

People with intellectual disabilities in the criminal justice system:

An examination of the behaviour analysis interview

Ahmet Demirden

Brock University

Supervisor: Dr. Nicole Luke

Instructor: Dr. Priscilla Burnham Riosa

Teaching Assistant: Melissa Legree

Email: ad08og@brocku.ca

Abstract

Background. People with intellectual disabilities (IDs) have been participating in the criminal justice system (the CJS) as victims, suspects, and witnesses, in which they have faced many challenges (Gudjonsson & Joyce, 2011). Their participation in the CJS often starts with a police interaction. In North America, police officers frequently implement the Behaviour Analysis Interview (the BAI) method in interviews (Kassin, Drizin, Grisso, Gudjonsson, Leo, and Redlich, 2010). This study examined both the BAI and challenges that people with ID face in the criminal justice system.

Methods. This paper is a narrative literature review on the BAI and people with ID in the criminal justice system. The review included English language studies, group design peer-reviewed articles. The studies published prior to 1990 and unpublished studies were excluded.

Results. The results indicated that people with ID is a vulnerable group in the criminal justice system. Cederbog and Lamb (2008) argued that people with ID may not be able to give meaningful statements to police officers due to compromised episodic memory and executive brain functions associated with ID. On the other hand, some of the challenges stem from certain police interview techniques. Using more close-ended rather than open-ended questions makes it harder for people with ID to give accurate statements (Gudjonsson & Joyce, 2011). Also, the BAI increases people with IDs' risk for being induced to falsely confess crimes in police interrogations (Kassin, Drizin, Grisso, Gudjonsson, Leo, and Redlich, 2010).

Conclusions. Findings supported that people with ID's risks in the criminal justice system can be decreased by implementing evidence-based police interview techniques, and suggest the need for police interview protocols that are based on science not common sense!

People with Intellectual Disabilities in the Criminal Justice System:**An Examination of the Behaviour Analysis Interview**

As members of a society, people with ID have participated in the criminal justice system as victims, witnesses, and suspects. In their participation, they have been reported to face challenges as a vulnerable group. The concept 'intellectual disabilities' implies difficulties and delays that start early in life that interfere with "typical" development of individuals (Rispen, Yule, and Yperen, 1997). Cederborg and Lamb (2008) indicated that different types of developmental delays are usually associated with unique cognitive deviations, which can bring about specific complications. For instance, Police officers frequently ask interviewees to rely on their episodic memory, which can be challenging for people with Down syndrome as they often have compromised episodic memory (Cederborg & Lamb, 2008). Anderson, Bechara, Damasio, and Tranel (1999) also reported that people with IDs' judgement and executive functions may be impaired when they have traumatic brain injuries affecting frontal regions of the brain. It needs to be noted that there are some differences between adults with ID and children with ID in relation to the challenges that they face in the criminal justice system.

Adults with ID generally have poorer episodic memory than children with similar disabilities (Gudjonsson, 2003). Children with ID, however, typically have memory capacity much like their mental aged peers in the general population but severity of disability often results in differences in memory performance (Henry & Gudjonsson, 1999). Children with mild ID give fewer details to open free-recall questions but are likely to respond similar to typically developing children of the same mental age (Henry & Gudjonsson, 1999). On the other hand, children with moderate disabilities provide less information than both typically developing peers

and children with mild ID (Henry & Gudjonsson, 2003). They are also more susceptible to suggestibility (Henry & Gudjonsson, 2003). Cederbog and Lamb (2008) argued that victims and witnesses with ID may have difficulty describing their experiences but that does not necessarily mean they are incompetent informants. How adults and children with ID are questioned impacts their ability to report information accurately (Kebbell & Hatton, 1999)! Open-ended and free-recall questions appear to elicit more detailed and accurate evidence from both adults and children with ID than recognition-based questions do (Dent, 1986; Kebbell & Hatton, 1999).

People with ID also involve in the criminal justice system as victims. In fact, people with ID are more likely to become the victims of a crime than the general population (Beail & Warden, 1995). The offenders who committed crimes against victims with ID have been rarely successfully prosecuted (Williams, 1995). Also, many offences against people with ID are not even being reported to police (Sobsey & Varnhagen, 1989). For instance, it is estimated that only one in four cases of sexual assault against victims with ID have been reported to police (Sobsey & Varnhagen, 1989). Some victims with ID have stated that their reports of sexual assault had not been taken seriously (Clare, 2001). Finally, when the alleged cases of abuse against a person with ID reach the courts, a guilty verdict is rarely achieved (Agnew & Powell, 2006). Clearly victims with ID appear to be more at risk of being a victim of a crime and face challenges in the process. It is important to recognize that these challenges are not inevitable and that the experience of people with ID in criminal justice system can be improved, for instance, by implementing evidence based police interview techniques (Cederbog & Lamb, 2008).

