpret a piece of information in isolation (Loukusa & Mailanen, 2006). The message behind the third sentence of the caution requires a connection to be made, recognising that the term ‘anything said’ is in reference to information provided which is relevant to the alleged offence. Because people with ASD find making inferences difficult (Dennis, Lazenby & Lockyer, 2001) they may have problems identifying information which is not implicitly revealed. Further research is required to explore why people with ASD underperform compared to members of the GP when explaining the third sentence of the caution.

Study 3 found that generally, having a written copy of the caution, and presenting the caution one sentence at a time assisted the ability of all participants to explain the caution, findings which reflect earlier research (Clare, Gudjonsson & Harari, 1998; Fenner, Gudjonsson & Clare, 2002; Hughes, Bain, Gilchrist & Boyle 2012). However,
even with this support, performance of all participants was far from adequate. In optimal conditions, where the caution was delivered one sentence at a time and participants had access to a written copy of the caution, just under 73% of the ASD group (n = 8) and only 50% of the GP group (n = 13) correctly explained all three sentences. A failure to explain the second sentence of the caution which informs upon the modification to the right to silence particularly hindered members of the GP. Interestingly, at the early inception of the current caution researchers pointed out the problems with this second sentence (Clare, Gudjonsson & Harari, 1998) and questioned how easy it was for people to understand. If the current caution is ‘fit for purpose’ it would be expected that all participants would be able to effectively explain all of the sentences, an assumption that the findings from study 3 clearly does not reflect. The performance of participants in this study may be somewhat surprising considering that no participant had a learning disability. Fenner, Gudjonsson & Clare (2002) discuss intellectual ability as being an important factor in understanding the caution. However, in study 3 members of the ASD group had an average VIQ score of over 113 and those in the GP group an average VIQ of over 102. Thus being in receipt of an average or above average VIQ score was not a reliable predictor for being able to explain the caution. Indeed statistical analysis found there was no correlation between a high VIQ score and improved performance explaining all three sentences of the caution. Considering that understanding the caution is fundamental to accessing individual rights while in custody, the results from study 3 are somewhat worrying.

Unsurprisingly, study 3 found that self-assessment of the participants’ own understanding of the caution was at odds with actual performance. All participants with ASD said they understood the caution as did the majority of the GP, only 2 participants (3.6%) said they were unsure. Thus the findings concur with the work of previous researchers that asking a person if they understand the caution is not a useful means of assessing actual understanding (Fenner, Gudjonsson & Clare, 2002; Hughes, Bain, Gilchrist & Boyle 2012). Interestingly when the researcher recited the caution in its entirety and asked people to explain it using their own words only two participants, both members of the GP assigned to the verbal condition, asked the researcher to repeat the caution. Within the context of this study there was no opportunity to explore why participants failed to ask for any part of the caution to
be repeated. A possible explanation could be that people do not like to appear unintelligent. Rock (2007) observed that people are unwilling to broadcast any perceived weaknesses regarding their own levels of comprehension. Interestingly when participants were asked to consider the possibility of people not understanding the caution participants from the GP only referred to groups of people with internal characteristic, for example the learning disabled, or those subjected to external influences such as alcohol or drugs as being at risk. Thus they did not reflect upon their own performance during stages 3 and 4 of the assessment procedure to consider their own needs. Conversely six members of the ASD group indicated that people on the autism spectrum may have difficulties.

The untrustworthiness of self-assessment may not be surprising. However, what is of concern is that study 3 found that reiterating the sentences of the caution does not reflect understanding. Study 3 provided an opportunity for people to consider the purpose of the caution. Participants were asked to explain what would be the consequences if someone did not understand the content of the caution. This proved to be a challenging task and performance was extremely poor across both population groups. Indeed in the ASD population only 2 participants (9%) were able to offer any consequences for not understanding the caution. These participants discussed the implications of not understanding the first sentence of the caution which explains that a person does not have to say anything. At the onset of the study it was anticipated that people with ASD may have difficulties offering reasons or rationales to demonstrate understanding of the function of the caution. Indeed in study 3 the ASD population performed worse than the GP. However, what was less anticipated was that the GP also performed very poorly. A somewhat shocking find was that only one participant in the GP group (assigned to the written condition) correctly discussed a consequence for not understanding each of the sentences of the caution. Generally, being in receipt of a written copy of the caution improved performance. For example, in the GP group of those participants who were able to consider a consequence for failing to understand the first sentence of the caution (n = 10), 60% (n = 6) had referred to a written copy. Overall the GP group performed marginally better than the ASD group. Noting that during stages 3 and 4 of the assessment procedure, people with ASD had performed slightly better than the GP this further suggests that simply reiterating the caution using one’s own words does
not indicate that a person fully understands the caution. To this effect study 3 found that the ability to understand the caution is bleaker than that predicted by earlier research which tested a person’s ability to explain the caution using their own words (Clare, Gudjonsson & Harari, 1998; Fenner, Gudjonsson & Clare, 2002).

Finally, as a point of interest, participants were asked if they knew the current caution, and if so could they recite it. Earlier research by Fenner, Gudjonsson & Clare (2002) found that familiarity with the caution was not correlated to understanding. In study 3 it was found however, that when the caution was presented one sentence at a time, there was a correlation between increased performance and the ability to recite all or some of the caution. This could be because the more compact information (the single sentence) was able to act as a cue to ignite previously stored information and knowledge.

4:5. Conclusion and recommendations

Study 3 found that presenting the caution in its entirety damaged participants’ ability to explain and understand the caution. However, delivering the caution a sentence at a time, with the aid of a written copy improved the capability of all participants (both with and without ASD). Therefore, it is strongly recommended that in practice the caution is presented one sentence at a time and the recipient is provided with a written copy. It is appreciated that at the time of arrest, if the situation is chaotic, it may not be possible to offer a written copy of the caution. However, at the soonest opportunity during the stages of questioning and charging, a written copy must be provided to assist literate individuals in their understanding of the caution.

Study 3 found that both people with ASD and members of the GP were least proficient at explaining the second sentence of the caution which refers to the modification to the right to silence. This information is of particular importance and ramifications of failing to understand this may be damaging. Practitioners should therefore be prepared to fully explain the meaning of this sentence. Explicit information (including examples) is required to help the recipient understand any consequences of introducing new or different information during court procedures.

An aim of this study was to compare the performance of people with ASD and those of the GP when explaining and understanding the caution. Overall it was found that there was very little difference between the two population groups. Indeed the ASD
group were slightly better at explaining some of the sentences of the caution. However, it was found that people with ASD when compared to the GP were less proficient at explaining and understanding the third sentence of the caution which informs that anything said may be used as evidence. Practitioners must therefore be aware of this when reciting the caution to people with ASD. Special care is required to help the person with ASD understand that the term ‘anything said’ is specific only to information which is relevant to the alleged offence. A police officer must explain to a person with ASD that only information which is relevant to their case will be used as evidence and reported to the courts.

This current study, in concurrence with previous research found that simply asking a person if they understand the caution is a futile exercise. Therefore police officers and indeed those who support vulnerable suspects should not rely upon an individual self-reporting that they understand the caution. However, the findings from study 3 also suggest that asking a person to use their own words to explain the sentences of the caution masks their true level of understanding. This was particularly evident in people with ASD who generally performed better than those in the GP group when reiterating the caution yet struggled to explain why it is important to understand the caution. These findings have particular ramifications for practitioners because verbal dexterity does not reliably indicate understanding. It is now necessary for those delivering the caution to use probes to assess understanding, asking an individual to simply explain the caution using their own words is not a reliable tool for assessment. To check understanding the person delivering the caution needs to be convinced that the recipient recognises the function of the caution. Thus, in practice, officers should now inform all recipients ‘it is important that you understand the caution’ and then explain why it is important. An officer must warn the recipient that there are consequences of not understanding the caution. However, being detained in custody might be a traumatic experience for many people, particularly those with ASD and as such stress may impede attention and cognitive skills. Officers should assist detainees to focus their thoughts. To begin with it might prove useful if officers provide an example from everyday life. An officer may choose a topic they believe is of interest to the age and circumstances of the detained person. A simple example is as follows; ‘when you are driving a car you have to stop at a red light. What could go wrong if you did not stop at the red light?’
Once the detained person is practiced in recognising consequences attention should turn to the caution. It is recommended that the caution is explored one sentence at a time. Firstly the officer reminds the recipient of the first sentence of the caution and then poses the question ‘what could go wrong if a person did not understand that they do not have to answer all of the questions?’

Finally, it must be noted that no participants in study 3 were in possession of a learning disability. Acknowledging the overall poor performance of participants in the study, those delivering the caution must acknowledge that all people are at risk at failing to understand the caution. Therefore, regardless of whether or not the individual is perceived as vulnerable, it is recommended that care and attention should be given to ensure the caution is always delivered with optimum conditions (delivered one sentence at a time, accompanied with a written version). Understanding of the caution must also be tested appropriately. Additionally, to assist with clarification, officers should assure individuals that they will repeat any sentence of the caution at the individual’s request.
Chapter 5. Does an alternative version of the caution increase comprehension in people with ASD?

5:1 Introduction.

Chapter 4 of this thesis found that people with ASD and members of the general population failed to fully understand the current police caution. This finding is of concern because the caution contains important information regarding legal rights. If individuals fail to understand their rights this will impede their ability to make informed decisions. To assist comprehension there is a practice amongst some police officers to change the standard order in which the caution is read (Rock, 2007). However, little is known regarding how often or under what circumstances this is performed and indeed it is not known how successful this approach may be. Study 4 therefore, sought to explore if an alternative version of the current caution would enhance understanding in people with ASD. A focus group of people with ASD was created and members were asked to give opinions and thoughts of the current caution. The alternative version of the caution used in study 4 was created by taking into account the key findings from the focus group.

Aims of study 4

Study 4 sought to explore if an alternative ‘ASD friendly’ version of the caution assisted people with ASD in explaining and understanding the purpose of the caution.

5:2. Method

Participants

In total 68 people took part in study 4, (22 people with ASD and 46 members of the GP). As reported in chapter 4 of this thesis, the majority of participants who were recruited for this study (11 people with ASD and 46 members of the GP) were taking part in a witness study presented in chapter 6 of this thesis. Additionally, 11 participants with ASD were recruited from a support group. At this point it should be noted that no member of the focus group took part in the study. All participants with ASD referred to themselves as having Asperger syndrome. Diagnosis of ASD was confirmed in all cases bar 1 by parents, carers, service providers and documentation which established that a diagnosis of ASD had been made by psychologists and
Clinicians in accordance with DSM IV (American Association of Psychiatry, 2000). Concerning the GP population, all participants informed the researcher that they did not have a diagnosis which placed them on the autism spectrum. As reported in chapter 4 of this thesis all participants were required to complete the AQ in order to establish the likely presence of ASD characteristics. Additionally VIQ was tested in all participants to ensure that poor verbal skills did not act as a confound, the study only recruited participants who scored 77 or above. All participants were over the age of 16 and had English as their first language. The ASD population was comprised of 4 females (18.2%) and 18 males (81.8%), while the GP group included 33 females (71.7%) and 13 males (28.3%).

Participants within each population group were randomly allocated to a caution condition; 34 people were assigned to the standard condition (11 ASD, 23 GP) and 34 people to the alternative condition (11 ASD, 23 GP). Table 5:1 details the ages, AQ scores and VIQ levels of all participants according to population group and caution condition.

Table 5:1. Mean ages, AQ scores and VIQ scores according to population and caution condition. (N = 68)

<table>
<thead>
<tr>
<th>Variable</th>
<th>ASD (N = 22)</th>
<th>GP (N = 46)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard presentation (n = 11)</td>
<td>Alternative presentation (n = 11)</td>
</tr>
<tr>
<td>Age</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>28.82 (9.26)</td>
<td>28.0 (7.55)</td>
</tr>
<tr>
<td>AQ</td>
<td>31.36 (4.74)</td>
<td>30.18 (2.40)</td>
</tr>
<tr>
<td>VIQ</td>
<td>110.36 (9.04)</td>
<td>109.64 (7.19)</td>
</tr>
</tbody>
</table>

As may have been expected ANOVA calculations found a main effect for AQ where those from the ASD group scored significantly higher than those in the GP group, \( F \)
(1, 63) = 433.10, p ≤ .001, $\eta^2 = .87$, demonstrating a large effect. There were no other differences between the groups.

Materials

The researcher recited the current caution to a small focus group made up of eight people with ASD, and asked the single question ‘is the caution easy to understand?’ The purpose of the focus group was to generate views and opinions of individuals via group interaction. That is members of the group explained to others their personal views. In this instance the purpose of the group was to generate opinions and concerns rather than test theory. At the request of the group the session was not audio recorded rather the researcher took detailed notes. The single question ignited a lively discussion, and the key points raised and how these influenced the development of the alternative caution are now reported upon.

Concern was expressed over the opening seven words of the caution ‘you do not have to say anything’ and their relationship to the second sentence ‘but it may harm your defence if you do not mention when questioned something you later rely on in court.” One member of the focus group summed up the problem.

“It just makes me want to laugh because it is funny, you see it tells you to shut up but then it tells you to talks (sic) so you just, I don’t know what I’m supposed to do and so it just makes me want to laugh because you just don’t know, I’ve got to shut up but I’ve got to talk, very funny.” (Member of focus group).

Interestingly, in study 1 of this thesis (reported in chapter 2) where police officers had been asked to plan for an interview with a person with ASD, a similar concern had been raised. There was some consternation that people with ASD would interpret the opening words of the caution ‘you do not have to say anything’ literally. As such consideration was given to the fact that these opening words may not be an appropriate way in which to begin the caution. This thought was further supported by one member of the focus group who explained that if the caution was important and needed attention then there should be some pre-warningalerting the recipient of its importance. Indeed researchers have expressed concern that the caution lacks impetus due to the absence of a useful introduction (Eastwood and Snook, 2012). Rock (2007) discusses how hearing the caution for the first time signifies a change in
circumstance from being ‘not under arrest’ to ‘under arrest’. As such it could be argued that a ‘pre-warning’ is essential. A member of the focus group explained;

“I hear the words but I don’t know what they are for, if they are important the police officers need to warn me it … it’s a caution or a warning they need to tell me that so then, I mean so I can get ready to concentrate.” (Member of focus group).

There was some concern that the middle sentence did not appeal to common sense. There was much debate amongst members of the focus group around the fact that this sentence was ‘crazy’ because it required you to see into the future. Discussions mounted around the possibility that at the time of questioning you can’t think ahead and know what you will need to ‘rely on’ in court. It was intimated that because so much would be happening at the time of arrest it would be impossible to detach oneself from these occurrences and concentrate on something you would need in the future. Indeed the findings from study 3 supports the observation that people (both with and without ASD) find explaining and understanding the second sentence of the current caution problematic.

Finally, one person became very agitated discussing the third sentence of the caution. The participant claimed the sentence was ‘ridiculous’ because it didn’t explain what would be given in evidence. The participant explained that if a person said they ‘wanted to go to the toilet’ or if they said ‘I want a cup of tea’ these words would not be given as evidence. Thus the dispute concerned the inclusion of the word ‘anything’. Which in this instance was interpreted as an instruction which informed that every single thing said would be recorded and produced as evidence. The participant became increasingly angry and concluded that the inclusion of this sentence further cemented a negative opinion of police officers.

“It just goes to prove that all police officers are liars and you can’t believe what they say cos it’s not possible you can’t give anything said as evidence, can’t happen. Anything and everything will not be given in evidence…never” (Member of focus group).

Absorbing the comments collected, attention was directed towards creating a more user friendly version of the current caution, accommodating the above mentioned concerns. For the purpose of study 4, an alternative presentation of the caution was created which read as follows;
“I caution you that anything you say may be given in evidence.

But you do not have to say anything.

If at court you say something you had not mentioned when questioned this may harm your defence.”

This alternative wording (from here on referred to as the alternative caution) relays the same pieces of information as found in the standard caution. Table 5:2 shows how these pieces of information are matched.

Table 5:2. *Pairing the pieces of information of the alternative version and standard version of the caution*

<table>
<thead>
<tr>
<th>Information</th>
<th>Alternative</th>
<th>Standard caution</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I caution you that anything you say may be given in evidence.</td>
<td>Anything you do say may be given in evidence.</td>
</tr>
<tr>
<td>B</td>
<td>But you do not have to say anything</td>
<td>You do not have to say anything</td>
</tr>
<tr>
<td>C</td>
<td>If at court you say something you had not mentioned when questioned this may harm your defence.</td>
<td>But it may harm your defence if you do not mention when questioned something which you later rely on in court.</td>
</tr>
</tbody>
</table>

Design

Study 4 adopted a 2x2 design with population at two levels, i) people with ASD and ii) members of the GP. Two caution conditions were employed, i) the standard caution, and ii) the alternative caution. The dependent variables were responses made during assessment procedures. In keeping with the methodology employed in earlier research (Clare, Gudjonsson & Harari, 1998; Fenner, Gudjonsson & Clare, 2002), written copies of the cautions where given to participants in both condition. Therefore participants could refer to these copies throughout the assessment stages.
Procedure.

To assess comprehension of the alternative caution, other than omitting the familiarity stage, the phases used were similar to those in study 3 reported in chapter 4. Stage 1: Self-assessment of the understanding of the caution; Stage 2: Explanation of the caution when presented in its entirety; Stage 3: Explanation of the caution when sentences were presented one sentence at a time; Stage 4: Situations and circumstances which may prevent a person from understanding the caution, and Stage 5: Understanding the purpose of the caution. To optimise understanding all participants were provided with a written copy of the caution. The scoring systems used for study 4 were also identical to those reported in study 3, and data was analysed using Loglinear tests and Chi-square tests. An independent researcher scored a random selection of scripts from the ASD population (2 x standard caution, 2 x alternative caution) and GP group (2 x standard caution and 2 x alternative caution), independence and accuracy was good, Kappa = 1, p = .003.

5:3. Results from study 4.

Stage 1. Self-Assessment of their own understanding of the cautions.

When asked if they understood the caution 100% (n = 22) of people with ASD and 97.8% (n = 45) of the GP said ‘yes’. 2.2% of the GP (n = 1) said they were not sure, and this person was being assessed using the standard caution.

According to the condition they had been assigned to, all participants were asked to use their own words to describe the caution when it had been i) presented in its entirety (stage 2 of assessment) and ii) after the sentences had been presented individually (stage 3 of assessment). Table 5:3 details the numbers of participants who correctly explained a piece of information. Data is presented according to population group and type of caution.
Table 5:3. Explaining pieces of information when the cautions were presented i) in their entirety and ii) sentence by sentence. Number of correct responses (N = 68)

<table>
<thead>
<tr>
<th>Information</th>
<th>Entirety</th>
<th>Sentence by sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information A</strong></td>
<td>ASD (n = 11)</td>
<td>GP (n = 23)</td>
</tr>
<tr>
<td>Entirety</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>Sentence by sentence</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td><strong>Information B</strong></td>
<td>ASD (n = 11)</td>
<td>GP (n = 23)</td>
</tr>
<tr>
<td>Entirety</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Sentence by sentence</td>
<td>10</td>
<td>23</td>
</tr>
<tr>
<td><strong>Information C</strong></td>
<td>ASD (n = 11)</td>
<td>GP (n = 23)</td>
</tr>
<tr>
<td>Entirety</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Sentence by sentence</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td><strong>All three sentences</strong></td>
<td>ASD (n = 11)</td>
<td>GP (n = 23)</td>
</tr>
<tr>
<td>Entirety</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Sentence by sentence</td>
<td>7</td>
<td>11</td>
</tr>
</tbody>
</table>

Information A = anything said may be given in evidence

Information B = You do not have to say anything

Information C = modification to the right to silence

i) Stage 2. Explaining pieces of information after the cautions had been presented in their entirety.