The Behaviour Analysis Interview

Police officers in North America had used physically aversive “third degree” methods of interrogations to get confessions from suspects until 1930s. As a result of number of Supreme courts of the US rulings, these methods were replaced by more psychological techniques that rely on behavioral lie-detection methods and social influence techniques in order to elicit confessions from suspects. One of the most frequently used methods is the BAI method, which is first designed by Inbau and Reid in 1962 (Inbau & Reid, 2001).

Kassin, Appleby, and Perillo (2010) reported that the BAI has been widely used by police officers to question suspects of crimes in the USA and Canada. The BAI method is a two-step model; pre-interrogation and interrogation (Kassin et al., 2010). The first objective is to detect lies during a pre-interrogation interview. The second objective is to get a confession during interrogation phase (Kassin et al., 2010).

The Pre-interrogation Interview

According to the BAI manual, police officers are first trained to question suspects in a two-step process that starts with a non-confrontational interview (Kassin et al., 2010). The objective of pre-interrogation interview is to provide ways in which police officers can assess if suspects are lying or telling the truth. In this step, officers ask non-accusatory questions and then observe the suspect for verbal and non-verbal behavioural evidence of deception. Inbau and Reid (2001) argued that officers, trained in the BAI, can achieve very high accuracy rates at detecting deceptions and can differentiate between criminals and innocent suspects.

The Interrogation

During the interrogation, persuasive social influence tactics are used with a main objective of getting a confession (Kassin et al., 2010). The interrogation is a guilt-presumptive process where a person of authority already believes that he or she is interrogating a criminal and that the only acceptable outcome is a confession (Kassin et al., 2010). The interrogation phase of the BAI includes nine steps (Kassin et al., 2010).

The nine steps of the BAI interrogation technique.

- 1) Interrogations are conducted in a soundproofed room that is small and isolated. Officers challenge the suspect with a strong allegation of guilt, often paired with incriminating evidence that may be real or false.
- 2) Officers briefly pause to assess the reaction of the suspect and then encourage him or her to tell the truth. In this stage, the officer suggests explanations that diminish the seriousness of the allegation and often propose moral justification for the offence, for instance, by blaming some other person.
- 3) Officers disregard all denial efforts of the suspect if he or she continues to maintain his or her innocence.
- 4) Officers attempt to discredit the suspect's moral, factual, and emotional explanations as to why he or she could not have committed the offence.
- 5) If the suspect displays passive withdrawal, officers should regain the suspect's attention.
- 6) Officers show sympathy and compassion to get the suspect's cooperation.
- 7) Officers are instructed to revisit the themes developed earlier by proposing an alternative question which presents two guilty explanations of the crime in which one is more serious than the other.

- 8) If the suspect confesses the offence, officers try to get a full admission with details about the offence.
- 9) Officers then get a full written confession from the suspect with details as to what, how, and why the crime was committed to improve credibility in court.

Purpose and Objective

The objective of this study was twofold. First, to review the literature on challenges that people with ID face in the criminal justice system. Second, to review the literature on the behaviour analysis interview.

Research Questions and Hypotheses

There are two research questions guiding this study. First, what are the challenges that people with ID face in the criminal justice system? It is hypothesized that a majority of the studies will indicate the challenges that people with ID face in the CJS are risk factors as opposed to ultimate labels of unreliability in police interviews. Second, has the BAI been reported an effective interview method for people with ID in the literature? It is hypothesized that the BAI has been reported as an ineffective interview method for people with ID in the literature.

Method

To date, there is limited research on people with ID in the justice system and on the BAI as an interview method with this population. This study is a narrative literature review with thematic organization (Appendix A). The studies have been reviewed in relation to the themes and topics they cover. The similarities and difference of studies were examined. Also, methodological limitations of studies were described along with the rationale, research design,

main findings and implications as applicable. The initial combined literature search results yielded approximately 100 studies. Next, 30 studies were identified by using PschINFO visual search function. Next, these 30 studies were reviewed to select the most relevant ones for this paper. Finally, 12 studies were selected for a review. Also, some references were made to other studies that were not extensively reviewed in this paper.

Inclusion Criteria

This review included English language studies, both group and single-case design peer-reviewed articles. No single-case design study was identified for the review.

Exclusion Criteria

This review did not include unpublished studies or the ones published before 1990.

Procedure

Brock University Library online "super search" function was utilized in this review, which is a "web-scale discovery" tool that allows users to search multiple library catalogues simultaneously. Also, PsycINFO visual search function was used as a screening tool.

Search Terms

Intellectual disabilities and justice system, intellectual disabilities and police, police interview techniques, learning disabilities and justice system, learning disabilities and police, behaviour analysis interview, and BAI.

Dissemination of Results

On Saturday, April 20th 2013, this writer will participate in a poster presentation for MADS at Brock University. Also, a copy of this study will be forwarded to Toronto Police College, Ontario Police College, and Canadian Police College.

Significance of Findings

People with ID have been recognized as a vulnerable group in the justice system (Gudjonsson & Joyce, 2011). If we identify the risk factors that they face in police interviews, we can strive to reduce and/or eliminate them.

Despite lack of empirical evidence on its effectiveness and reliability, the BAI has been widely used in North America in which false confessions and wrong convictions admitted in courts (Kassin, Appleby, and Perillo, 2010). With the literature review on its effectiveness, police services can make more informed decision about the implementation of the BAI.

This review starts with a literature on people with ID in the criminal justice system as victims, witnesses, and suspects, which is followed by a literature review on the BAI.

Victims and Witnesses with Intellectual Disabilities

1. Interviewing Adults with Intellectual Disabilities (Gudjonsson & Joyce, 2011)

This study is a literature review on police interviews and people with ID's capacity to give evidence in court. The authors indicated that people with ID have been recognized as a vulnerable group in police interactions. They also noted that 'vulnerabilities' are best defined as 'risk factors', rather than an ultimate label of unreliability or incapacity in participating police investigations. If people with ID are seen as vulnerable implying that they are incapable of

providing reliable and objective information to police, their risk of being a victim of a crime greatly increases (Gudjonsson & Joyce, 2011). The authors argued that basic understanding of the Oath is an essential element of a statement that is permissible in courts. As people with ID can have some understanding of the Oath, they should not be automatically regarded as unreliable witnesses due to their ID (Gudjonsson & Joyce, 2011). It is estimated that 75% of people with an IQ score 60 or above and 25% of people with IQ scores between 50 and 60, have a basic understanding of the Oath (Gudjonsson & Joyce, 2011). Moreover, many people with ID can understand their legal rights, including right to remain silent if these rights are carefully clarified for them (Gudjonsson, 2003).

Gudjonsson and Joyce (2011) identified the following challenges that people with ID face in police interviews.

Suggestibility.

People with ID may have poorer recollection and more likely to give into leading questions (suggestibility) than the general population.

Acquiescence.

People with ID may be more likely to give affirmative answers to questions than the general population.

Compliance.

Compliance is often negatively correlated to intelligence quotient scores, IQ scores.

Memory capacity.

People with ID generally have poorer memory capacity than the general population.

Impaired decision making.

People with ID may be more likely than the general population to fail to understand the serious consequences of making false incriminating admission during police interviews.

False confessions.

People with ID have been victims of false confessions more frequently than the general population.

Gudjonsson and Joyce (2011) stated that police interviews involve a complicated process in which there is an interaction between the nature of the allegations (theft under or murder, strength of evidence) custodial factors (length of the interview), individual expectations (by false confessions escaping from interview), and support factors (presence of a lawyer or suitable adult). An objective, systematic, and humane approach to police interviews with appropriate support may overcome many of the risk factors associated with unreliable and misleading statements from victims, witnesses as well as suspects with ID.

Gudjonsson and Joyce (2011) recommended the following “Achieving Best Evidence interview principles” based on Home Office (2008).

Rapport.

Officers should attempt to get to know the witnesses and speak with them about topics that they are comfortable with. This gives officers an opportunity to understand how a witness with ID communicates. This is also an opportunity when officers can make clear that stating "I don't know", "don't remember" or "don't understand" is okay.

Questioning.

Officers should use open-ended questions to get detailed evidence about what has happened. This is the part where the vulnerabilities of the person with ID can have most effect on

the quality of the evidence they provide. If asked close-ended leading questions, they may give affirmative answers to questions that are not true. Also, if witnesses with ID think that an officer is disapproving of their answers, they may attempt to get approval from the officer by modifying their answers, which can lead to false information. It is also at this stage when witnesses with ID may be asked about for more details about what has happened. Witnesses with ID are more likely to provide detailed evidence about an event with careful (non-leading) questioning as oppose to leading questioning.

Closure.

In this part, officers summarise what has been stated, making it clear that if witnesses have said anything wrong that it is okay to correct them. Officers then ask if there are any questions and thanks. The goal is also to attempt to make witnesses feel as comfortable as possible.

The next study is on alleged victims with ID who have been interviewed by police officers in Sweden (Cedenborg & Lamb, 2008). The researchers examined the interview techniques and their implications with this population.