Information A. Anything said may be given in evidence.

Loglinear analysis found a significant three way interaction effect for population x type of caution x explaining information A, $\chi^2 (1) = 5.81, p = .016$. Follow up analysis found that of the 8 participants in the ASD group who correctly explained information A, significantly more were in the standard condition (n = 7, 87.5%), compared to only 1 participant (12.5%) in the alternative condition, Fisher’s Exact Test, p = .024, phi = .57, a strong association. Additionally a two way interaction effect was detected, $\chi^2 (3) = 14.75, p = .002$. Follow up tests found an interaction between population group and explaining information A. In total 37 members of the GP group (80.4%)
successfully explained this information compared to only 8 (36.4%) of the ASD group, \( \chi^2 (1) = 16.61, p \leq .001, \phi = .70 \), indicating a strong association.

Information B. You do not have to say anything.

Analysis found no three way interaction effect, \( \chi^2 (1) = .56, p = .453 \) and neither were any two way interaction effects detected, \( \chi^2 (3) = 1.55, p = .671 \).

Information C. Modification to the right to silence.

No three way interaction effect was found, \( \chi^2 (1) = 1.76, p = .185 \). There was indication of a moderate two way interaction effect, \( \chi^2 (3) = 7.32, p = 0.62 \), showing an association between type of caution and explaining information C, \( \chi^2 (1) = 6.18, p = .013 \). Follow up analysis found that in total 15 participants correctly explained this information when taking part in the standard caution (5 ASD, 10 GP), however concerning those responding to the alternative caution 25 participants (6 ASD, 19 GP) successfully explained information C, \( \chi^2 (1) = 6.07, p = .014, \phi = .30 \), demonstrating a moderate association.

Explaining all three pieces of information.

Loglinear analysis found a significant three way interaction effect, \( \chi^2 (1) = 3.86, P = .049 \). Follow up chi square tests found that members of the general population, responding to the alternative caution were better at explaining all three pieces of information \( \chi^2 (1) = 4.89, p = .027, \phi = .38 \) indicating a moderate association.

Stage 3. Explaining pieces of information after the caution had been presented one sentence at a time

Information A. Anything said may be given in evidence.

No three way interaction was found, \( \chi^2 (1) = .00, p = .999 \), however there was a partial two way interaction effect, \( \chi^2 (3) = 7.62, p = .055 \), an association was found for population and explaining the first sentence. Follow up tests found that members of the GP performed better. Indeed all participants in the GP (\( n = 46, 100\% \)) explained this sentence correctly compared to 20 members of the ASD group (90.9%) \( \chi^2 (1) = 4.31, p = .038, \phi = .25 \) indicating a moderate association.
Information B. You do not have to say anything.

No three way interaction effect was found, $\chi^2 (1) = .00$, $p = 1.00$ and nor were there any two way interaction effects, $\chi^2 (1) = 3.72$, $p = .293$.

Information C. Modification to the right to silence.

No three way interaction effect was found, $\chi^2 (1) = 1.02$, $p = .313$, however there was a two way interaction effect, $\chi^2 (3) = 12.90$, $p = .005$, an interaction between type of caution and understanding information C was detected $\chi^2 (1) = 10.11$, $p = .001$. Follow up tests found that in total 31 participants (10 ASD, 21 GP) responding to the alternative caution correctly explained this sentence compared to 20 (9 ASD, 11 GP) in the standard caution, $\chi^2 (1) = 9.49$, $p = .002$, phi = .37 indicating a moderate association.

Explaining all three sentences

No three way interaction effect was detected $\chi^2 (1) = .51$, $p = .474$ but a two way interaction effect was found $\chi^2 (3) = 13.06$, $p = .005$. There was an association between type of caution and the ability to explain all three sentences, $\chi^2 (1) = 11.64$, $p = .001$. Follow up tests found that in total 31 participants in the alternative caution (10 ASD, 21 GP) explained all three sentences compared to 17 in the standard caution (7 ASD, 11 GP) $\chi^2 (1) = 10.88$, $p = .001$, phi = .40 demonstrating a relatively strong association.

Does presenting sentences of the cautions one at a time assist performance?

Concerning information C which informs upon the modification to the right to silence a two way interaction effect was detected, $\chi^2 (3) = 32.95$, $p \leq .001$. An association was found between explaining this information in its entirety and explaining it sentence by sentence, $\chi^2 (1) = 16.66$, $p \leq .001$. Follow up analysis found in total 51 participants (19 ASD, 32 GP) correctly explained this sentence after information was presented one piece at a time compared to 40 participants (11 ASD, 29 GP) who responded correctly after the caution had been presented in its entirety, $\chi^2 (1) = 20.72$, $p \leq .001$, phi = .55 demonstrating a relatively strong association. Additionally a two way interaction effect was found for explaining all three pieces of information, $\chi^2 (3) = 22.43$, $p \leq .001$, an association was found between performance after the
caution had been delivered in its entirety and after information had been presented individually, $\chi^2(1) = 10.70$, $p = .001$. Follow up tests found that in total 49 participants (18 ASD, 31 GP) correctly explained all three pieces of information after the cautions were given one sentence at a time compared to 23 participants (5 ASD, 18 GP) responding after the caution had been delivered in its entirety, $\chi^2(1) = 8.74$, $p = .003$, phi = .36 demonstrating a moderate association.

Stage 4. Reasons why people may not understand the caution.

In total 9 people were not able to provide any examples of situations or circumstances which may impede a person understanding the caution. This group was comprised of 7 people (31.8%) from the ASD group and 2 members (4.3%) of the GP. In total 141 comments were made of which 31.2% were made by the ASD population ($n = 44$) and 68.8% ($n = 97$) was made by the GP. However, as can be seen from table 5:4, the ASD group and the GP group reported similarly. For example, both populations highlighted concerns regarding people who do not have English as their first language, children, and people with learning disabilities.
Table 5:4. *Reasons why a person may not understand the caution (N = 59)*

<table>
<thead>
<tr>
<th>Reason</th>
<th>ASD (n = 15)</th>
<th>GP (n = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English not the first language</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>Children</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Learning disabilities</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>Distracted</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Mental health issues</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Injured / not well</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Anxious / stressed</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Older people</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Drunk</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Alzheimer’s</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ASD</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>44</strong></td>
<td><strong>97</strong></td>
</tr>
</tbody>
</table>

Stage 5. Understanding the purpose of the caution.

All participants from the ASD group and the GP group agreed that there would be consequences if a person did not understand the caution. However, as the following table 5:5 shows, participants found it very difficult to give the specifics of these consequences.
Table 5:5. Explaining consequences for not understanding a piece of information of the cautions. Number of correct responses (N = 68)

<table>
<thead>
<tr>
<th></th>
<th>ASD</th>
<th>GP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard (n = 11)</td>
<td>Alternative (n = 11)</td>
</tr>
<tr>
<td><strong>Information A.</strong></td>
<td>Correct</td>
<td>Correct</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Information B.</strong></td>
<td>Correct</td>
<td>Correct</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>Information C.</strong></td>
<td>Correct</td>
<td>Correct</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>All three sentences</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Information A. Anything said may be given in evidence

Information B. You do not have to say anything

Information C. The modification to the right to silence

Where consequences were discussed, participants explained that problems may arise if a person believes they are talking to police in confidence, and thus may say things they would not want to be revealed in court. Analysis found no three way interaction effect, $\chi^2 (1) = 0.83$, $p = .774$, nor were there any two way interaction effects, $\chi^2 (3) = 4.71$, $p = .194$.

Where participants offered consequences for failing to understand this statement, problems of giving self-incriminating information was discussed. No three way interaction effect was found, $\chi^2 (1) = 0.83$, $p = .774$ and neither were there two way interaction effects, $\chi^2 (3) = 4.71$, $p = .194$. 
Information C. The modification to the right to silence.

Where participants provided appropriate responses they explained problems which would arise if an individual failed to understand that inferences can be made if new information is provided at court. Participants discussed that courts may question the veracity of this new information. No three way interaction effect was detected, $\chi^2(1) = 2.35, p = .125$, nor where there any two way interactions, $\chi^2(3) = 4.39, p = .222$.

All three pieces of information.

As can be seen in table 5:5, performance across both population groups and caution conditions was extremely poor. No participant was able to offer consequences referring to all three pieces of information.

5:4. Discussion

Study 4 explored if an alternative version of the caution could assist understanding in people with ASD. Participants received a written copy of either the alternative caution or the standard caution and were asked to explain the contents firstly when the cautions were presented in their entirety and then when each piece of information was delivered individually.

Concerning people in the ASD group, when the cautions were presented in their entirety, the alternative version resulted in an increased ability to correctly explain both information B which refers to the choice to remain silent (5, standard caution, 8 alternative) and information C concerning the modification to the right to silence (9 standard caution, 10 alternative). The rather surprising result was that the alternative caution had a significantly detrimental effect upon the ability to explain information A which clarifies that anything said may be used in evidence. Only 1 participant in the alternative condition explained this sentence compared to 7 participants in the standard caution. Within the confines of the study it is difficult to explain this finding. However, when examining the first sentence of each caution the alternative version differs only in its opening words ‘I caution you’. This preliminary statement was included as a result of the focus group, where the importance of offering a ‘warning’ to draw attention to the caution was discussed. Further research is required to assess the suitability of these opening words when presenting the caution in its entirety. Upon reflection the chosen words may be problematic. The term ‘I caution
you’ is not commonly used in day to day communication, thus an individual may have to struggle to comprehend meaning. Furthermore, the statement could be construed as aggressive or challenging. A less confrontational opening statement may be required to secure attention. As a result of the detrimental effect of the alternative caution people in the GP group were overall significantly better at explaining information A (n = 37, 80%) than those in the ASD group (n = 8, 36%)

Study 3, presented in chapter 4 found that the sentence which explains the modification to the right to silence was problematic for all participants. In study 4, a positive result was found in that where the cautions were presented in their entirety participants in the alternative condition (n = 25, 6 ASD, 19 GP) performed significantly better explaining this sentence than those in the standard condition, (n = 15, 5 ASD, 10 GP). Based upon recommendations made during a focus group the wording of the sentence which refers to the modification to the right to silence was revised in the alternative condition. In the current version of the caution concerns had been raised because the second sentence requires people to look to the future. Members of the focus group claimed that ‘seeing’ into the future was a difficult if not impossible task. In the alternative caution the perspective was altered to help a person connect with future events. The sentence read ‘if at court you say something you had not mentioned when questioned this may harm your defence’. Thus this sentence clearly places the individual ‘at court’ and explains the consequences which can occur when the person is ‘at court’. The sentence promotes reflection rather than prediction skills. Results indicate that the rewording of this sentence proved useful. Finally the efficacy of the alternative caution when presented in its entirety was demonstrated in an increase in the number of people in the GP group who explained all three sentences of the caution. In the alternative condition 21 members of the GP were successful, significantly more than those in the standard condition (n = 11).

When the cautions were presented one piece of information at a time, all participants in the ASD population who were responding to the alternative condition (n = 11) correctly explained information A, compared to 9 participants in the standard condition. Presenting the sentences individually proved valuable and the damaging effects that occurred when the caution had been delivered in its entirety were not detected. However, when explaining this sentence members of the GP performed
significantly better (*n* = 46,100%) than participants in the ASD group (*n* = 20, 91%). These findings reflect those noted in study 3 where it was found that people with ASD were less efficient explaining this sentence than members of the GP.

Interestingly, a member of the focus group engaged in discussing the current caution declared that the words ‘anything said’ were false and misleading. The member of the group justified this observations by explaining that officers would not report to the court every single word that the detained person spoke while in custody. Such an observation suggests an inability to make inferences and appreciate that the words ‘anything said’ refers only to information pertinent to the alleged offence.

The alternative caution, when presented one sentence at a time also significantly increased the number of participants who correctly explained information C. In the alternative condition 31 participants (10 ASD, 21 GP) correctly explained this sentence compared to 20 members of the standard condition (9 ASD, 11 GP). Additionally, when the cautions were presented one sentence at a time those participants in the alternative condition (*n* = 31, ASD = 10, GP = 21) were significantly better at explaining all three sentences of the caution than those in the standard condition (*n* = 18, 7 ASD, 11 GP).

A second facet to study 4 was to explore if an alternative version of the caution helped people with ASD understand the purpose of the caution. To this effect participants were asked to consider any consequences which could occur if a person failed to understand the caution. This proved to be a very difficult task and only a few participants were able to explain the potential problems of not understanding the caution. However, in the ASD population, those who had been assigned to the alternative caution performed slightly better than those in the standard caution. For example 4 participants in the alternative caution discussed consequences for not understanding information B which informs that a person does not have to say anything compared to 2 people in the standard condition. Additionally, 3 people with ASD explained what problems could arise if a person fails to understand that inferences can be made and all of these participants were in the alternative condition. In the GP group the alternative caution proved of some benefit when explaining consequences. Of the 14 participants who discussed the implications of failing to understand information B, 10 were in the alternative condition, and of the 11 participants who referred to problems arising from not understanding information C,
7 were responding to the alternative caution. However, no participant was able to provide examples of what might happen if a person failed to understand all 3 pieces of information of the caution.

People with ASD and members of the GP group performed similarly when explaining the caution. That is both groups performed better when the cautions were presented a sentence at a time, and the alternative version of the caution (when the cautions were presented one sentence at time) aided performance in both groups. However the GP were slightly more successful discussing any consequences which may arise if a sentence of the caution is not understood. Finally as in study 3 reported in chapter 4, study 4 concluded that asking a person to evaluate their own understanding of the caution was not useful. The majority of participants in both conditions claimed they understood the caution, yet their performances during the assessment procedures did not support their declarations.

5:5. Conclusion and recommendations

Similar to the findings of study 3 reported in the previous chapter, study 4 concludes that people with and without ASD, in possession of an average or above average VIQ struggle to explain the current caution and have problems understanding its function. Study 4 also recognises the benefits of delivering the pieces of information individually and recommends that presenting the caution one sentence at a time should be integrated into practice. Additionally, asking an individual if they understand the caution is an ineffectual way of assessing understanding and in practice should not be relied upon. Study 4 also supports the findings of study 3 which questions the usefulness of assessing understanding by asking a person to simply reiterate the caution using their words. Efforts are required from practitioners to probe the ability of an individual to understand the purpose of the caution. This study recommends that questions should be posed to encourage an individual to reflect upon their understanding. Officers should remind the recipient that it is important to understand the caution and encourage recipients to reflect upon the question ‘what would happen if a person did not understand the caution?’

Study 4 concludes that the alternative caution, when presented one sentence at a time is effective for people with ASD. Although the alternative caution was specifically designed to assist people with ASD, it also proved useful for members of
the GP. Appreciating that participants in study 4 with average or above average VIQ struggled to explain and understand the standard caution it is recommended that members of the CJS appreciate the need to reconsider the structure of the current caution. Study 4 has demonstrated that it is possible to increase a person’s ability to explain and understand the caution by attending to the wording and structure without jeopardising the messages of the current caution. In practice this revision results in a greater likelihood of individuals understanding their rights while under arrest or while questioned under caution. It is particularly important that attention is given to revising the sentence which informs upon the modification to the right to silence. Findings from both study 3 and study 4 demonstrate this is the sentence which proves most problematic. This sentence contains vital information and study 4 has shown how rewording greatly improves the ability of individuals to explain this sentence and also assists in understanding. Consequently, the aim of members of the CJS should be to create a dictum that assists rather than hampers an individual’s ability to understand their rights while under caution.

Finally in concurrence with study 3, study 4 concludes that people with ASD perform similarly to members of the GP with the exception of explaining the information which informs that anything said may be given in evidence. Consequently when reading the caution to a person with ASD officers must make particular efforts to ensure that this sentence is clearly understood. This requires the officer to explain the information which is not implicitly evident, that is, only information related to the alleged offence will be used as evidence and reported in court.
Chapter 6. Exploring the use of context (mental and sketch plan) and memory jogs to help people with ASD recall details about a film clip.

6:1 Introduction

The collection of reliable and detailed information is central to furthering forensic investigations. To this effect psychologists and researchers have worked to develop techniques to help interviewers safeguard the accuracy and promote the detail of memory recall from witnesses. The Cognitive interview (CI) (Fisher & Geiselman 1992; Fisher, Geiselman & Amador, 1989; Fisher, Milne & Bull, 2011) is considered to be one of the most successful tools for eliciting information from witnesses. Based upon Tulving’s (1983) encoding specificity principle and the multiple trace theory (Tulving, 1974) the CI is comprised of four primary mnemonics; i) mental reinstatement of context (MRC), ii) report everything, iii) change temporal order, and iv) change perspectives (see Fisher & Geiselman, 1992 and Milne & Bull, 1999 for a detailed account of these mnemonics). As discussed in chapter one of this thesis, the CI has been effectively used with a variety of populations including children (Milne & Bull, 2002), older witnesses (Mello & Fisher, 1996; Wright & Holliday 2007; Holliday, Humphries & Milne, 2012), people from developing countries (Stein & Memon, 2006) and the learning disabled (Brown & Geiselman, 1990; Milne, Clare & Bull, 1999). However, to date, the one study which has used the CI to encourage people with ASD to access memory and aid communication found the technique to be ineffective. Maras & Bowler (2010) noted that it was the Mental Reinstatement of Context (MRC) component of the CI that was specifically damaging to the quantity and quality of memory recall of people with ASD. The MRC is premised upon the ability of binding the details of an event with its context. However, because people with ASD have difficulties binding information from experiences in their memory (Bowler & Gaigg, 2008) it was concluded that this impedes their ability to utilise the instructions of the MRC. Interestingly, the MRC is generally considered to be the most successful component of the CI for enhancing memory recall (Davis, McMahon & Greenwood, 2005). Therefore, it was considered important to examine further the efficacy of the MRC with people from the higher end of the autism spectrum. Study 5 was thus interested in exploring whether a more ASD friendly version of the instructions to mentally reinstate would prove beneficial.
In order to create an ASD friendly version of MRC, the first priority was to reduce the number of words required to mentally reinstate the witness. In the Maras & Bowler study (2010) participants were mentally reinstated using a procedure which lasted ten minutes and was composed of over 500 words. To reduce the cognitive demands of processing verbally complex information study 5 presented a shorter instruction to reinstate comprised of 162 words which took 4 minutes to deliver. This was based upon the recommendations of Dando & Milne (2012) who demonstrated that people can be mentally reinstated with just 165 words. It was also considered that some caution should be taken to ensure that during mental reinstatement people with ASD do not suffer sensory overload. It is noted that some people with ASD are sensitive to excessive sensory experiences (Bogdashina, 2003; Crane, Goddard & Pring, 2009). Thus, study 5 considered it advantageous to minimise any excessive demands upon the senses. Thus no reference was given to smell, touch, taste or light. It was hypothesised that the reduced complexity of a shorter reinstatement instruction would benefit people with ASD who have problems processing complex verbal information.

Maras & Bowler (2010) also instructed their participants to begin their recall by focusing upon the events that happened at the start of the video. However, people with ASD may have a different strategy for encoding and retrieving material, favouring the recency effect (Bowler, Limoges & Mottron, 2009). In line with the CI, it is advocated that recall instructions should place no restrictions upon the individual's natural recall (see Milne & Bull, 1999). Therefore to avoid such constraints, study 4 omitted the instruction which directed participants to provide information starting from the beginning of the film clip. Instead a free recall instruction was used, more typical of the CI.

To further create an ASD friendly environment attention was given to the rapport building stage of the interview. As reported in the introduction chapter of this thesis rapport has become associated with creating a ‘friendly’ ‘emphatic’ ‘harmonious’ environment in order to allow the interviewee to relax (Leach, 2005). In keeping with the recommendations laid down in the document *Achieving Best Evidence* (Home Office, 2012), it is believed that when an interviewee is relaxed and at ease with the interviewer this will have a positive impact upon the quality and quantity of information recalled. It is recommended that to achieve this the interviewer
encourages conversations around neutral topics. However, because it is acknowledged that people with ASD are not comfortable with general banter and may find little point in ‘small talk’ (Müller, Schuler & Yates, 2008), creating an environment based upon such rapport strategies may produce the opposite effect in people with ASD, causing anxiety rather than relaxation. Instead in study 4 the rapport stage was used to deliver instructions regarding the nature of the study and extract information from the participants to ensure they understood what was expected from them.

In a quest to discover methods to help people with ASD provide eyewitness testimony rich in both quantity and quality of information study 5 also investigated the use of a sketch plan as another form of context reinstatement. Earlier research has found that this technique has proved to be efficacious in eliciting enhanced memory recall from members of the general population (Dando, Wilcock & Milne, 2009a; Dando Wilcock, Milne & Henry, 2009). At the time of writing the use of the sketch plan with adult witnesses with ASD had not been explored. A benefit associated with the application of the sketch plan is its ability to allow individuals to generate their own contextual cues (Dando, Wilcock & Milne, 2009a). In turn this eliminates the possibility of imposing instructions which may result in a sensory overload. Indeed the administration of the sketch plan somewhat reduces interference from the interviewer. For those who experience difficulties with social interaction this may prove particularly beneficial. Additionally, it is noted that some people with ASD are visual thinkers (Hurlburt, Happé & Frith, 1994). Providing people with ASD with the opportunity to incorporate a visual resource in their communication repertoire could be useful. Drawing a sketch may to some degree reduce the arduous task of transferring visual thoughts into verbal expression. However, as discussed in chapter one, there is little information available regarding how people with ASD may make use of visual stimuli they themselves have created to activate their memorial recall. There is some concern that people with ASD may become overly fixated when drawing their sketch becoming preoccupied upon producing exact details in their drawing (Frith, 2003). Such a habit may hinder recall particularly if people with ASD are unable to disengage with the creation of a specific detail of the sketch. Additionally it is noted that people with ASD may draw their sketches in a piece meal fashion (Booth, Charlton, Hughes & Happé, 2003), and as such the overall gist of
information may be lost. However, it is generally understood that the drawing skills of people with ASD develop typically (Ford and Rees, 2008). This study was exploratory in nature but it was hypothesised that the use of the sketch plan would increase memorial recall in people with ASD.

In a continual search to explore ways of helping people with ASD provide reliable recall two memory jogs were included in study 5, i) the use of a colour search and ii) the use of an alphabet search. In keeping with Milne & Bull (1999) these jogs were used as ‘add ons’ incorporated into the interview to help the participant elicit any additional recall. It was envisaged that regardless of interview condition, these jogs would be used after a participant had completed their free recall and questioning stage of the interview. As such they would be included as ‘memory kicks’ once the participant believed they had exhausted their memory retrieval. In keeping with the tip of the tongue phenomenon these jogs were included to see if they were capable of sparking the recall of single pieces of information.

It was predicted that the presentation of a colour cue may provide contextual links to the to be remembered event and assist in the recall of the colour of items such as clothing, or objects. It has been extensively researched that providing cues enhances memorial recall in people with ASD (Bowler, Gaigg & Gardiner, 2008b; Bowler, Gardiner & Berthollier, 2004; Bowler, Mathews & Gardiner, 1977), hence it was hypothesised that the use of a colour search would help a person with ASD provide additional, single pieces of information. People with ASD demonstrate a bias towards visual stimuli (Kunda & Goel, 2008), it was therefore thought useful to include a cue to activate visual memory via the use of visual cues. To this effect colour was chosen as a cue. Colour is vital for defining our environment and therefore information relating to colour is an integral part of an investigation. It is understood that colour memory is intact in people with ASD (Ludlow, Heaton, Hill & Franklin, 2014). Indeed it has been noted that some people with ASD have superior skills when associating objects with colours (Ludlow, Heaton, Hill & Franklin, 2041). Additionally for any person who is a visually thinker, the use of visual searches may prove beneficial. Visual thinkers do not readily activate ‘inner speech’ as a means of accessing information. Consequently a visual cue may appeal to this specific style of processing information.
The second memory jog used in study 5 sought to encourage a participant to activate an alphabet search. It was anticipated that an alphabet search would activate phonetic links and help in the recollection of for example names. Bowler, Matthews & Gardiner (1997) demonstrated that people with ASD are more likely to remember words from a given list when they are provided with cues. Using initial letters of the alphabet to promote a memory search may prove effective in people with ASD. This is because it is thought that people with ASD, rather than using semantic cues, readily make use of phonetic information, or the shape of letters to instinctively activate memory organisation strategies (Bowler, Gaigg & Gardiner, 2008a). Indeed using initial letters is a very effective means of enhancing the recall of a list of to be remembered words in members of the general population (Nelson & Stark Archer, 1972). No research has examined the use of this instruction in an investigative interview, study 5 explored the efficacy of this mnemonic. Participants were provided with a list of the letters of the alphabet and were asked to concentrate upon each letter and write down any pieces of information they recalled. It was decided to incorporate a written element into the study as there is some suggestion that memorial performance in people with ASD may be enhanced when they respond using written text (Bowler, Gaigg & Gardiner, 2008a). Additionally this method allows the interviewee to take control and work independently without any interference from the interviewer. This in turn also helps reduce the cognitive load of the interviewer.

Aims.

Study 5 aimed to discover if the following mnemonics, enhance people with ASD’s memorial performance; i) the MRC component of the CI, ii) the sketch plan (SKP) iii) the use of a colour search and iv) the use of an alphabet search.

6:2. Method

Participants

After receiving a favourable opinion from the ethics committee at the University of Portsmouth, participants were recruited for this study via advertisements appearing on the University of Portsmouth website, in local newspapers, on a radio station and local community boards. Organisations which provide support for people with ASD
were also contacted and during visits made by the researcher members were invited to take part in the study. Thus an opportunistic, self-selecting sample was used. Additionally volunteers informed friends and family members about the study so creating a snowball effect. In total 54 members of the general population (GP) (24 males and 30 females) and 33 people with ASD (26 males and 7 females) all of whom had a diagnosis of Asperger’s syndrome took part in the study. In most cases (n = 32) a diagnosis of ASD was confirmed by parents, service providers and documentation detailing a diagnosis established by clinical psychologists in accordance with DSM IV. As discussed in chapter 4 of this thesis all participants were asked to complete the Autism Quotient (AQ) (see appendices section 4) to establish the presence of autistic like traits. Additionally the Wechsler Abbreviated Scale of Intelligence (Wechsler, 2011) was administered to establish Verbal IQ (VIQ) scores. Only participants who had a VIQ score of 77 and above were included in this study.

Participants from each group were randomly allocated to an interview condition. Each interview condition was comprised of eleven participants from the ASD population and 18 members of the GP. Table 6:1 shows the calculated means of age, VIQ and AQ scores according to interview condition.

Table 6:1. Mean scores for age, AQ and VIQ scores according to population group and interview condition. (N = 87).

<table>
<thead>
<tr>
<th></th>
<th>ASD (N = 33)</th>
<th>GP (N = 54)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SI</td>
<td>MRC</td>
</tr>
<tr>
<td>Age</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td>27.64 (10.78)</td>
<td>25.73 (6.80)</td>
</tr>
<tr>
<td>AQ</td>
<td>30.45 (3.30)</td>
<td>30.55 (3.21)</td>
</tr>
<tr>
<td>VIQ</td>
<td>110.73 (10.14)</td>
<td>112.27 (8.83)</td>
</tr>
</tbody>
</table>
To discover if age, AQ and VIQ scores were consistent across interview conditions a series of 2 (population) X 3 (interview condition) ANOVAs were conducted. As expected there was a significant difference for AQ scores with people from the ASD group scoring higher ($M = 30.85, \text{SD} = 3.62$) than those in the GP group ($M = 14.20, \text{SD} = 3.62$), $F(1, 81) = 306.66, p = \leq .001$, Cohen’s $d = 4.02$, a large effect size. Age and VIQ were consistent across population groups.

Materials

A short film clip (2 minutes 28 seconds) was made especially for the purpose of study 4. The script was written by the researcher and acted out by members of a local amateur dramatic group. A member of this group shot and edited the clip. The clip depicted a non-violent crime scene (the theft of personal belongings) shot in daylight. The content of the film clip was purposefully designed to guide the viewer to concentrate upon two young boys who from their behaviour would appear to be the ones who were going to conduct a robbery. To add an element of surprise an unsuspecting character actually carried out the crime (see appendices section 5 for a copy of the script). The film clip was played to each individual participant of this study on a lap top screen 39cm x 22cm.

Interview conditions.

Following the protocol based upon Milne and Bull (1999) each interview condition was comprised of 5 stages; i) rapport stage ii) free recall, iii) questioning, iv) memory jogs and v) closure. The instructions given for each stage will now be explained in accordance with the interview condition.

i) Rapport stage

From the start of the study, when the researcher greeted the participant the researcher worked upon developing a flow of communication between herself and the participant. This was created by establishing what the participant knew about the study, ensuring that they understood their rights as participants and listening to and answering any questions. At the beginning of the interview the researcher informed each participant they were going to be asked to remember details from the film clip they watched half an hour ago.
ii) Free recall.

Standard interview (SI) condition

A set script was used to encourage participants in the SI condition to recall details of the film clip.

“Earlier you watched a film clip and I am going to ask you to tell me about it. In your own words tell me what you remember about the film clip.”

In accordance with Milne & Bull (1999) to transfer control to the participant the researcher made no constraints upon the order in which they presented their memorial recall, nor were time limits imposed. During the free recall the researcher made no interruptions nor gave any feedback concerning the accuracy of what was said. After the free recall the researcher asked the participant if there was anything else they could remember about the film clip. Once the participant indicated that there was nothing else they could remember, the researcher remained silent for five seconds to allow the participant to provide any additional information which may spring to mind.

The MRC interview condition

A set script was used to mentally reinstate participants. This was based upon the example provided by Dando & Milne (2012). A few alterations were made to account for watching a video clip rather than recalling a real life event, and some instructions were omitted for fear of causing sensory overload or the activation of associative memories (Bogdashina, 2003). The MRC instruction was as follows;

“I would like to help you to remember as much as you can about the film clip. As I talk to you it may help you concentrate if you close your eyes or stare at a blank wall or the floor. To begin, try to think back to when you were watching the film clip. Think about the room where you watched the film clip. Try and get a picture of the room in your head. Think about where you were sitting. Think about all the things you could hear. Think about all the things you could see. Think about how you were feeling. Try to recreate your thoughts. Now I would like you to concentrate on the film clip. Think about what happened. Think about the people involved. Get a clear picture of the
film clip in your mind. In your own words. In your own time. I would like you to tell me everything you remember about the film clip."

After each instruction the researcher paused to allow the participant time to process and respond to the information and in total the MRC instructions took 4 minutes to deliver. No constraints were put on the participant’s memorial delivery, and when the participant began their recall the researcher did not interrupt their flow nor give any reaction to the information relayed. Once the participant had finished their recall they were asked what else they could remember about the film. Once the participant indicated that there was nothing else they could think of, the researcher remained silent for five second to allow for any additional recall.

The Sketch plan

Instructions to draw a sketch plan were adapted from those provided by Dando, Wilcock & Milne (2009). At the start of each interview the researcher informed each participant;

“I am going to ask you to tell me about the film clip you watched and to help you remember I would like you to draw a detailed sketch or plan of the film clip. Draw as many details as you can from the film clip. Anything at all that will help you remember. As you draw your sketch I would like you to tell me everything about what you are drawing.”

Where any participant expressed concerns that they were not very good at drawing, the researcher assured them that they did not have to create a ‘work of art’. Rather a plan or sketch or diagram would be fine. No restraints were placed upon the participant’s free recall, and while the participant drew their sketch plans and explained their drawing the researcher made no interruptions. Once the participant announced that they had finished the researcher asked them for anything else they could remember. After the participant announced they could not recall anything else about the film clip, the researcher remained silent for five seconds to allow for any additional memories.
iii) Questioning

At the start of the questioning stage each participant was informed that the researcher was going to ask them some questions about the film clip. Each participant was told not to guess and that it was fine to say if they did not know or could not remember specific details. During this stage the participant was only questioned upon information they had given during their free recall. All questions were open ended. This style of question allowed the participant to use their own words to give an ‘unrestricted’ account of the film clip, and as such placed the participant in control of their own recall (Milne & Bull, 1999, page 22). Additionally, the researcher adopted the descriptive language used by the interviewee. Examples of some open ended questions used during the questioning stage are as follows;

“You mentioned there was a guy who came along and took all the stuff. Describe him to me?”

“You talked about a woman who helped the bloke. Tell me what she did?”

To maintain consistency questions where posed around four themes; i) the thief, ii) the accomplice, iii) the stolen goods, and iv) the witnesses. Participants were asked to describe the physical appearance of people featured and discuss what they had done.

Those participants who were assigned to the MRC condition were encouraged to use mental imagery when answering their questions to reinstate the context of the film clip. Thus when asked to provide more information of for example ‘the man’ the participant was asked to think back to the film clip, and concentrate upon the clearest image they had of the man. Where participants had used a sketch plan to deliver their free recall this was used to focus the participant during the questioning phase. For example, the participant was asked to ‘describe the man who you said was sat here’ indicating the location on the sketch.

After the questioning stage all participants were asked if there was anything else they could remember about the film clip, no matter how silly or inconsequential. The questioning stage ended when the participant informed the researcher there was nothing else they could remember.
iv) Memory jogs

At the end of the questioning stage the participant was informed that they would take part in additional activities to help them recall details from the film clip. The first activity was a colour search, the researcher informed each participant;

“In a moment I am going to ask you to look at some colours. Concentrate on these colours, and if, as you are concentrating upon them you recall anything about the film clip tell me what it is you recall.”

Each participant was presented with a white card (15cm x 10cm) upon which was four shades of a specific colour ranging from a dark tone to a light tone. As discussed in chapter one there is some concern that people with ASD may find it difficult to discriminate between hues of a colour (Franklin, et al, 2008). Hence visually presenting a spectrum of a colour was thought to be helpful. These cards were referred to as palettes. In total there were eight palettes; red, yellow, blue, green, pink, purple, brown and one palette showed black, two shades of grey and white. The researcher handed the palettes of colours, one at a time to the participant, however they were not presented in any set order. As they were handed to the participant the researcher simply named the colour, for example ‘red’ as the palette with the four shades of red was passed to the participant. The researcher remained silent while the participant concentrated upon the palette. After the participant had given their recall and said that there was nothing else they could remember, the card was put to one side and the researcher handed the participant the next palette.

The second memory jog, an alphabet search was then introduced. The participant was shown sheets of paper which had the alphabet printed upon them and it was explained;

“These sheets have the letters of the alphabet printed upon them. In a moment I would like you to concentrate upon each of the letters of the alphabet. If while you are concentrating this brings back information about the film clip you watched, write down what it is you remember next to the letter. This is not a test, you don’t have to think of a word for every letter of the alphabet. Just, if by concentrating upon the
letter this brings back any memory about the film clip, write down what it is you remember.”

The letters of the alphabet were capitalised and printed in vertical lines on A4 paper using Calibri (Body) font size 36. Next to each letter there was space for the participant to write their recall.

Closure

At the end of the interview, the researcher thanked the participant for their time. The interviewees generally wanted to spend a few moments discussing their experiences of the study. The majority expressed the opinion that they had enjoyed taking part and had found it interesting.

Design

The study adopted a between subjects experimental 2 x 3 design where participants were at two levels, i) people with ASD and ii) members of the general population (GP). Interview type was at three levels, i) a structured interview, ii) MRC and iii) SKP. The dependent variables were memorial performance divided into i) correct recall, ii) incorrect recall, iii) confabulation and iv) accuracy, across detail types

Procedure

When potential participants contacted the researcher expressing an interest in the study an information sheet was sent detailing the tasks they would be required to undertake and the nature of the research (see appendices section 5). It was explained that the purpose of the study was to explore the methods police officers use to collect information from witnesses. All participants who chose to take part in the study completed a consent form acknowledging that they had been in receipt of information about the study and were aware of their rights as participants. (see appendices Section 5). Each participant was paid a standard fee for their participation in the study as a gesture of appreciation for their time.

Volunteers were firstly invited to watch the film clip which they were told featured a non-violent crime scene. To encourage the participant to concentrate upon the video clip the researcher left the area / room so allowing the participant to watch the clip alone and without distraction. After a single viewing each participant took part in a
series of distraction tasks, one of which was the assessment of the caution, reported in chapters 4 and 5. In total the distraction tasks lasted 30 minutes after which participants were interviewed about the content of the film clip. The interviews took place in a different room / location to where they viewed the film to control for spontaneous contextual reinstatement. All interviews were conducted by the researcher who had attended a three day cognitive interview training course at Sussex Police Training centre and had taken part in a Master-class for the cognitive interview conducted by Ron Fisher and Becky Milne at the Centre of Forensic Interviewing at the University of Portsmouth. Permission was obtained from each participant to audio record the interview. Additionally notes were taken as an aide memoire.

Scoring

In keeping with previous research (Dando, Wilcock & Milne, 2009a; Maras & Bowler, 2010) information collected from participants was organised into a coding frame comprised of five detail categories; i) action, ii) person; iii) conversations, iv) surrounding, and v) objects. All the information featured in the video clip was transcribed and put into an exhaustive list this amounted to; 190 pieces of information relating to action, 211 to person, 31 conversations, 21 facts about the surrounding and 39 details pertaining to objects. In total the film clip provided 492 units of information (see appendices section 5). The accounts collected from participants were scored as correct, incorrect or confabulated. For example, in the film clip the thief was wearing a black cap, if a participant reported a ‘black cap’ this was scored as two correct pieces of information in the person detail category (hat = 1, black = 1). However, if the colour was reported as being red this was scored as incorrect in the person detail category. If a participant had reported that the thief was wearing a scarf over his face this was scored as a confabulation in the person detail category because there was no scarf in the film clip. Pieces of information were only scored once. If the same information was given in subsequent interview stages the information was not scored. Details which were subjective, for example, the man was scruffy, or the boys were sad, were not scored. In each interview condition total scores were calculated for correct, incorrect, confabulation and accuracy across all five detail categories for the whole interview. Accuracy was found by calculating the number of correct pieces of information as a percentage of all pieces of information
provided (Total correct / total correct + total incorrect + total confabulated x 100). An independent rater scored 12 of the scripts selected at random (2 ASD from each interview condition and 2 GP from each interview condition). Pearson’s Correlation between the two raters were; $r_{correct} = .96, p = .012$, $r_{incorrect} = .85, p = .046$, $r_{confabulated} = 1.00, p\leq .001$, $r_{accuracy} = .96, p = .014$.

Statistical analysis

Information was entered into a coding book using the coding frame described earlier. Ultimately data was entered onto an IBM SPSS statistics 20 spreadsheet. The Independent variable population was at two levels (i) ASD, ii) GP and interview condition at three levels (i) MRC interview, ii) SKP interview, iii) SI interview). To test for variance in group responses using multiple dependent variables (correct details, incorrect details, confabulations and accuracy) across the levels of the independent variables, MANOVA test were performed. Follow up ANOVAs and post hoc tests were used to identify mean differences. A Scheffe post hoc test was used as this conservative test is affective in safeguarding against type I errors.

The following section reports upon the findings from study 5. This will commence with information regarding the length of the interviews according to the interview condition and population group. Findings will then be relayed about the memorial performances of participants according to interview condition and population group. These results will be presented by attending to the different stages of the interview namely, free recall, questioning and the use of memory jogs.

6:3. Results

Length of interviews

Duration of each interview was recorded in minutes and commenced after the researcher had delivered the instruction for the first retrieval stage and the participant had begun their free recall. The final duration time was recorded after the participant had completed the questioning stage and reported to the researcher that there was nothing more they could remember about the film clip. Table 6:2 details the average length (in minutes) of each interview per interview condition and population type.
Table 6:2 Duration of interviews (minutes) for the first two retrieval stages i) free recall and ii) questioning (N = 87)

<table>
<thead>
<tr>
<th>Interview</th>
<th>ASD (n = 33) Mean (SD)</th>
<th>GP (n = 54) Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SI</td>
<td>16.36 (14.83)</td>
<td>15.72 (4.01)</td>
</tr>
<tr>
<td>MRC</td>
<td>27.00 (10.16)</td>
<td>20.44 (3.50)</td>
</tr>
<tr>
<td>SKP</td>
<td>18.09 (7.79)</td>
<td>20.11 (5.65)</td>
</tr>
</tbody>
</table>

A series of ANOVAS were performed and it was found that there was no difference in the duration of interviews across population type, $F(1, 81) = 1.02$, $p = .317$. However, the type of interview did significantly impact upon the duration of the interview, $F(2, 81) = 5.70$, $p = .005$. A Scheffe post hoc test found that the MRC interview took significantly longer to conduct ($M = 22.93$, $SD = 7.40$) than the SI ($M = 15.97$, $SD = 9.41$), $p = .005$, Cohen’s $d = .83$, a large effect. In keeping with earlier research (Maras & Bowler 2010) it was decided that duration would not be used as a covariate. This is because the MRC tends to produce more information (Davis, McMahon & Greenwood, 2005; Gwyer & Clifford, 1997; Wilcock, Bull & Milne, 2008). Therefore if people have more to say, by nature they will take longer to say it. Finally, statistical tests showed there was no interaction effect for interview duration, $F(2, 81) = 2.19$, $p = .118$.

The following section explores the memorial performance of participants during free recall and questioning.
Table 6:3. Mean scores for memorial performance during free recall and questioning across interview condition and population type. (N = 87)

<table>
<thead>
<tr>
<th></th>
<th>ASD (N = 33)</th>
<th>GP (N = 54)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SI (n = 11)</td>
<td>MRC (n = 11)</td>
</tr>
<tr>
<td>Stages of Interview</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand total</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Correct</td>
<td>63.18 (14.78)</td>
<td>73.73 (13.95)</td>
</tr>
<tr>
<td>Incorrect</td>
<td>3.91 (3.67)</td>
<td>2.73 (2.41)</td>
</tr>
<tr>
<td>Confabulation</td>
<td>0.09 (0.30)</td>
<td>0.45 (1.21)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>94.3% (3.81)</td>
<td>95.6% (4.30)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free recall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td>48.09 (14.81)</td>
<td>56.64 (15.76)</td>
</tr>
<tr>
<td>Incorrect</td>
<td>1.09 (1.22)</td>
<td>0.91 (1.22)</td>
</tr>
<tr>
<td>Confabulation</td>
<td>0.00 (0.41)</td>
<td>0.18 (0.67)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>97.7% (2.22)</td>
<td>98.1% (2.17)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questioning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td>15.09 (5.89)</td>
<td>17.09 (7.92)</td>
</tr>
<tr>
<td>Incorrect</td>
<td>2.82 (2.75)</td>
<td>1.82 (1.60)</td>
</tr>
<tr>
<td>Confabulation</td>
<td>0.09 (0.30)</td>
<td>0.27 (0.91)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>85.5% (10.42)</td>
<td>87.6% (15.02)</td>
</tr>
</tbody>
</table>
Memorial performances during the free recall and questioning stages of the interview (grand total).

A multivariate analysis of variance (MANOVA) indicated a significant effect for population, Pillai’s Trace = .22, $F(4, 78) = 5.46$, $p = .001$, $\eta^2 = .22$ and for interview type, Pillai’s Trace = .22, $F(8, 158) = 2.44$, $p = .016$, $\eta^2 = .11$. No significant interaction effects were detected Pillai’s Trace = .03, $F(8, 158) = .29$, $p = .970$, $\eta^2 = .01$.

Univariate ANOVA tests revealed a main effect of population where the GP group provided significantly more pieces of correct information ($M = 93.19$, $SD = 24.17$) than the ASD population ($M = 72.30$, $SD = 16.9$) $F(1, 81) = 22.49$, $p \leq .001$, Cohen’s $d = 1.02$, indicating a large effect size. However, there was no difference between the overall amount of incorrect pieces across populations, $F(1, 81) = 1.00$, $p = .320$, nor confabulated details, $F(1, 81) = .40$, $p = .528$, and neither for accuracy, $F(1, 81) = .31$, $p = .582$. Thus, overall although people in the ASD population provided fewer pieces of information they were no less accurate than the GP group.

Interview type also had a significant main effect for correct pieces of information, $F(2, 81) = 7.78$, $p = .001$, and a Scheffe post hoc test showed that significantly more pieces of information were recalled during the MRC ($M = 91.07$, $SD = 25.64$) compared to the SI ($M = 72.31$, $SD = 16.26$) $p = .003$, Cohen’s $d = 0.90$, a large effect. Additionally the SKP ($M = 92.41$, $SD = 23.83$) when compared to the SI promoted significantly more correct pieces of information $p = .001$, Cohen’s $d = 1.0$, demonstrating a large effect. The SKP and MRC did not differ for correct pieces of information. Across all interview conditions there was no significant difference for incorrect pieces of information, $F(2, 81) = 1.0$, $p = .320$ and neither for confabulated responses, $F(2, 81) = 2.31$, $p = .106$, nor accuracy, $F(2, 81) = 7.70$, $p = .498$.

To find out where the significant effects emanated it was decided to further examine memorial performances, during the individual stages of retrieval, free recall and questioning. This section will now report upon the findings during the free recall stage.
Memorial performance during the free recall stage

A MANOVA test found a significant effect for population, Pillai’s Trace = .24, $F(4, 78) = 6.21, p \leq .001, \eta^2 = .24$, however only a marginal effect was found for interview type, Pillai’s Trace = .16, $F(8, 158) = 1.76, p = .090, \eta^2 = .08$., and no interaction effects, Pillai’s Trace = .05, $F(8, 158) = .49, p = .862, \eta^2 = .02$. Follow up univariate ANOVA tests found that members of the GP group provided significantly more pieces of correct information than those in the ASD population, $F(1, 81) = 22.88, p \leq .001$, Cohen’s $d = .53$, indicating a medium effect. However, there was no difference regarding the number of incorrect pieces of information given during free recall $F(1, 81) = 2.67, p = .106$, nor confabulated responses $F(1, 81) = .05, p = .817$. Not surprisingly, there was no difference on accuracy across population $F(1, 81) = .01, p = .916$, Cohen’s $d = .03$.

Regarding interview type, follow up univariate ANOVA tests found there was a significant difference for the amount of correct information given during the free recall stage, $F(2, 81) = 4.54, p = .014$. A Scheffe post hoc test showed the MRC ($M = 72.10, SD = 23.46$) evoked significantly more pieces of correct information than the SI ($M = 58.17, SD = 16.75$) $p = .037$, Cohen’s $d = 0.66$, demonstrating a medium effect, and similarly the SKP ($M = 74.34, SD = 26.40$) generated more pieces of information than the SI, $p = .012$, Cohen’s $d = 0.75$, indicating a medium effect. However, there was no significant difference between the amount of correct information supplied during the MRC and SKP interviews. Across interview conditions there was no difference for incorrect, $F(2, 81) = .29, p = .749$ nor confabulated responses $F(2, 81) = 2.28, p = .109$, and no difference in overall accuracy $F(2, 81) = .50, p = .606$.

Memorial performance during the questioning stage

A MANOVA test found no significant main effect for population, Pillai’s Trace = .99, $F(4, 78) = .32, p = .862, \eta^2 = .02$, and neither was there a significant difference for interview type, Pillai’s Trace = .14, $F(8, 158) = 1.47, p = .174, \eta^2 = .07$, nor was there an interaction effect, Pillai’s Trace = .07, $F(8, 158) = .71, p = .687, \eta^2 = .03$. 
To further explore memorial performance calculations were made to examine the types of details participants reported. Table 6:4 details the mean scores for detail type according to population group and interview condition.

Table 6:4. Mean scores for detail types during free recall and questioning across interview condition and population type (N = 87)

<table>
<thead>
<tr>
<th></th>
<th>ASD (N = 33)</th>
<th></th>
<th>GP (N = 54)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SI Mean (SD)</td>
<td>MRC Mean (SD)</td>
<td>SKP Mean (SD)</td>
<td>SI Mean (SD)</td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td>35.27 (8.45)</td>
<td>36.64 (6.23)</td>
<td>45.82 (9.98)</td>
<td>44.56 (10.24)</td>
</tr>
<tr>
<td>Incorrect</td>
<td>0.36 (0.67)</td>
<td>0.18 (0.41)</td>
<td>0.22 (0.55)</td>
<td>0.22 (0.43)</td>
</tr>
<tr>
<td>Confabulated</td>
<td>0.00 (0.91)</td>
<td>0.27 (0.30)</td>
<td>0.11 (0.32)</td>
<td>0.11 (0.32)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>98.7% (2.17)</td>
<td>98.7% (2.45)</td>
<td>99.4% (1.07)</td>
<td>99.3% (1.50)</td>
</tr>
<tr>
<td><strong>Person</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td>12.73 (3.52)</td>
<td>19.55 (6.07)</td>
<td>16.82 (5.95)</td>
<td>18.72 (4.35)</td>
</tr>
<tr>
<td>Incorrect</td>
<td>2.73 (2.37)</td>
<td>2.36 (2.06)</td>
<td>2.73 (1.85)</td>
<td>2.94 (2.07)</td>
</tr>
<tr>
<td>Confabulated</td>
<td>0.00 (0.30)</td>
<td>0.09 (0.24)</td>
<td>0.06 (0.55)</td>
<td>0.06 (0.32)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>83.4% (8.6)</td>
<td>88.8% (11.50)</td>
<td>85.2% (10.17)</td>
<td>86.6% (7.66)</td>
</tr>
<tr>
<td><strong>Conversation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td>7.45 (3.88)</td>
<td>8.09 (2.26)</td>
<td>6.45 (3.91)</td>
<td>6.78 (3.56)</td>
</tr>
<tr>
<td>Incorrect</td>
<td>0.18 (0.41)</td>
<td>0.00 (0.38)</td>
<td>0.00 (0.24)</td>
<td>0.17 (0.24)</td>
</tr>
<tr>
<td>Confabulated</td>
<td>0.00 (0.30)</td>
<td>0.09 (0.65)</td>
<td>0.00 (0.55)</td>
<td>0.00 (0.32)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>98.2% (4.22)</td>
<td>99.2% (2.74)</td>
<td>97.7% (5.48)</td>
<td>98.0% (4.76)</td>
</tr>
<tr>
<td><strong>Surrounding</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td>1.82 (1.08)</td>
<td>1.73 (2.15)</td>
<td>2.27 (1.90)</td>
<td>1.67 (1.33)</td>
</tr>
<tr>
<td>Incorrect</td>
<td>0.09 (0.30)</td>
<td>0.00 (0.24)</td>
<td>0.00 (0.24)</td>
<td>0.00 (0.24)</td>
</tr>
<tr>
<td>Confabulated</td>
<td>0.09 (0.30)</td>
<td>0.00 (0.24)</td>
<td>0.00 (0.24)</td>
<td>0.00 (0.24)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>96.7% (10.53)</td>
<td>100% (14.14)</td>
<td>100% (14.14)</td>
<td>100% (14.14)</td>
</tr>
<tr>
<td><strong>Object</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td>5.91 (2.95)</td>
<td>7.73 (4.10)</td>
<td>8.64 (4.55)</td>
<td>6.17 (2.36)</td>
</tr>
<tr>
<td>Incorrect</td>
<td>0.45 (0.82)</td>
<td>0.18 (0.40)</td>
<td>0.64 (0.67)</td>
<td>0.61 (0.70)</td>
</tr>
<tr>
<td>Confabulated</td>
<td>0.00 (0.00)</td>
<td>0.00 (0.00)</td>
<td>0.00 (0.00)</td>
<td>0.00 (0.00)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>92.5% (13.54)</td>
<td>97.6 (5.44)</td>
<td>92.0% (9.00)</td>
<td>91.0% (9.92)</td>
</tr>
</tbody>
</table>
Memorial performance or detail type during the first two stages of retrieval.

Action detail.

ANOVA calculations found a significant main effect for population and participants in the GP group provided significantly more pieces of action detail ($M = 51.50$, $SD = 14.96$) than people in the ASD group ($M = 39.24$, $SD = 9.39$), $F(1, 81) = 19.69$, $p \leq .001$. Cohen’s $d = 1.0$, demonstrating a large effect. There was no difference across population type for incorrect pieces, $F(1, 81) = .56$, $p = .456$, nor confabulated pieces of information, $F(1, 81) = .01$, $p = .914$. Consequently there was no significant difference for accuracy, $F(1, 81) = 3.13$, $p = .081$.

Concerning interview type, there was a significant main effect for the amount of correct pieces of information for action detail, $F(2, 81) = 4.77$, $p = .011$. A Scheffe post hoc test showed that those participants in the SKP ($M = 51.41$, $SD = 14.37$) provided significantly more pieces of information about action than those in the SI ($M = 41.03$, $SD = 10.50$), Cohen’s $d = .83$, indicating a large effect size. No interaction effect was found, $F(2, 81) = 1.27$, $p = .287$. There was no difference across interview type concerning incorrect pieces of information, $F(2, 81) = .99$, $p = .376$, and neither was there an interaction effect $F(2, 82) = .33$, $p = .719$. No difference for confabulated information was found, $F(2, 81) = .74$, $p = .481$, and neither was there an interaction effect $F(2, 81) = .74$, $p = .481$. Finally there was no main effect for accuracy, $F(2, 81) = 1.33$, $p = 2.70$ and no interaction effect $F(2, 81) = .06$, $p = .938$.

Person detail

Participants generally provided information concerning hair colour, height, weight and clothing. Two participants from the GP group referred to eye colour, and one member of the GP group discussed the face shape of one of the characters. Otherwise no information was given relating to facial features.

Member of the GP group provided significantly more pieces of correct person information ($M = 22.70$, $SD = 6.78$) than people with ASD ($M = 16.36$, $SD = 5.88$), $F(1, 81) = 24.66$, $p \leq .001$. Cohen’s $d = 1.0$, demonstrating a large effect. However, no difference was found regarding the amount of incorrect pieces of person detail given, $F(1, 81) = 1.44$, $p = .233$ and neither was there any difference for
confabulated pieces of information, $F(1, 81) = 1.87, p = .175$. No main effect was found for accuracy, $F(1, 81) = .82, p = .368$.

Across interview type a significant difference was found for the amount of correct pieces of information given for person detail, $F(2, 81) = 11.26, p \leq .001$ where a Scheffe post hoc test showed the MRC produced significantly more pieces of person detail ($M = 24.00$, $SD = 7.03$) than the SI ($M = 16.45$, $SD = 4.97$), $p \leq .001$, Cohen’s $d = 1.26$, a large effect size. The SKP ($M = 20.45$, $SD = 7.22$) also provided significantly more correct pieces of information than the SI, $p = .036$, Cohen’s $d = .67$, a medium effect size. No difference was seen between the MRC and SKP for correct pieces of information for person detail. Additionally, no interaction effect was found, $F(2, 81) = .11, p = .897$. There was no significant difference across interview type for incorrect detail $F(2, 81) = .65, p = .527$ and no interaction effect $F(2, 81) = .28, p = .755$. No difference for the amount of confabulated detail was detected, $F(2, 81) = 1.16, p = .318$, and no interaction effect $F(2, 81) = .10, p = .907$. Not surprisingly there was no difference across interview type for accuracy, $F(2, 81) = .82, p = .368$ nor was there an interaction effect $F(2, 81) = .17, p = .842$.

Conversation detail

Across population type there was no difference in the amount of correct information for conversation detail, $F(1, 81) = 1.70, p = .197$. Neither was there a difference for the amount of incorrect detail, $F(1, 81) = .28, p = .597$, nor confabulated detail $F(1, 81) = .28, p = .597$, and neither for accuracy, $F(1, 81) = .04, p = .844$. Across interview type there was also no significant difference for the amount of correct conversation detail, $F(2, 81) = .87, p = .423$ with no interaction effect $F(2, 81) = 1.18, p = .314$. No difference for incorrect detail was noted $F(2, 81) = 2.63, p = .079$ with no interaction effect $F(2, 81) = .15, p = .858$. Additionally no difference was found for confabulated detail, $F(2, 81) = 1.93, p = .152$ and no interaction effect $F(2, 81) = .99, p = .375$. Finally no main effect was found for accuracy, $F(2, 81) = .39, p = .679$ and neither was there an interaction effect, $F(2, 81) = .30, p = .740$. 
Surrounding detail

Across population group no difference was found for correct detail, $F(1, 81) = .03, p = .855$, nor for incorrect detail $F(1, 81) = .12, p = .725$ and neither for confabulated detail, $F(1, 81) = .12, p = .725$. Consequently no main effect was detected for accuracy, $F(1, 81) = .48, p = .492$. Across interview type there was also no difference for correct detail, $F(2, 81) = 1.39, p = .255$ nor an interaction effect $F(2, 81) = .10, p = .90$. Additionally no difference was found for incorrect detail across interview type $F(2, 81) = .63, p = .537$ with no interaction effect, $F(2, 81) = 1.63, p = .202$. There was also no difference for confabulated detail across interview type, $F(2, 81) = .08, p = .921$ and no interaction effect $F(2, 81) = 1.41, p = .249$. Finally no main effect was found for accuracy, $F(2, 81) = .06, p = .946$ and neither was there an interaction effect $F(2, 81) = 1.21, p = .305$.

Object detail

Across population type there was no difference for correct pieces of information for object detail, $F(1, 81) = 1.21, p = .274$. No difference was found for incorrect detail $F(1, 81) = .68, p = .411$, nor was there a difference for confabulated detail, $F(1, 81) = .60, p = .55$, resulting in no main effect for accuracy, $F(1, 81) = .27, p = .608$. Across interview type, however, there was a significant difference for the amount of correct object detail $F(2, 81) = 7.04, p = .002$ where a Scheffe post hoc test found the SKP ($M = 9.62, SD = 3.88$) provided significantly more correct pieces of information for object detail than the SI ($M = 6.07, SD = 2.55$), $p = .001$, Cohen's $d = 1.10$, indicating a large effect size. There was no interaction effect for correct detail $F(2, 81) = .29, p = .751$. There was no difference across interview type for incorrect detail $F(2, 81) = .35, p = .708$, and no interaction effect $F(2, 81) = 1.28, p = .284$, and there was no difference for confabulated detail, $F(2, 81) = .60, p = .55$ and no interaction effect $F(2, 81) = .60, p = .55$. Lastly there was no difference for accuracy across interview type $F(2, 81) = .79, p = .457$ nor was there an interaction effect $F(2, 81) = 2.05, p = .136$.

Having reported upon the performance of participants during the first two retrieval stages, the following section focuses upon the results generated from the use of memory jogs. The use of the colour palettes as an aide to memory will be firstly discussed.
Memorial recall during colour search.

Two participants in the GP group and one member of the ASD group were unable to utilise the colour palettes due to time restraints. Therefore, in total 52 people from the GP group and 32 from the ASD population took part in the colour search stage of the interview. In total 96.6% of all the participants gave new pieces of information during this stage. Of those who did not provide additional information (n = 3) these were all members of the GP group. The number of correct pieces of new information given ranged from 1 – 16 while the number of incorrect pieces of information ranged from 0 – 5. No participant from either population type provided confabulated information. As may have been expected the colours mainly aided the recall of information about people such as the colour of the clothes or the colour of the hair and skin of people. However, an interesting pattern of behaviour emerged where participants self-corrected information they had provided during earlier retrieval stages. The alterations were always a correct change, no participant changed a previously given correct piece of information for a new piece of incorrect information.

For example, one participant with ASD during the questioning stage had described the outfit of one of the boys in the film clip as being orange, with brightly coloured embellishments. However, when presented with the colour palette containing the grey and white colours the participant said they had made a mistake earlier, and proceeded to give a correct account of the outfit worn by the boy in the film clip.

It was found that interview condition had no significant affect upon the amount of detail collected during the colour search stage. Therefore, the data is presented simply according to population group. Table 6:5 shows the mean scores for new pieces of information collected during the colour search stage.
Table 6:5. *Mean scores for memorial recall using a colour search. (N = 84)*

<table>
<thead>
<tr>
<th></th>
<th>ASD (N = 32)</th>
<th>GP (N = 52)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Correct pieces of new information.</td>
<td>4.66 (2.10)</td>
<td>3.67 (2.73)</td>
</tr>
<tr>
<td>Incorrect pieces of information</td>
<td>0.41 (0.50)</td>
<td>0.60 (0.93)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>92.84% (9.58)</td>
<td>88.58% (15.74)</td>
</tr>
<tr>
<td>Information details</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action</td>
<td>0.03 (0.18)</td>
<td>0.04 (0.19)</td>
</tr>
<tr>
<td>Person</td>
<td>2.09 (1.65)</td>
<td>1.77 (1.50)</td>
</tr>
<tr>
<td>Conversation</td>
<td>0.09 (0.30)</td>
<td>0.00</td>
</tr>
<tr>
<td>Surrounding</td>
<td>0.97 (0.78)</td>
<td>0.56 (0.78)</td>
</tr>
<tr>
<td>Object</td>
<td>1.44 (1.11)</td>
<td>1.33 (1.48)</td>
</tr>
</tbody>
</table>

A series of ANOVA tests were performed to explore findings. There was no difference in the number of correct pieces of information provided during the colour search across population group $F(1, 82) = 3.04, p = .085, \eta^2 = .04$, and neither was there a difference in the number of incorrect pieces of information $F(1, 82) = 1.12, p = .293, \eta^2 = .01$. Consequently no difference was found for accuracy of the information $F(1, 79) = 1.88, p = .174, \eta^2 = .02$. Looking at the type of detail provided, a main effect was found for information about conversation $F(1, 82) = 5.25, p = .024, \eta^2 = .06$, participants in the ASD group provided significantly more details ($M = .09, SD = .30$) than members of the GP ($M = 0.0$), Cohen’s $d = .6$, a medium size effect. Additionally a main effect was found for details relating to surrounding $F(1, 82) = 3.35, p = .021, \eta^2 = .06$. Members of the ASD group performed significantly better ($M = .97, SD = .78$) than those in the GP group ($M = .56, SD = .78$), Cohen’s $d = .41$, a small effect size. No other significant differences were found for correct detail across population type; action, $F(1, 82) = .029, p = .865$, people, $F(1, 82) = .86, p = .358$, and object, $F(1, 82) = .133, p = .716$. 
Memorial recall during an alphabet search.

Due to time constraints 2 members of the GP and two people from the ASD group were not able to complete the alphabet search, therefore in total 83 participants took part in this activity. When using the letters of the alphabet to elicit new pieces of information 77% of all participants were able to provide new pieces of information. Of those unable to provide information this group was comprised of 10 people from the ASD (32.26%) and 10 from the GP (19.23%). The number of correct pieces of information given ranged from 0 -13 and, no participant provided confabulations. As reported previously in the colour search, incidents occurred were participants’ self-corrected themselves and changed information provided at earlier stages of recall. For example, in the film clip a piece of jewellery, a bracelet was stolen. A common mistake amongst participants was to report this as a necklace. Using the alphabet search, concentrating on the letter ‘b’ enabled some participants to realise the object taken was actually a bracelet. Additionally the alphabet search helped participants to remember the names of characters from the film clip.

Two people with ASD said that they did not want to write down their information and would rather give it verbally, while all members of GP group wrote their recall. Additionally one participant with ASD revealed that to activate recall they concentrated upon the shape of the letters and then carried out various associations before arriving at recall about the film clip. For example, the participant explained that one letter reminded them of a logo which in turn initiated information of a TV programme and in the TV programme there was a young boy with curly hair which then helped the participant to remember that the young boy in the film clip also had curly hair.
Table 6:6 shows the mean scores for correct, incorrect information and accuracy during the alphabet search.

Table 6:6. *Mean scores for memorial recall during an alphabet search (N = 83)*

<table>
<thead>
<tr>
<th></th>
<th>ASD (N = 31)</th>
<th></th>
<th>GP (N = 52)</th>
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<tr>
<td></td>
<td>Mean</td>
<td>(SD)</td>
<td>Mean</td>
<td>(SD)</td>
</tr>
<tr>
<td>Correct pieces of new information</td>
<td>1.68</td>
<td>(2.43)</td>
<td>2.13</td>
<td>(2.09)</td>
</tr>
<tr>
<td>Incorrect pieces of information</td>
<td>0.10</td>
<td>(0.40)</td>
<td>0.08</td>
<td>(0.27)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>96.98%</td>
<td>(11.15)</td>
<td>96.35%</td>
<td>(12.05)</td>
</tr>
<tr>
<td>Information details</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action</td>
<td>0.03</td>
<td>(0.18)</td>
<td>0.35</td>
<td>(0.65)</td>
</tr>
<tr>
<td>Person</td>
<td>0.45</td>
<td>(0.85)</td>
<td>0.98</td>
<td>(1.06)</td>
</tr>
<tr>
<td>Conversation</td>
<td>0.10</td>
<td>(0.30)</td>
<td>0.12</td>
<td>(0.32)</td>
</tr>
<tr>
<td>Surrounding</td>
<td>0.48</td>
<td>(0.96)</td>
<td>0.27</td>
<td>(0.53)</td>
</tr>
<tr>
<td>Object</td>
<td>0.61</td>
<td>(0.99)</td>
<td>0.44</td>
<td>(0.80)</td>
</tr>
</tbody>
</table>

ANOVA calculations found no difference across population type for the amount of correct details provided during the alphabet search $F(1, 81) = 4.06, p = .367$, nor regarding the number of incorrect pieces of information, $F(1, 81) = .82, p = .367$. Consequently there was no main effect for accuracy, $F(1, 81) = .04, p = .841$.

Concerning the type of detail referred to, a main effect was found for information pertaining to action detail, $F(1, 81) = 6.82, p = .011, \eta^2 = .08$. Members of the GP provided significantly more information ($M = .35, SD = .65$) than those in the ASD population ($M = .03, SD = .18$), Cohen’s $d = .76$, a medium size effect. Additionally a main effect was detected for information relating to people $F(1, 81) = 5.6, p = .020, \eta^2 = .07$. Members of the GP group gave significantly more pieces of information relating to people ($M = .98, SD = 1.06$) than people in the ASD population ($M = .45, SD = .85$) Cohen’s $d = .55$, a medium effect. No other differences were found for correct information detail; conversation, $F(1, 81) = .07, p = .795$, surrounding detail, $F(1, 81) = 1.72, p = .193$, object $F(1, 81) = .74, p = .393$. 
6:4. Discussion

Study 5 involved a simulated witness event to compare the efficacy of three interview techniques (SI, MRC and SKP) for promoting memory recall in people with ASD. Overall, across all interview conditions people with ASD provided significantly fewer details compared to members of the GP. This finding may not be surprising as it has been found in previous research that people with ASD do not yield the same quantity of information as members of the GP (Bruck, London, Landa & Goodman, 2007; Maras & Bowler, 2011, McCrory, Henry & Happé, 2007, but see Maras & Bowler, 2010 for alternative findings). However, this study found that the quality of the information given by people with ASD was equal to that of the general population. Thus it is the quantity of information rather than the accuracy which is compromised in the memory recall of people with ASD. These finding support similar conclusions drawn from earlier research exploring free recall (Bruck, London, Landa & Goodman, 2007; McCrory, Henry & Happé, 2007).

In general participants from both the ASD population and GP group made similarly very few confabulations when recalling details from the film clip. Thus in study 5 participants with ASD activated gist information and referred to typical schematic information to fill in gaps in their memory at a similar rate to members of the GP. Where participants in this study did give confabulated details this tended to be in reference to the ‘accomplice’, reports such as ‘he had a scarf covering his face’ or errors such as ‘he was dressed all in black’ suggests some reliance upon personal schematic knowledge.

A chief aim of this study was to discover an effective means of enhancing memorial recall from people with ASD. It was found that both the SKP and MRC were successful in providing extra recall from people with ASD compared to the SI. Overall, those participants with ASD who were in the SKP condition recalled on average nearly 27% more correct information than their counterparts in the SI and participants in the MRC on average recalled nearly 17% more correct information than those in the SI. On average people with ASD provided information which had greater accuracy in the MRC condition, however this was only marginally higher than the accuracy achieved by participants in the SKP. Consequently, this study did not find that the MRC had a damaging effect upon people with ASD. Rather, the MRC
increased memorial performance in people with ASD. At face value this finding may be somewhat surprising in light of the Maras & Bowler (2010) study and because it is known that people with ASD have difficulty binding elements of an event to context (Bowler & Gaigg, 2008). Nevertheless, the reduced complexity of the instructions to mentally reinstate seemed to have proved efficacious.

The use of the sketch plan also proved useful for enhancing memorial performance in people with ASD. Indeed the quantity and quality of the information given in this interview condition was comparable to scores achieved in the MRC. An initial concern regarding the appropriateness of the SKP for people with ASD was the possibility that people with ASD may produce ‘piece meal’ sketches (Booth, Charlton, Hughes & Happé, 2003), or become overly fixated upon a specific details (Frith, 2003). This behaviour was not observed. One participant with ASD produced a ‘comic strip’ type series of sketches to assist recall, but no participant with ASD exhibited any behaviour which could be interpreted as being detrimental to the delivery of information while using the sketch plan.

Some thought must now be given to the type of information people with ASD provided. Overall for conversation, surroundings and object detail their performance was comparable to those members of the GP. However, where differences occurred this was related to person and action detail. The GP provided significantly more of these detail types than the ASD group. Overall both the ASD group and the GP group provided most detail for persons during the MRC. Consequently people with ASD were acting similar to the GP only again with a deficit in the quantity of detail. Concerning action detail the ASD group performed strongest in the SKP, whereas the GP achieved most success in the MRC. It may not be surprising that people with ASD performed significantly lower than the GP for people and action detail. A diagnosis of ASD is dependent upon impairment in social interaction and communication skills thus people with ASD may spend less time looking at people and what they do. Indeed Maras & Bowler (2010) also found a reduction in person detail in people with ASD. It has been reported that overall people with ASD spend less time scanning human faces (Mercadante, Macedo, Baptista, Paula & Schwartzman, 2006) and have impaired skills when accessing face memory processes (Weigelt, Koldewyn & Kanwisher, 2012) and these findings may explain
the dearth of person detail provided by the ASD population. However, in this current study it should be noted that the GP group also performed very poorly when providing facial details, only one participant attempted to give any information regarding the shape of the face of one of the characters in the film clip. Generally, information detailing person descriptions rested around hair colour, clothing and height and weight. Thus it can be seen that many people, regardless of clinical condition, have difficulty describing faces (see Meissner, Sporer & Schooler, 2007). Children with ASD spend more time looking at objects rather than people (Swettenham et al, 1998). As such it may have been expected that people with ASD would provide significantly more information relating to objects than the GP group, however this was not found to be the case.

During the questioning phase people with ASD provided pieces of correct information which matched both the quantity and quality of that of the GP group. It may be tempting to explain this by suggesting that because the GP group provided more information during free recall they would have fewer new pieces of information to offer. However, this explanation would not explain why the GP participants in the SI condition did not provide more pieces of information during the questioning stage. In addition, the accuracy of correct pieces of information was slightly reduced compared to accuracy during free recall. However, it is worthy to note that in general the ASD population performed comparable to the GP when responding to open ended questions. During the questioning phase there was a tendency of some people with ASD to lose the main focus of the given question. For example, if asked to describe the thief, although some initial attempt was made to address this question, attention wandered and flittered between various other features of the video clip. It should be explained that although information collected was not relevant to the topic introduced forensically useful information related to other matters was proffered. In accordance with good interview practice promoted in the document *Achieving Best Evidence* (Home Office, 2011) the researcher conducting the interviews did not interrupt the flow of the participant’s recall or make attempts to redirect their focus. Research is required to establish if intervention to maintain attention on the question would have a negative or positive impact overall. Additionally, experimental conditions are required to establish if people with ASD
would make better use of closed questions which were not employed in this research study.

Study 5 was designed to explore if ‘add ons’ to an interview in the form of memory jogs would provide participants with ASD with the opportunity to offer additional pieces of information. It should be noted that these memory jogs were used after the questioning stage when each participant had reported that they could not remember anything else. Considering that participants believed their memory recall was exhausted it was quite interesting to note that in the colour search just under 98% of all participants added new correct pieces of information. Indeed, 100% of the ASD group provided new pieces of correct information. The alphabet search, seemed slightly less useful and overall just under 78% of all participants provided additional information, and 68% of people with ASD. However, there is an order effect as a confound in that the alphabet search was always the final memory recall task. Thus it is not known if the lower response scores were achieved because memory recall was naturally depleted or because participants found the alphabet search less useful. However, one participant from the GP group said that they found it confusing focusing upon the letters of the alphabet as did one member of the ASD group. The efficacy of using the letters of the alphabet to stimulate recall is a good focus for future research. However, to some degree the use of the colour search and the alphabet search did result in people with ASD providing additional information which was comparable to the quantity and quality of that of the GP.

Overall, the memory jogs elicited a fairly low number of extra details. This is not surprising as their purpose was to engage memory for individual items rather than collecting an overall account of the event. However, it should be noted that the jogs provided information that was forensically useful. For example, the alphabet search encouraged participants to name the accomplice in the film clip, describe the objects stolen, and give more detail regarding the clothes worn, colour of hair and colour of skin. As such a single piece of information could be the key that solves the crime. Using the visual cue of colour people with ASD provided more person description, similar in both quality and quantity to that of the GP. Further research is required to further explore the potential usefulness of using colour searches to help people with ASD provide person details. An interesting behaviour pattern arose while using the
colour and alphabet search. Some participants self-corrected pieces of information they had given during earlier recall stages. This is an interesting finding and possibly opens a new direction for research. Exploring a means of allowing witnesses to check their recall.

Finally, a few observations are made regarding the behaviour of people with ASD during recall stages of interview. Some participants with ASD demonstrated a tendency to make comments upon what had been watched. This activity was also noted in the GP population, but in comparison those participants with ASD were nearly twice as likely to offer a commentary. Participants offered predictions, passed moral judgements, discussed how characters in the film clip may be feeling, explained what they would have done if they had been in the same situation, and made attempts to reason the behaviour observed in the film clip. For example one participant with ASD discussed how wrong it was that one of the victims had left their handbag on the chair. The participant explained that this is something they themselves would never do. Additionally many participants with ASD acknowledged the fact that the victims in the film clip assumed that the two boys had committed the crime, even though as an observer the participant knew this was not true. Of course this task was not set up to measure ToM deficits but the ASD participants did demonstrate an ability to understand first order ToM concepts. These comments are somewhat surprising as it is assumed that people with ASD have difficulty interpreting the emotions, feeling and intentions of others. Research is required to establish if problems rooted in social impairment are an inability to recognise these emotions, or poor skills in interacting with them. It has been observed that people with ASD do understand some social cues, but they do not know how to respond to them (Bogdashina, 2006).

6:5. Conclusion and recommendations.

Findings from this study failed to support those form previous research which found the MRC component of the CI to be damaging for witnesses with ASD. This conclusion resulted in the researchers recommending that the CI should not be used with witnesses with ASD. Rather, study 5, concluded that The MRC interview compared to a SI proved beneficial in generating detailed and accurate memorial recall and had no deleterious effects. Therefore, it is recommended that the MRC is
used in practice to help people with ASD provide their witness testimony. This recommendation however, comes with the proviso that the instructions to mentally reinstate are presented succinctly and clearly. Practitioners must keep in mind that people with ASD find it difficult to process and therefore respond to complex information. The use of intricate, overly detailed instructions must be avoided. Furthermore, the officer delivering the instructions should safeguard against bombarding the sensory perceptions of the witness with ASD. Additionally, study 5 concludes that the sketch plan is useful for eliciting information from people with ASD enhancing the quality and quantity of information recalled compared to a SI. Consequently this study recommends its use in practice.

Participants with ASD performed comparable to the GP on both quantity and quality of information during the questioning stage. It is therefore recommended that officers make use of open ended questions when interviewing people with ASD. Additionally, the study urges practitioners to appreciate that when a witness states their memory is depleted, this should not deter the interviewer from exploring alternative means of collecting information. For example, although all participants told the researcher there was nothing else they could remember at the end of the questioning stage, when subsequent memory jogs were employed the majority of participants reported additional information. As such it is recommended that interviewers employ the use of memory jogs (a colour search and alphabet search) to enable people with and without ASD to provide single pieces of information. A particular point of interest is that the colour search enabled people with ASD to provide additional detail related to people. These findings suggest that interviewers should not automatically assume that they will not be able to generate information regarding person details from their interviewee with ASD. Results from study 5 indicate that people with ASD do encode information about people. The task of the interviewer therefore, is to find the most appropriate cues to enable the interviewee with ASD to access this information.
Chapter 7. Discussion.

7:1. Introduction

The purpose of this thesis was to explore how to create an ‘ASD friendly environment’ during the interview stages of CJS procedures. To this effect it was noted that certain factors had to be in place. Police officers would have to be in possession of knowledge about ASD and have appropriate strategies to accommodate people with ASD during interview processes. Similarly, AAs who support vulnerable suspects must have the necessary awareness and skills to ensure people with a diagnosis of ASD were not disadvantaged during custody procedures. Additionally it was considered necessary to ensure that people with ASD were able to explain and understand the caution and that the most appropriate tools were used to ensure that witnesses with ASD were able to provide their best recall.

It was considered important to establish an ‘ASD friendly environment’ in order to ensure that the unique characteristics which define ASD do not impinge upon an individual’s ability to progress through the interview procedures. Recognising that a person with ASD is not going to be able to ‘change’ their internal characteristics, the premise of this research was the responsibility of the concerned professionals to adapt their own behaviour and practice. However, this can only be effectively achieved if those involved are aware of the risk factors associated with ASD.

Unfortunately, currently there is little research available to inform upon how people with ASD respond during contact with the CJS. As a result of the research undertaken for this thesis a picture emerges which indicates some of the needs of people with ASD. Acknowledging these needs and accommodating for them will culminate in a provision which supports people with ASD during both the witness and suspect interview. The following section explores the characteristics of ASD which can potentially impact upon interview procedures.

7:2. Characteristics of ASD and their impact upon interview procedures.

Study 2 of this thesis, reported in chapter 3, collected information from AAs who reported occasions where the behaviour of people with ASD had damaged custody procedures. Several of the examples given alluded to the problems people with ASD had because they became fixated upon either objects or topics of conversation. For example fixating upon loose wires or becoming overly concerned about exact
finishing times. It was reported that these behaviours hindered the interview procedure because the individual was unable to disengage from the object of their fixations and re-focus upon the interview. Problems with perservative behaviours have been linked to executive dysfunction (see Hill, 2004a). An inability to adapt to new or complex situations explains why people can become ‘stuck’ in a task or activity (Hill & Frith, 2003). Repetitive and restricted behaviours is a core feature of ASD and manifests as narrowness of focus, inflexibility, perservative behaviour and an insistence on sameness (Leekam, Prior & Ujlarevic, 2011). Parents of children with ASD have identified restricted and repetitive behaviours as being the main reason why their children have significant problems in daily life (South, Ozonoff & McMahon, 2005). Indeed it is suggested that repetitive and restrictive behaviours interfere with the acquisition of new skills and hinder the opportunities for social interaction (Honey, Rodgers & McConachie, 2012). There is evidence to suggest that levels of anxiety are associated with the activation of repetitive behaviours (Lidstone et al. 2014). As such it may not be surprising that AAs reported incidences where the detained person with ASD sought refuge via a preoccupation with an object or topic of interest.

AAs in study 2 also reported incidents were a detained person with ASD was not able to abide to the directions given to them by their legal representative and give a ‘no comment’ interview. AAs reported that the person with ASD wanted to take the given advice but could not stop themselves from answering questions. Response inhibition is defined as an inability to suppress an action, thought, or words which when activated could interfere with a particular task or goal (Christ, kester, Bodner & Miles, 2011). Response inhibition in people with ASD has been traditionally tested using the Stroop test, and findings have indicated that people with ASD are generally not impaired on this task (see Hill, 2004a). However, problems inhibiting a pre-potent and ongoing response have been found in children with ASD when responding to change tests and circle drawing tests (Verté, Geurts, Roeyers, Oosterlaan & Sergeant, 2005). Additionally children with ASD have difficulties resisting interference from visual distractors (see Christ, kester, Bodner & Miles, 2011). Poor inhibitory controls are associated with repetitive behaviours (Mosconi et al, 2009). Consequently, in study 2, the few AAs who reported the disruptive behaviours of people with ASD were largely referring to damage caused due to repetitive and
restricted behaviours. Interestingly in study 1 of this thesis (reported in chapter 2) when police officers were asked to plan for an interview with a person they were told had ASD only a handful of participants \( n = 9 \) discussed the implications of repetitive behaviours disturbing the interview. In study 2, AAs were asked to consider reasons why a person with ASD would find a suspect interview problematic and surprisingly no participant referred to problems associated with repetitive and restricted behaviours. Thus professionals involved in working with people with ASD during interview procedures failed to identify a key potential risk factor emanating from the internal characteristics of ASD.

In an exercise where AAs were asked to detail their expectations of working with a person with ASD, communication difficulties were given greatest consideration. Within the context of the questionnaire AAs discussed the need to ensure a person with ASD understood the questions posed and intimated that it was important to inform police officers to avoid complex language. In study 1 of this thesis police officers also gave consideration to issues related to communication and it was thought necessary to check that the person with ASD understood the questions. Indeed, the findings from study 5 of this thesis further confirmed the need to reduce the complexity of language used when communicating with people on the autism spectrum. This was evident during a mock interview experiment during which participants with ASD responded favourably to a MRC interview. As a result of earlier research it was concluded that people with ASD were not able to effectively use MRC instructions because of impaired skills binding contexts of an event in memory (see Maras & Bowler, 2010). However, study 5 found that reducing the complexity of the language used to mentally reinstate the individual yielded positive results, and participants with ASD were able to produce accurate and detailed information. In study 4 of this thesis which focused upon the use of an alternative caution there was also evidence that disambiguating complex language was useful. When attempts were made to simplify the sentence which informs on the modification to the right to silence, participants with ASD were more able to explain this revised sentence compared to the complex sentence present in the current caution. In conclusion the difficulties encountered during the processing of complex information should be recognised as a potential risk factor in people with ASD (see Minshew & Goldstein, 1998). Consequently AAs and police officers were correct in identifying these
potential problems arising from the use of complex language. The reduction of complex language should therefore be a major focus when developing strategies to assist people with ASD. It was however, unfortunate that police officers failed to employ registered intermediaries to support witnesses with ASD and help develop strategies to minimise such risk factors.

Both AAs and police officers discussed the importance of avoiding language which can be interpreted literally when communicating with people with ASD. One police officer expressed concern that the introductory statement of the police caution ‘you do not have to say anything’ may be interpreted literally by people with ASD and so be perceived as an instruction not to say anything during an interview. Within the context of the questionnaire AAs and police officers were chiefly concerned with the need to monitor their own language to avoid the use of irony, words which have double meanings and humour when conversing with a person with ASD. It is well established that people with ASD have a tendency towards an over literal interpretation of language and fail to recognise the masked intentions behind the words (Happé, 1995). On the occasions where people with ASD are able to understand the meaning behind ironic expressions they are less likely to understand the intention of the speaker and so fail to appreciate that the use of irony is often an attempt to be humorous (Pexman et al, 2011). Consequently there is some merit in the observations made by participants in study 1 and 2 to defer from non-literal language.

The tendency people with ASD have towards literal interpretation of language is a result of difficulties making inferences (Bodner, Engelhardt, Minshew & Williams, 2015). The making of inferences is dependent upon the ability to integrate information from personal knowledge and previous experiences in order to make sense of an implied meaning (Loukusa, & Moilanen, 2009). This is necessary because in daily conversation communicators do not always provide all of the information relevant to understanding (Loukusa et al, 2007). Rather it is assumed that the listener will make use of contextual factors to infer meaning. Therefore, an inability to comprehend irony and disentangle non-literal language is a consequence of failing to infer the mental states of others (see Happé, 1994). Problems making inferences in not however, just restricted to tasks pertinent to accessing a person’s mental state. Difficulties with the integration of contextual information is prominent in
people with ASD (Bodner, Engelhardt, Minshew & Williams, 2015). Making use of contextual information involves transferring attention from a local level of processing to a global level (Gomot & Wicker, 2012). As such difficulties accessing context to aid understanding is associated with a weak central coherence style of processing (Pijnacker, Hagoort, Buitelaar & Geurts, 2008). Results from studies 3 and 4 found that people with ASD were less able to effectively explain the sentence of the caution which informs that anything said may be given in evidence when compared to members of the GP. A possible reason for this is that participants with ASD failed to interpret this sentence within its context. The anxieties a member of a focus group expressed when discussing this statement possibly resulted from a belief that the term ‘anything said’ referred to ‘everything said’. That is the individual failed to appreciate the context in which the sentence is dependent and did not discriminate between information which would be pertinent to an alleged offence and information an interviewing officer would dismiss as irrelevant. None of the police officers nor AAs who responded to the questionnaire identified difficulties which could arise due to a failure to use context in order to process information. While checking on the absence in discourse of irony, double meaning and humour remains useful it is also vital that professionals realise people with ASD may not ‘spontaneously’ make inferences in order to ‘fill in the gaps’ of conventional conversation (Loukusa et al, 2007). To this effect police officers and AAs must make strenuous efforts to ensure explicit and complete information is provided to the individual with ASD during interview procedures.

Finally it was noted that the majority of both police officers and AAs failed to appreciate that ASD spreads across a spectrum and as such can affect people of all intellectual abilities. Individual differences are a feature of ASD and these will be determined according to where a person is placed upon the spectrum. Representing the polar ends of the spectrum are Kanner’s classic autism at the lower end and Asperger syndrome and high-functioning autism at the higher end. A person at the lower end of the spectrum may have no useful language and be in possession of severe learning disabilities and as such may have a life time dependency upon others to provide for their basic needs. In current literature this population is often referred to as being low functioning (Boucher, 2009). In contrast those from the higher end of the spectrum will have no cognitive impairments and many may be
living independently within the community. Intellectual level and language ability will
determine the presentation and severity of the core features of ASD (Wing & Potter,
2002). Unfortunately participants in studies 1 and 2 failed to recognise that
determining where an individual lies on the autism spectrum will be crucial to
identifying the level and type of support required.

7:3. What do Police officers and AAs know about ASD?

This thesis concludes that as yet police officers and AAs are not fully prepared to
cater for the needs of people with ASD during interview procedures. Although there
was some evidence to suggest that participants recognised some of the key traits of
ASD, there was little evidence of strategies being implemented to safeguard against
the internal characteristics of ASD presenting as risk factors during interview
procedures. To further explore ways of improving the preliminary stages of the CJS
to accommodate people with ASD further research is required, and proposals are
presented in the final section of this thesis.

7:4. The way forward; recommendations for further research.

Follow up research is required to compensate for methodological issues arising from
the studies presented in this thesis. It is acknowledged that the experimental studies
presented in this thesis (exploring the understanding of the caution and techniques
to elicit memorial recall) involved only a small number of participants with ASD.
Further researcher involving a larger sample of participants would be useful to verify
results. Additionally, the experimental studies focused only upon adults with ASD
who had an average or above average VIQ. Recognising that many people on the
autism spectrum will also have learning disabilities research is required to explore
how less cognitively able people with ASD respond to the police caution and
interviewing techniques. It is also noted that in the witness interview participants
were asked to give their memorial recall after only a short period of time (half an
hour). Extending memory retention time would offer information concerning how
people with ASD recall details for less recent events. It is also noted that the use of a
film clip to promote recall of a witnessed event has some limitations. Participants in
this study were passive observers and thus elements related to the trauma or stress
experienced as a result of witnessing or being the victim of a ‘real life’ crime or a
violent act cannot be accounted for.
In study 1 and 2 of this thesis questionnaires were used to elicit information from police officers and AAs. It is recognised that the use of questionnaires has some limitations. Participants may not have the opportunity to expand upon their thoughts, they may not fully understand the questions, and there is no means of actually verifying the information provided. Conducting interviews would generate in-depth qualitative data. To further extend research, investigating the experiences of other professionals involved in the preliminary stages of the Criminal Justice is required. Extending surveys and interviews to include registered intermediaries, legal representatives and forensic doctors and nurses would add to knowledge. Additionally, access to police interview tapes would reveal how both people with ASD and CJS professionals behave during interview procedures. Such findings would add to the dearth of research informing upon how people with ASD respond when engaged with the CJS.

Proposed research studies
i) Examination of training packages

Information is required to assess why trained police officers in study 1 of this thesis did not show superior skills when planning an interview for a person with ASD. Training packages require examining. It is necessary to; explore the content of the package, identify information pertinent to practice, find out what teaching resources are used, ascertain the length of the course, what organisation devised the package, and which group of officers the package was intended for (i.e. specialists, novice police officers, frontline officers). It would also be interesting to discover if any follow up courses or support was available and how adequately the training package reflected the requirements of the Autism Act (2009). Findings would enable a comparison of the training packages available to different forces identifying consistencies or differences in approaches and content. Results may suggest there is a need for a ‘national’ training package.

Similar research is required to ascertain the quality and regularity of training offered to AAs.
ii) The role of the AA

Additional information is required to determine how effective AAs are when supporting people with ASD in custody. Accessing police audio and video tapes would provide information regarding their performance and involvement. Of particular interest would be the monitoring of how successfully AAs minimise the risk of internal characteristics jeopardising procedures. Concerning the findings from studies 3 and 4 it would also be of interest to observe if AAs make any attempts to help a vulnerable suspect understand the caution, and if they do so how skilful they are in their attempts. Further research should also be conducted to compare the performances of trained AAs, untrained AAs such as parents or carers and intermediaries (while supporting a vulnerable person in custody). Identifying any differences in their approach would expose any inconsistencies regarding the quality of support.

iii) Helping non-literate people with ASD to understand the caution.

Studies 3 and 4 provided a written copy of the caution to assist people with ASD to understand the caution. Research is required to find out what support can be offered to people with ASD who are non-literate or find written text confusing. The use of symbols, pictures and drawings should be explored to ascertain their usefulness in helping non-literate people with ASD understand the caution.

iv) The use of memory jogs to elicit free recall in people with ASD.

It is noted that when the memorial recall of people with ASD is matched to the GP quality is comparable, it is the quantity which affects performance. Research is therefore required to find ways of maximising the amount of memorial recall from people with ASD. Study 5 of this thesis found that the use of memory jogs (alphabet and colour search) enabled people with ASD to recall single pieces of information. Further research is required to explore if the use of these cues can promote detailed free recall from people with ASD equivalent to the quantity and quality of that provided by members of the GP.
v) How useful is the acronym ACCESS as a framework for police officers to plan for an interview with people with ASD?

As a result of study 1 it was recommended that an acronym be used as a framework to help police officers to plan for an interview with people with ASD. Research is required to explore if this is indeed a useful tool to apply to practice. Trialling the acronym and collecting the opinions of serving officers is required to assess its effectiveness.

vi) Legal representative.

Assistance in the form of an AA is available during police interview procedures to help people with ASD. However, support is generally not available during exchanges between the person with ASD and their legal representative. This is because an AA does not have legal privilege. The absence of support is somewhat incongruous. ASD is defined by communication impairments yet the manifestations of these during the consultation with the legal representative has not been considered. Within the remit of this thesis the interview between a person with ASD and a legal representative was not explored. Further research is required to explore how people with ASD interact with their legal representative and how readily they agree with, understand and follow legal advice. To begin this exploration questionnaires should be administered to legal representative to discover their experiences and any concerns. Additionally, interviewing people with ASD regarding their experience with their legal representative would provide valuable information.

7:5 Conclusion

To offer people with ASD access to the preliminary stages of the CJS those professionals involved with procedures must have a sensitivity towards the needs of people with ASD. This includes; recognising the individual differences which manifest across the spectrum, an understanding of the condition and the acquisition of skills to implement appropriate strategies. This thesis has found that when specific techniques are applied to help people with ASD explain the caution and provide memorial recall their performance improves. Building upon these findings the search must go on to find techniques which address the needs of people with ASD during the preliminary stages of the CJS.
References


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Appendices
Section One.

Ethics
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<tr>
<td>Department:</td>
<td>ICJS</td>
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<td>First Supervisor:</td>
<td>Dr Becky Milne</td>
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<td>Study Mode and Route:</td>
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If you are unsure about any of the following, please contact the local representative on your Faculty Ethics Committee for advice. Please note that it is your responsibility to follow the University’s Ethics Policy and any relevant University, academic or professional guidelines in the conduct of your study.

Although the Ethics Committee may have given your study a favourable opinion, the final responsibility for the ethical conduct of this work lies with the researcher(s).

**UKRIO Finished Research Checklist:**

(If you would like to know more about the checklist, please see your Faculty or Departmental Ethics Committee rep or see the online version of the full checklist at: [http://www.ukrio.org/what-we-do/code-of-practice-for-research/](http://www.ukrio.org/what-we-do/code-of-practice-for-research/))

| a) Have all of your research and findings been reported accurately, honestly and within a reasonable time frame? | YES |
| b) Have all contributions to knowledge been acknowledged? | YES |
| c) Have you complied with all agreements relating to intellectual property, publication and authorship? | YES |
| d) Has your research data been retained in a secure and accessible form and will it remain so for the required duration? | YES |
| e) Does your research comply with all legal, ethical, and contractual requirements? | YES |

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**Candidate Statement:**

I have considered the ethical dimensions of the above named research project, and have successfully obtained the necessary ethical approval(s)
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<td>If you have <em>not</em> submitted your work for ethical review, and/or you have answered ‘No’ to one or more of questions a) to e), please explain why this is so:</td>
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Section Two

Invitation to police participants

Rights in research

Suspect questionnaire

Witness questionnaire
Interviewing suspects who have autistic spectrum disorder

Dear Participant,

I would like to invite you to take part in a survey which forms part of my PhD project which explores the ways in which the Criminal Justice System responds to the needs of people with autistic spectrum disorder (ASD). My name is Joanne Richards and my director of Studies is Dr. Becky Milne.

As part of my research I am interested in finding out what training opportunities are offered to the police regarding ASD, and to determine if such training equips officers with the necessary skills to work with people with ASD. Furthermore I would like to seek the opinions of officers regarding the type of support people with ASD may receive from non-police personnel during the police interview.

At present there are no national statistics to determine how many people in the UK have ASD; however it is estimated that 1 in 100 people may be affected by the condition. As such there is a likelihood that officers may come into contact with people with ASD. ASD is a complex condition characterised by impaired communication and interaction skills, which may have an impact upon the quality of a police interview. If you have had or have not had experience working with people with ASD I would appreciate your help and would be grateful if you could find time to complete this questionnaire to help with my research. There are some questions where I ask for your comments; brief bullet points will be fine. I understand that these may be time consuming, but the information you are able to give is appreciated.

The results of the survey will be written up as a report and will be used to assess officers’ needs regarding information, training, and resources relating to the interviewing of people with ASD.

A sheet is attached explaining your rights as participants.

A self-addressed envelope is provided for the return of completed questionnaires.

If you have a keen interest in this area and would like to take part in further research I would be pleased to hear from you.
If you require any further information or if there are any comments you would like to make please contact either Joanne or Dr Milne via the email addresses provided below. Many thanks for your help and your time, this is very much appreciated.

Joanne Richards.  Joanne.Richards@port.ac.uk
Dr. Becky Milne.  Becky.Milne@port.ac.uk
**Your rights in research**

1. You will remain anonymous throughout this study; no details will be used in the follow up report which will enable identification of any individual.

2. Participation is voluntary and you have the right to withdraw at any time.

3. If you wish you are welcome to discuss the research at any stage, and see the results and findings once the research is complete.

4. All information you provide will be treated confidentially. No information you provide will be shared with a third party or anyone unrelated to the study.

5. All data collected will be kept securely, and upon completion of the study data will be destroyed.
SECTION A.

WORKING WITH SUSPECTS WHO HAVE AUTISTIC SPECTRUM DISORDER

(For the rest of this survey the term ASD will be used to indicate autistic spectrum disorder).

1. Have you ever interviewed a suspect who has ASD?  
   1. Yes  2. No

If you have answered no to the above question please continue to section C page 5.

2. Please estimate how many suspects you have interviewed with ASD over the last twelve months
   ____________________________________________

3. How did you become aware that the person had ASD? Please tick the relevant boxes.

   1. Own intuition  
   2. Informed by interviewee  
   3. Interviewee had autism alert card  
   4. Informed by family member or friend  
   5. Informed by social worker or carer  
   6. Other (Please specify)

4. Have you ever suspected that an interviewee had ASD even though it had not been revealed to you by the suspect or other party?
   1. YES  2. NO

If you have answered yes to the above, please list the reasons why you suspected the interviewee had ASD.

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

Questions 5 and 6 refer to the autism alert card: if you have never encountered the alert card please continue to question 7.
5. The information presented on the autism alert card was very useful.

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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6. The information presented on the autism alert card greatly affected my planning and preparation for the interview.

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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SECTION B

SUPPORT FOR SUSPECTS DURING THE INTERVIEW

7. Thinking about any suspect interviews you have conducted with people with ASD, please indicate by ticking the boxes, the type of support that has been available to interviewees.

1. Trained appropriate adult
2. Friend
3. Family member
4. Social worker
5. Carer
6. No support
7. Other (please specify)
8. In your opinion please indicate by ticking one box which type of support you consider to be most effective.

1. Trained appropriate adult
2. Friend
3. Family member
4. Social worker
5. Carer
6. No support
7. Other (please specify)

9. Please give brief examples or reasons to support this preference.

__________________________________________________________________________________
__________________________________________________________________________________

10. If you have had any negative experiences from those who offer support please give brief details and state what type of support it was

SECTION C
ABOUT YOU
11. Are you 1. MALE 2. FEMALE
12. How long have you been in the police service? ____________
13. What is your rank? ___________________________
14. What role are you currently in? ___________________________
15. I would feel confident conducting an interview with a person who has ASD.

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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16. If you are informed that a suspect has ASD what would be your initial thoughts/concerns regarding your planning and preparation for interview?

__________________________________________________________________________________
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TRAINING

17. Have you received any training regarding the nature of ASD?
   1. YES 2. NO.

*If you have answered no to this question please continue to question 23.*

18. When did you receive this training? _________________

19. What was the title of the course? _______________________

20. Who delivered this training? ____________________________

21. Please give a brief overview of the content of this training
__________________________________________________________________________________
__________________________________________________________________________________

22. I found this training very useful

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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23. Have you received any training regarding the best ways to interview people with ASD?
   1. YES 2. NO

*If you have answered no to this question please continue to question 29.*
24. When did you receive this training? __________________________

25. What was the title of the course? __________________________

26. Who delivered this training? __________________________

27. Please give a brief overview of the content of this training.

28. I found this training very useful

   If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

   1  2  3  4  5

29. Training / further training would be useful for my work

   If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

   1  2  3  4  5

30. If you required information about any issues regarding ASD is there someone within your organisation you can refer to?

   1. YES 2. NO

   If you have answered no to this question please continue to question 33

31. What is this person’s rank /title? __________________________

32. Is this person easily accessible? __________________________

33. Have you ever read / had access to the National Autistic Society document


   1. YES 2. NO
If you have answered no to this question please continue to section D.

### 34. I found the information in *Autism: A Guide for Criminal Justice Professionals*, very useful

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If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

### SECTION D.

#### ABOUT ASD

35. Looking at the list of characteristics presented below can you rate how strongly you agree to the trait being associated with ASD where 1 = you strongly agree the trait is a characteristic of ASD to 5= you strongly disagree the trait is associated with autism.

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**a) People with ASD are unable to give eye contact**

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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**b) People with ASD do not understand social rules**

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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**c) All people with ASD have learning disabilities**

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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**d) People with ASD tend to be cunning and manipulative**

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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36. Please list three of the characteristics of ASD you feel will have a major impact upon a police interview. (You may choose characteristics from the list above or select others that you know of and feel have relevance).

- **People with ASD have a callous disregard for the well-being of others**
  
  *If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.*

- **People with ASD can’t distinguish between right and wrong**
  
  *If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.*

- **People with ASD always tell the truth**
  
  *If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.*

- **People with ASD have a good memory for all events**
  
  *If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.*

- **People with ASD can be very aggressive**
  
  *If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.*
37. Any other comments regarding any part of this questionnaire

If you would be interested in taking part in further research please contact Joanne.Richards@port.ac.uk

MANY THANKS FOR YOUR TIME. YOUR PARTICIPATION IS VALUED AND GREATLY APPRECIATED.
SECTION A.

WORKING WITH WITNESSES / VICTIMS WHO HAVE AUTISTIC SPECTRUM DISORDER

(For the rest of this survey the term ASD will be used to indicate autistic spectrum disorder).

1. Have you ever interviewed a witness/ victim with ASD?  
   1. Yes  2. No

If you have answered no to the above question please continue to section C page 5.

2. Please estimate how many witnesses / victims with ASD you have interviewed over the last twelve months ____________________________

3. How did you become aware that the person had ASD? Please tick the relevant boxes.

   1. Own intuition
   2. Informed by interviewee
   3. Interviewee had autism alert card
   4. Informed by family member or friend
   5. Informed by social worker or carer
   6. Other (Please specify)

4. Have you ever suspected that an interviewee had ASD even though it had not been revealed to you by the witness or other party?
   1. YES  2. NO

If you have answered yes to the above, please list the reasons why you suspected the interviewee had ASD.

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

Questions 5 and 6 refer to the autism alert card: if you have never encountered the alert card please continue to question 7.
5. The information presented on the autism alert card was very useful.
If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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6. The information presented on the autism alert card greatly affected my planning and preparation for the interview.
If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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SECTION B
SUPPORT FOR WITNESSES / VICTIMS DURING THE INTERVIEW

7. Thinking about any witness interviews you have conducted with people with ASD, please indicate by ticking the boxes, the type of support that has been available to interviewees.

1. Trained appropriate adult
2. Friend
3. Family member
4. Social worker
5. Carer
6. No support
7. Intermediary
8. Other (please specify)
8. In your opinion please indicate by ticking one box which type of support you consider to be most effective.

1. Trained appropriate adult  
2. Friend  
3. Family member  
4. Social worker  
5. Carer  
6. No support  
7. Intermediary  
8. Other (please specify)

9. Please give brief examples or reasons to support this preference.

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

10. If you have had any negative experiences from those who offer support please give brief details and state what type of support it was

SECTION C
ABOUT YOU
11. Are you  1. MALE  2. FEMALE

12. How long have you been in the police service?  

13. What is your rank?  

14. What role are you currently in?  
**15.** I would feel confident conducting an interview with a person who has ASD.

*If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.*

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**16.** If you are informed you are to interview a witness/victim with ASD what would be your initial thoughts/concerns regarding your planning and preparation for interview?

__________________________________________________________________________________

_______________________________________________

___________________________________

__________________________________________________________________________________

________________

**TRAINING**

**17.** Have you received any training regarding the nature of ASD?

1. YES 2. NO.

*If you have answered no to this question please continue to question 23.*

**18.** When did you receive this training? ________________

**19.** What was the title of the course? ____________________________

**20.** Who delivered this training? ________________________________

**21.** Please give a brief overview of the content of this training

__________________________________________________________________________________

___________________________________________________

**22.** I found this training very useful

*If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.*

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23. Have you received any training regarding the best ways to interview people with ASD?
   1. YES                                     2. NO

   If you have answered no to this question please continue to question 29.

24. When did you receive this training? __________________________

25. What was the title of the course? __________________________

26. Who delivered this training? __________________________

27. Please give a brief overview of the content of this training.

28. I found this training very useful
   
   If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

   1 | 2 | 3 | 4 | 5
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29. Training / further training in ASD would be useful for my work
   
   If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

   1 | 2 | 3 | 4 | 5
   --|--|--|--|--

30. If you required information about any issues regarding ASD is there someone within your organisation you can refer to?
   1. YES                                     2. NO

   If you have answered no to this question please continue to question 33

31. What is this person’s rank / title? __________________________

32. Is this person easily accessible? __________________________

1. YES  
2. NO

*If you have answered no to this question please continue to section D.*

34. I found the information in *Autism: A Guide for Criminal Justice Professionals,* very useful

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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SECTION D

ABOUT ASD

35. Looking at the list of characteristics presented below can you rate how strongly you agree to the trait being associated with ASD where 1 = you strongly agree the trait is a characteristic of ASD to 5 = you strongly disagree the trait is associated with ASD.

**a) People with ASD are unable to give eye contact**

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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**b) People with ASD do not understand social rules**

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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**c) All people with ASD have learning disabilities**

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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<td>People with ASD tend to be cunning and manipulative</td>
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<td>j) People with ASD are good at showing empathy</td>
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<th>k) People with ASD are wary of new situations</th>
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Please list three of the characteristics of ASD you feel will have a major impact upon a police interview. (You may choose characteristics from the list above or select others that you know of and feel have relevance).

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<th>p) People with ASD can’t distinguish between right and wrong</th>
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<th>q) People with ASD always tell the truth</th>
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<th>r) People with ASD have a good memory for all events</th>
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<tr>
<th>s) People with ASD can be very aggressive</th>
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<td><em>If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.</em></td>
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</table>
37. Any other comments regarding any part of this questionnaire

If you would be interested in taking part in further research please contact Joanne.Richards@port.ac.uk

MANY THANKS FOR YOUR TIME. YOUR PARTICIPATION IS VALUED AND GREATLY APPRECIATED
Section Three
Information sheet for AAs
Rights as participants
Questionnaire for AAs
Appropriate adults survey: Working with detained persons who have autism spectrum disorder.

Dear Participant,

I am writing to invite you to take part in two surveys. My name is Joanne Richards and I am a PhD student at the University of Portsmouth, my director of studies is Dr Becky Milne. The first study looks at the work of Appropriate Adults (AAs) and seeks to establish their skills, experiences and practice. Unfortunately very little research exists regarding the role of trained appropriate adults and there are few studies that examine the role from the point of view of an AA.

The second study forms part of my research project which looks to discover how well the Criminal Justice System provides for the needs of people with autistic spectrum disorder (ASD). If you have or have not had experience of working with detained persons with ASD I would appreciate it if you could find time to complete the questionnaire.

The findings from the study will be written up as a report, but no individual participant will be named or identified and your rights as a participant are outlined on the attached sheet.

If you have any questions or concerns regarding this study please contact either myself or Dr Milne on the email addresses provided below. If you have a keen interest in this area and would like to take part in further research I would be pleased to hear from you. I would like to thank you for your time. There are some questions which require your comments, brief bullet points will be fine, I realise these may be time consuming. A self-addressed envelope is provided for return of completed questionnaire.

Once more I would like to say thank you, any information you can provide is highly valued.

Joanne.Richards@port.ac.uk
Becky.Milne@port.ac.uk
Your rights in research

1. You will remain anonymous throughout this study; no details will be used in the follow up report which will enable identification of any individual.

2. Participation is voluntary and you have the right to withdraw at any time.

3. If you wish you are welcome to discuss the research at any stage, and see the results and findings once the research is complete.

4. All information you provide will be treated confidentially. No information you provide will be shared with a third party or anyone unrelated to the study.

5. All data collected will be kept securely, and upon completion of the study data will be destroyed.
SECTION A

ON BEING AN APPROPRIATE ADULT

ALL ABOUT YOU

1. How long have you been working as an Appropriate Adult (AA) ____________

2. Are you; 1. Female 2. Male

3. How old are you? ____________

4. How many hours per week do you generally work as an AA? ____________

5. Are you; 1. Paid 2. A volunteer

6. Please give details of any other work / studying/ voluntary work you do apart from your AA duties ____________________________________________________________
                                                                                           ____________________________________________________________

7. Prior to your work as an AA have you had experience working with adults who could be thought of as vulnerable, for example people with mental health issues or people with learning disabilities etc?

   1. Yes 2. No

   (If you have answered no to this question please continue to question 9).

8. What was this experience?

   ______________________________________________________________________
   ______________________________________________________________________
   __________________________

TRAINING

9. Have you received training for your work as an AA? 1. YES 2. NO.

   (If you have answered no to this question please continue to question 13)

10. What was the duration of the training?

    __________________________

11. Who provided this training? ________________________________
12. Please give a brief outline of the content of this training.

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

13. The training I received prepared me for my work as an AA

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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SUPPORT

14. The agency I work for offers me excellent support

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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15. Please give brief examples to support your statement.

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

THE ROLE OF THE AA

16. Please list what you consider to be the main duties of an AA.
17. What skills / attributes are needed to be a successful AA?

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

18. What are the things that impede / disrupt your work as an AA?

19. What aspects of your work as an AA do you find most satisfying?

EXPERIENCES OF WORKING WITH THE POLICE

20. Generally when I work as an AA I have a very good relationship with the police officers I am in contact with

*If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.*

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21. Can you give a brief example to support your statement?
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<th>Question</th>
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<tbody>
<tr>
<td><strong>22.</strong> When I am introduced to a detained person the officer gives a very clear explanation of my role and reasons for attendance to the detained person. If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.</td>
<td></td>
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<td><strong>23.</strong> Police officers provide me with very detailed information regarding the vulnerability of the detained person. If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.</td>
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<td><strong>24.</strong> I always meet in private with the detained person before the interview. If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.</td>
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</table>
| **25.** Have you ever had to intervene to stop an interview? 1. YES 2. NO  
*If you have answered no please continue to question 27.* |   |   |   |   |   |
| **26.** Please list some of the reasons why you have had to intervene or stop an interview    |   |   |   |   |   |
SECTION B

YOUR EXPERIENCES OF WORKING WITH DETAINED PEOPLE WHO HAVE ASD

27. Prior to your work as an AA have you had any experience working with people who have Autistic Spectrum Disorder (ASD)?

   1. YES  
   2. NO

(If you have answered no to this question please continue to question 29)

28. Briefly outline the content / nature of this work / experience.

29. If you are informed that the person you are going to assist has ASD, what would be your expectations regarding the person’s needs?

30. I feel very confident working with people with ASD

   If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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31. Have you ever worked with a detained person who has ASD?

   1. Yes  
   2. No

(If you have answered no please continue to this question please continue to question 38)

32. In the last twelve months can you estimate how many people you have worked with who have ASD?

_____________________________________________
33. How have you been made aware that the detained person has ASD? (Tick any relevant response/s)

1. Told by officer
2. Own intuition
3. Told by detained person
4. Informed by your manager / supervisor
5. Detained person had autism alert card
6. Other (please specify) ________________________________

34. Has a situation arisen during an interview which you feel has been directly related to the person having ASD?  1. Yes  2. No.

(If you have answered no to this question please continue to question 38)

35. Please give a brief outline describing the situation

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

36. In response to this situation do you feel you were able to offer support?

1. YES  2. NO

(If you have answered no please continue to question 38)
37. Please briefly outline the support or intervention you provided?

38. In general do you think a person with ASD would find a police interview problematic?
1. YES  2. NO.

39. Briefly give a reason to support your statement.

40. As an AA have you received any training about ASD?
1. YES   2. NO.

(If you have answered no to this question please continue to question 45)

41. Who provided this training?

_______________________________

42. What was the duration of this training? ____________________

43. Please give a brief outline of the content of this training
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________
44. The training I received about ASD was very useful to my work as an AA

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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45. Would training / further training regarding any aspect of ASD be useful to you in your work?
1. YES  2. NO

Section C. About ASD

46. Looking at the list of characteristics presented below please rate how strongly you agree or disagree to the trait being associated with ASD

a) People with ASD are unable to give eye contact

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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b) People with ASD do not understand social rules

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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c) All people with ASD have learning disabilities

If 1 = strongly agree and 5 = strongly disagree please put an X under the number that represents the level to which you agree with the above statement.

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d) People with ASD tend to be cunning and manipulative

If 1 = strongly agree and 5 = strongly disagree please put an X under
the number that represents the level to which you agree with the
above statement.

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e) People with ASD interpret information literally

If 1 = strongly agree and 5 = strongly disagree please put an X under
the number that represents the level to which you agree with the
above statement.

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f) People with ASD are very good at understanding the minds
and thoughts of other people

If 1 = strongly agree and 5 = strongly disagree please put an X under
the number that represents the level to which you agree with the
above statement.

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</table>
g) People with ASD do not like rigid routines

If 1 = strongly agree and 5 = strongly disagree please put an X under
the number that represents the level to which you agree with the
above statement.

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h) People with ASD do not show remorse

If 1 = strongly agree and 5 = strongly disagree please put an X under
the number that represents the level to which you agree with the
above statement.

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i) People with ASD are quick to blame others for their own mistakes

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the number that represents the level to which you agree with the
above statement.

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<td>j) People with ASD are good at showing empathy</td>
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<tr>
<td>k) People with ASD are wary of new situations</td>
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<tr>
<td>l) People with ASD overestimate their abilities having a grandiose belief in their self</td>
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<tr>
<td>m) People with ASD are good at interpreting gestures and tone of voice</td>
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Please list three of the characteristics of ASD you feel will have a major impact upon a police interview (You may choose characteristics from the list above or select others that you know of and feel have relevance)
Any other comments.

THANK YOU SO MUCH FOR TAKING THE TIME TO COMPLETE THIS SURVEY
IT IS VERY MUCH APPRECIATED.
Section Four

Autism Quotient
### The AQ Test

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Definitely agree</th>
<th>Slightly agree</th>
<th>Slightly disagree</th>
<th>Definitely disagree</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>I prefer to do things with others rather than on my own.</td>
<td></td>
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<tr>
<td>2</td>
<td>I prefer to do things the same way over and over again.</td>
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<tr>
<td>3</td>
<td>If I try to imagine something, I find it very easy to create a picture in my mind.</td>
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<tr>
<td>4</td>
<td>I frequently get so strongly absorbed in one thing that I lose sight of other things.</td>
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<tr>
<td>5</td>
<td>I often notice small sounds when others do not.</td>
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<tr>
<td>6</td>
<td>I usually notice car number plates or similar strings of information.</td>
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<tr>
<td>7</td>
<td>Other people frequently tell me that what I’ve said is impolite, even though I think it is polite.</td>
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<tr>
<td>8</td>
<td>When I’m reading a story, I can easily imagine what the characters might look like.</td>
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<tr>
<td>9</td>
<td>I am fascinated by dates.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10</td>
<td>In a social group, I can easily keep track of several different people's conversations.</td>
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<tr>
<td>11</td>
<td>I find social situations easy.</td>
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<tr>
<td>12</td>
<td>I tend to notice details that others do not.</td>
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<td></td>
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<tr>
<td>13</td>
<td>I would rather go to a library than to a party.</td>
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<tr>
<td>14</td>
<td>I find making up stories easy.</td>
<td></td>
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<tr>
<td>15</td>
<td>I find myself drawn more strongly to people than to things.</td>
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<tr>
<td>16</td>
<td>I tend to have very strong interests, which I get upset about if I can't pursue.</td>
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<tr>
<td>17</td>
<td>I enjoy social chitchat.</td>
<td></td>
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</tr>
<tr>
<td>18</td>
<td>When I talk, it isn't always easy for others to get a word in edgewise.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>19</td>
<td>I am fascinated by numbers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>When I’m reading a story, I find it difficult to work out the characters' intentions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>I don't particularly enjoy reading fiction.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>I find it hard to make new friends.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>I notice patterns in things all the time.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>I would rather go to the theater than to a museum.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>It does not upset me if my daily routine is disturbed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>I frequently find that I don't know how to keep a conversation going.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>I find it easy to ‘read between the lines’ when someone is talking to me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>I usually concentrate more on the whole picture, rather than on the small details.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>I am not very good at remembering phone numbers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>I don’t usually notice small changes in a situation or a person’s appearance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>I know how to tell if someone listening to me is getting bored.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>I find it easy to do more than one thing at once.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>When I talk on the phone, I’m not sure when it’s my turn to speak.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>I enjoy doing things spontaneously.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>I enjoy doing things alone.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>I find it easy to work out what someone is thinking or feeling just by looking at their face.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>If there is an interruption, I can switch back to what I was doing very quickly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>I am good at social chitchat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>People often tell me that I keep going on and on about the same thing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>When I was young, I used to enjoy playing games involving pretending with other children.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>I like to collect information about categories of things (e.g., types of cars, birds, trains, plants).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>I find it difficult to imagine what it would be like to be someone else.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>I like to carefully plan any activities I participate in.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>I enjoy social occasions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>I find it difficult to work out people’s intentions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>New situations make me anxious.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>I enjoy meeting new people.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>I am a good diplomat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>I am not very good at remembering people’s date of birth.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>I find it very easy to play games with children that involve pretending.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Psychologist Simon Baron-Cohen and his colleagues at Cambridge’s Autism Research Centre have created the Autism-Spectrum Quotient, or AQ, as a measure of the extent of autistic traits in adults. In the first major trial using the test, the average score in the control group was 16.4. Eighty percent of those diagnosed with autism or a related disorder scored 32 or higher. The test is not a means for making a diagnosis, however, and many who score above 32 and even meet the diagnostic criteria for mild autism or Asperger’s report no difficulty functioning in their everyday lives.
**How to score:** "Definitely agree" or "Slightly agree" responses to questions 2, 4, 5, 6, 7, 9, 12, 13, 16, 18, 19, 20, 21, 22, 23, 26, 33, 35, 39, 41, 42, 43, 45, 46 score 1 point. "Definitely disagree" or "Slightly disagree" responses to questions 1, 3, 8, 10, 11, 14, 15, 17, 24, 25, 27, 28, 29, 30, 31, 32, 34, 36, 37, 38, 40, 44, 47, 48, 49, 50 score 1 point.

Section Five

Film script

Participant information sheet

Informed consent sheet

Coding frame
Film Script.

Two women (Ann and Karen) are sat outside a café having drinks, behind them are two boys who are 'mucking about' and other people sat at other tables. Ann sees her friend approach and waves at her, Sarah comes up to the table she is carrying several bags of shopping.

Karen     Oh there's Sarah.

(Sarah arrives at the table and she and Karen greet each other)

Karen     This is Ann (points to the other woman sat at the table). We have only just met. I'd parked up the road and she came running after me waving this five pound note in the air saying have you dropped this? Well I was thinking I am sure I haven't but I looked in my purse it's got all my housekeeping money in and so I just couldn't tell if it was my five pound or someone else’s, anyway Ann came up with the idea lets split it and go and get a cup of tea, so I was meeting you here anyway so I thought why not? And here we are.

Sarah     Oh right.

(Two boys in the background, are play fighting)

Sarah     Can we go and sit somewhere else?

Karen     Oh don't be daft, they aren't bothering us.

(Karen’s mobile phone rings, she takes it out of her bag which is on a chair.)

Sarah.    New phone?

Karen     (Trying to work out how to answer the phone). Yes, you know how extravagant David is, I really don't know how to use it.

(The phone stops ringing and Karen puts it back in her bag.)

Karen     Anyway, how did your shopping trip go?

Sarah     Oh brilliant.

(She starts taking gifts out of her bag, at which point the boys start taking an interest in what the women are doing.)
Sarah Managed to get something for Gemma’s birthday.

(Sarah shows Karen a silver necklace in a box. At this point one of the boys gets up to have a closer look)

Karen Oh that is beautiful

Sarah I hope she likes it, I wanted to get something special

Karen It must have cost a fortune

Sarah Well yes, but you are only 21 once

Karen She will love it. Anyway let’s get some tea and cakes. (To Ann) More tea?

Ann Yes please

(Karen takes some money out of her purse and then puts the purse on the table. She stands up)

Karen (to Sarah) And cream cakes?

Sarah I’ll come with you.

(Sarah and Karen both go into the café leaving their belongings behind. Ann beckons over to someone and a man enters the scene.)

Ann (Ann hands the goods to the man) An expensive mobile phone, purse with housekeeping money and a silver bracelet.

(The man puts the goods in a bag. In the meantime the boys have seen what is going on and they shout at the man, when the man runs off the boys shout at him to stop and stand up to run after him. However, Ann gets up from her chair, and fakes a fall to the floor shouting for help. The boys panic and run off in the opposite direction to the man. Hearing Ann’s screams the two women rush out of the café.)

Ann Those two boys, they ran off with your stuff, I tried to stop them but they pushed me to the ground. There was nothing I could do.

Sarah I’ll ring the police.
Study Title: The Witness Interview

What is the purpose of the study?

There are occasions when people may become witnesses or victims of a crime and have to give an account of what happened to the police. This study looks to examine interview methods, and find out which methods are best for getting reliable and detailed information from witnesses.

ALL PARTICIPANTS MUST BE 16 YEARS OF AGE AND OVER. THE STUDY WILL TAKE ABOUT 1 HOUR.

What do you have to do?

As a participant you will be asked to take part in several tasks;

1. You will watch a short video clip showing a non violent crime scene which will be no longer than 5 minutes in duration

After you have watched the video you will be asked to take part in several tasks which are known as distraction tests. These tasks will be used because in the real world it is highly unlikely a witness will be asked to recall details of an event immediately after they have witnessed it. Sometimes a witness will not give their statement until several hours or even days after the event. Therefore to take this into account you will be invited to do several tasks to distract you from the content of the film. You will be asked to;

i) Complete a questionnaire unrelated to the video clip

ii) Take part in some cognitive exercises
iii) Take part in a short interview the topic of which is unrelated to the video clip. This interview will be audio recorded with your permission.

After these tasks have been completed you will be asked to give information about the film clip you watched. This interview will be audio recorded.

You will work with the researcher on an individual basis; however if you so wish a friend or relative can accompany you. The study will take place at Lockswood community centre, Locksheath at a convenient date and time.

£10 will be paid to cover your expense and time.

**Your rights as a participant.**

- Taking part in this study is entirely voluntary.
- You are free to withdraw your participation without giving any reason during any part of the study.
- Findings from this study will be written up as a report but you will not be named or identified in this report.
- All information you provide will be treated confidentially and no data will be shared with a third party or any person unrelated to the study.
- All data will be destroyed once the research is completed.
- If you wish to take part in this study you will be asked to sign a form giving your consent.

Research in the University of Portsmouth is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given a favourable opinion by the Faculty of Humanities and Social Sciences Research Ethics Committee.

Thank you for taking the time to read this information sheet.

For further information contact me joanne.richards@port.ac.uk or phone 07557471100
Ref 09/10:14

Consent form

Research Title: How does the Criminal Justice System accommodate for the needs of people with autistic Spectrum Disorder?

Study Title: The witness interview

Name of researcher: Joanne Richards

Please read the statements and if you agree to the content please initial the boxes.

1. I confirm that I have read and understood the information sheet

☐

2. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

☐

3. I understand that my participation is voluntary and that I am free to withdraw from the study at any time without giving any reason.

☐

4. I understand that the findings from this study will be written up as a final report.

☐
<table>
<thead>
<tr>
<th>Coding Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Person Details.</strong></td>
</tr>
<tr>
<td>Ann</td>
</tr>
<tr>
<td>White, pale complexion, 40’s, brown eyes</td>
</tr>
<tr>
<td>Brown hair, long, straight, tied back, black scarf</td>
</tr>
<tr>
<td>Sunglasses, silver rimmed, dark lenses</td>
</tr>
<tr>
<td>Drop earring, silver with purple pendant</td>
</tr>
<tr>
<td>Silver chain necklace, locket, heart shaped</td>
</tr>
<tr>
<td>Cardigan, grey, purple stripes, dark grey stripes, V necked</td>
</tr>
<tr>
<td>Trousers, grey, straight legged,</td>
</tr>
<tr>
<td>Grey top under cardigan</td>
</tr>
<tr>
<td>Black shoes, flat</td>
</tr>
<tr>
<td>Black socks</td>
</tr>
<tr>
<td>Silver watch on left wrist with a chain strap</td>
</tr>
<tr>
<td>Chunky silver bracelet on right wrist</td>
</tr>
<tr>
<td>Gold wedding ring.</td>
</tr>
<tr>
<td>Karen</td>
</tr>
<tr>
<td>White, 40’s pale skin</td>
</tr>
<tr>
<td>Brown hair, long, wavy, tied back</td>
</tr>
<tr>
<td>Black, short denim jacket</td>
</tr>
<tr>
<td>V neck black top with green pattern</td>
</tr>
<tr>
<td>Cream trousers pedal pushers</td>
</tr>
<tr>
<td>Black, flat, canvas shoes</td>
</tr>
<tr>
<td>Sarah</td>
</tr>
<tr>
<td>Blonde hair, tied back with a clip</td>
</tr>
<tr>
<td>White, 40s</td>
</tr>
<tr>
<td>Short sleeved white cardigan</td>
</tr>
<tr>
<td>Pale blue T shirt</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>Long, tiered skirt pale blue / white</td>
</tr>
<tr>
<td>Wearing long strapped black bag across body</td>
</tr>
<tr>
<td>Silver, large faced watch</td>
</tr>
<tr>
<td>Drop gold earrings</td>
</tr>
<tr>
<td>Bead bracelet</td>
</tr>
<tr>
<td>Identity bracelet</td>
</tr>
<tr>
<td>Gold chain bracelet</td>
</tr>
<tr>
<td>Diamond ring</td>
</tr>
<tr>
<td>Wedding ring</td>
</tr>
<tr>
<td>Eternity ring</td>
</tr>
<tr>
<td>Turquoise high heeled sandals</td>
</tr>
<tr>
<td>Sunglasses, light brown frames, Smokey, large lenses.</td>
</tr>
<tr>
<td>Thief</td>
</tr>
<tr>
<td>Male, white, 60s,</td>
</tr>
<tr>
<td>Tall</td>
</tr>
<tr>
<td>Clean shaven</td>
</tr>
<tr>
<td>Black cap</td>
</tr>
<tr>
<td>Grey jacket</td>
</tr>
<tr>
<td>Black trousers</td>
</tr>
<tr>
<td>Dark blue shirt</td>
</tr>
<tr>
<td>Silver rimmed glasses</td>
</tr>
<tr>
<td>Boy1 (Youngest)</td>
</tr>
<tr>
<td>Dark, wavy hair (length, below ears)</td>
</tr>
<tr>
<td>White, freckles, tanned, 11 years old</td>
</tr>
<tr>
<td>The boys are brothers</td>
</tr>
<tr>
<td>Sweat shirt, dark grey with hood</td>
</tr>
<tr>
<td>Soul cap, red logo</td>
</tr>
<tr>
<td>Track suit trousers, light grey, black stripe</td>
</tr>
<tr>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Trainers, black with yellow stripe</td>
</tr>
<tr>
<td>White socks</td>
</tr>
<tr>
<td>Boy 2 (eldest)</td>
</tr>
<tr>
<td>Brown hair, wavy, below ears</td>
</tr>
<tr>
<td>White, tanned, 15 years old,</td>
</tr>
<tr>
<td>Sweat shirt, white, silver threads,</td>
</tr>
<tr>
<td>A/A on sleeve, hood,</td>
</tr>
<tr>
<td>Track suit bottoms, pale grey, impost</td>
</tr>
<tr>
<td>Niki logo</td>
</tr>
<tr>
<td>Black Adidas trainers with white stripes.</td>
</tr>
<tr>
<td>People in background</td>
</tr>
<tr>
<td>Young girl</td>
</tr>
<tr>
<td>Pink top,</td>
</tr>
<tr>
<td>Long loose, blond hair</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>White socks</td>
</tr>
<tr>
<td>Man</td>
</tr>
<tr>
<td>Middle aged</td>
</tr>
<tr>
<td>white</td>
</tr>
<tr>
<td>Grey hair</td>
</tr>
<tr>
<td>T shirty, blue and white vertical stripes</td>
</tr>
<tr>
<td>Grey trousers</td>
</tr>
<tr>
<td>Sunglasses</td>
</tr>
<tr>
<td>Woman</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Middle aged</td>
</tr>
<tr>
<td>Short, wavy, blond hair</td>
</tr>
<tr>
<td>Top</td>
</tr>
<tr>
<td>Waitress</td>
</tr>
<tr>
<td>Late teens</td>
</tr>
<tr>
<td>White</td>
</tr>
</tbody>
</table>
Long, dark wavy hair tied back with head band
Black leggings
Purple, floral top, short sleeved
Man leaving cafe
White, 30s
Rugby top, red and black horizontal stripes
Blue jeans
Short, dark hair.

Total person descriptors 211.

Action Details

<table>
<thead>
<tr>
<th>Karen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sat at table</td>
</tr>
<tr>
<td>Waves to Sarah</td>
</tr>
<tr>
<td>Greets Sarah</td>
</tr>
<tr>
<td>Takes phone out of bag</td>
</tr>
<tr>
<td>Tries to answer phone</td>
</tr>
<tr>
<td>Puts phone back in bag</td>
</tr>
<tr>
<td>Looks at boys</td>
</tr>
<tr>
<td>Admires the gifts</td>
</tr>
<tr>
<td>Takes money out of purse</td>
</tr>
<tr>
<td>Puts purse on table</td>
</tr>
<tr>
<td>Goes into the cafe</td>
</tr>
<tr>
<td>Runs out of cafe</td>
</tr>
<tr>
<td>Bends down to comfort Ann</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sarah</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrives at table</td>
</tr>
<tr>
<td>Greets Karen</td>
</tr>
<tr>
<td>Acknowledges Ann</td>
</tr>
<tr>
<td>Action</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Sits at table</td>
</tr>
<tr>
<td>Looks at boys</td>
</tr>
<tr>
<td>Takes gifts out of bag</td>
</tr>
<tr>
<td>Puts gifts and bag on table</td>
</tr>
<tr>
<td>Takes box out of bag</td>
</tr>
<tr>
<td>Shows the bracelet</td>
</tr>
<tr>
<td>Puts bracelet on table</td>
</tr>
<tr>
<td>Goes into cafe</td>
</tr>
<tr>
<td>Runs out of cafe</td>
</tr>
<tr>
<td>Takes mobile out of bag</td>
</tr>
<tr>
<td>Calls police</td>
</tr>
<tr>
<td><strong>Ann</strong></td>
</tr>
<tr>
<td>Sat at table</td>
</tr>
<tr>
<td>Watches as Sarah shows gifts</td>
</tr>
<tr>
<td>Beckons man</td>
</tr>
<tr>
<td>Stands up</td>
</tr>
<tr>
<td>Gives man, phone, purse, bracelet and gift bags</td>
</tr>
<tr>
<td>Falls to the ground</td>
</tr>
<tr>
<td>Grips ankle</td>
</tr>
<tr>
<td><strong>Man</strong></td>
</tr>
<tr>
<td>Sat at table</td>
</tr>
<tr>
<td>Reading newspaper</td>
</tr>
<tr>
<td>Approaches Ann</td>
</tr>
<tr>
<td>Places bag on table</td>
</tr>
<tr>
<td>Takes phone, purse, bracelet, gift bags</td>
</tr>
<tr>
<td>puts in bag</td>
</tr>
<tr>
<td>Runs off to the left of the cafe</td>
</tr>
<tr>
<td><strong>Boys</strong></td>
</tr>
<tr>
<td>Sat at table</td>
</tr>
<tr>
<td>Looking at their mobile phone</td>
</tr>
<tr>
<td>Play fighting, laughing</td>
</tr>
<tr>
<td>Drinking from cans</td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Looking at women</td>
</tr>
<tr>
<td>Boy 2 Stands up to look at bracelet</td>
</tr>
<tr>
<td>Boy 1 stands up when goods are stolen</td>
</tr>
<tr>
<td>Go to run after thief</td>
</tr>
<tr>
<td>Go towards Ann when she falls over</td>
</tr>
<tr>
<td>Run off to the right of the café when Ann screams</td>
</tr>
<tr>
<td>Older boy pulls younger by the hood.</td>
</tr>
<tr>
<td>Waitress walks across scene carrying tray, collects cups from table</td>
</tr>
<tr>
<td>Young girl drinks from orange bottle with a straw and eats an ice cream.</td>
</tr>
<tr>
<td>Man and woman eating ice cream.</td>
</tr>
</tbody>
</table>

Total action 190

Conversation

**Karen**

Greets Sarah

Introduces Ann

“Only just met…”

“Parked up road…”

“Running after me with £5..”

“Saying I had dropped it..”

“Checked housekeeping..”

“Let's split it…”

“Was meeting you anyway…”

“New phone .. David…..”

“Boys not bothering..”

“Must have cost a fortune..”

Admires bracelet

“Get some tea..”
<table>
<thead>
<tr>
<th><strong>Sarah</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Greets Karen</td>
<td></td>
</tr>
<tr>
<td>“Can we sit somewhere else?”</td>
<td></td>
</tr>
<tr>
<td>“Got something for Gemma..”</td>
<td></td>
</tr>
<tr>
<td>“21st birthday”</td>
<td></td>
</tr>
<tr>
<td>“Hope she likes it..”</td>
<td></td>
</tr>
<tr>
<td>Cost quite a bit</td>
<td></td>
</tr>
<tr>
<td>“I’ll phone the police”</td>
<td></td>
</tr>
<tr>
<td><strong>Ann</strong></td>
<td></td>
</tr>
<tr>
<td>(to man) Expensive mobile phone, Housekeeping money,..”</td>
<td></td>
</tr>
<tr>
<td>Shouts for help</td>
<td></td>
</tr>
<tr>
<td>Those two boys ran off</td>
<td></td>
</tr>
<tr>
<td>Pushed me…</td>
<td></td>
</tr>
<tr>
<td>Couldn’t stop them</td>
<td></td>
</tr>
<tr>
<td>Took your things</td>
<td></td>
</tr>
<tr>
<td><strong>Boys</strong></td>
<td></td>
</tr>
<tr>
<td>(In response to theft)</td>
<td></td>
</tr>
<tr>
<td>What are you doing?</td>
<td></td>
</tr>
<tr>
<td>You can’t do that.</td>
<td></td>
</tr>
<tr>
<td>Stop him.</td>
<td></td>
</tr>
</tbody>
</table>

Total conversation 31.

**Surroundings**

<table>
<thead>
<tr>
<th>Outside cafe</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tables, silver topped, round</td>
<td></td>
</tr>
<tr>
<td>Chairs, steel legged, wicker seats</td>
<td></td>
</tr>
<tr>
<td>Sunshine</td>
<td></td>
</tr>
<tr>
<td>Day time</td>
<td></td>
</tr>
<tr>
<td>By the sea</td>
<td></td>
</tr>
<tr>
<td>Windy day</td>
<td></td>
</tr>
<tr>
<td>Pavement area</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Skate park to the side</td>
<td></td>
</tr>
<tr>
<td>Fire exit sign</td>
<td></td>
</tr>
<tr>
<td>Café has six large glass windows</td>
<td></td>
</tr>
<tr>
<td>Yellow door</td>
<td></td>
</tr>
<tr>
<td>Ramp leading to door</td>
<td></td>
</tr>
<tr>
<td>Railing to right of cafe</td>
<td></td>
</tr>
</tbody>
</table>

Total surroundings 21

**Objects**

<table>
<thead>
<tr>
<th>Black, slim, smart phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purse, coloured spots, wallet shaped</td>
</tr>
<tr>
<td>Bracelet, silver links, black box, white lining, Lesley Davis.</td>
</tr>
<tr>
<td>2 gift bags; i) white with coloured pictures of boxes</td>
</tr>
<tr>
<td>ii) dark and light blue square</td>
</tr>
<tr>
<td>Large gift bag, pink spots</td>
</tr>
<tr>
<td>2 drinks cans on boys table</td>
</tr>
<tr>
<td>i) sprite, black and green</td>
</tr>
<tr>
<td>ii) Red and white can</td>
</tr>
<tr>
<td>Cup and saucer on thief’s table</td>
</tr>
<tr>
<td>Thief has black ruck sack</td>
</tr>
<tr>
<td>Karen has brown canvas bag</td>
</tr>
<tr>
<td>Ann has black shoulder bag</td>
</tr>
</tbody>
</table>

Total objects 39