2. Interviewing Alleged Victims with Intellectual Disabilities (Cederbord & Lamb, 2008)

Cederborg and Lamb (2008) examined how alleged victims with ID have been interviewed by police officers in Sweden. In this study, 11 alleged victims were selected from a larger sample of victims who were between 6.1 and 22 years old at the time of the interviews. The researchers used a quantitative analysis to examine the types of questions asked and the details that they elicited in response. Cederborg and Lamb (2008) noted gathering objective, accurate and complete evidence for police officers can be specifically challenging with victims and witnesses with ID.

Cederbog and Lamb (2008) proposed that open-ended questions, including invitations assist people with ID to remember evidence from memory. Invitations do not identify the particulars of the memories that are to be recalled and elicit more detailed responses than more fixed questions such as directive questions (Cederbog & Lamb, 2008). The authors reported that directive questions refocus on details that people with ID has formerly mentioned and elicit shorter responses than invitations do. Cederbog and Lamb (2008) also stated that as suggestive questions imply desirable responses, they should be completely avoided with victims and witnesses with ID. Victims and witnesses with ID can answer to open-ended questions as correctly as members of the general population do (Kebbell & Hatton, 1999). In this study, the Swedish police officers, did not follow the above recommendation, and did not established whether the participants could accurately respond to open-ended questions before posing close-ended and suggestive questions. Cederbog and Lamb (2008) suggested that the police officers' use of close ended questions may have decreased the accuracy of the evidence provided by the victims as close-ended and suggestive questions prompted the victims to respond even when they did not know the answer and thus responded inaccurately. Cederbog and Lamb (2008) also argued that there is a critical need to train police officers to use the types of open questions that increase accurate recollection with victims with ID. Early identification of intellectually disabled witnesses' abilities and capacities may also help interviewers to accordingly adapt their actions (Jones, 2003). In addition, officers should be trained to understand that different interview strategies may sometimes be necessary with this population and avoid popular prejudices about people with disabilities (Cederbog & Lamb, 2008)

The next study is on interview techniques and verbal strategies used with people with ID by Agnew, Powell, and Show (2006).

3. An examination of the Questioning Styles of Police Officers and Caregivers When Interviewing Children with Intellectual Disabilities (Agnew, Powell, and Show, 2006)

Agnew, Powell, and Show (2006) investigated the questioning styles and verbal strategies implemented by police officers and primary caregivers to interview children with ID. 120 children at 6 special schools in Australia- Victoria were initially contacted via letters. The final sample included 28 children who 9 to 13 years old with mild or moderate intellectual disability. The children's legal guardians provided consent and caregivers agreed to participate in the study. The drop off rate was high, approximately 50%, which is similar to other studies implementing repeated events (e.g. Powell, Roberts, Ceci, & Hembrooke, 1999). None of the participants had any major visual or hearing impairment. The participants were assigned to either a mild or a moderate level of disability category according to their intelligence quotient (IQ) score. The mild intellectual disability group consisted of 12 boys and 6 girls, aged 9 to 13 years, with an IQ score between 56 and 70. The moderate intellectual disability group included 7 boys and 3 girls, aged 9 to 13 years, with an IQ score of 55 or under. 18 female and 10 male police officers were recruited through letters. All of the police officers had received a 3-week training course related to the collection and videotaping of children's evidence.

The participants observed a 30-minute event, administered by a research assistant in the presence of a classroom teacher. The event was administered on four separate occasions, twice a week for 2 weeks, at the child's school. Each incidence of the event included 17 target items that were administered in the same chronological order. Both teachers and parents were instructed not to talk with the children about the activities outside the event and not to inform them that they would later be interviewed about the event. Only minimal information about the event was provided to the interviewers. The task was to elicit an accurate and detailed account of the event,

using whatever techniques they would normally use to interview a child with an intellectual disability in the field.

The officers attended the participant's school to interview them about the event within 2 weeks of the final occurrence of the event. Each officer was advised to conduct 1 interview with each participant, up to 17 minutes duration. The officers were provided with 2 minutes more than caregivers for their interviews to allow for a brief rapport-building stage. All interviews were video and audio recorded that were held individually in an isolated quiet room in the school. The participants were fully briefed by a research assistant both prior to and subsequent to the interviews. The children were told they were not in any trouble and that the purpose of the task was merely to give police officers practice in talking to children.

The caregivers conducted interviews within 4 weeks after the final occurrence of the event. The caregivers were told that the aim of the interviews was to examine the ways that caregivers elicit information from children with intellectual disabilities. The participants and the caregivers were briefed by a research assistant before and after the interviews. The interviews were conducted either at the participants home or schools. The interviews were maximum 15 minutes in duration and were video and audio recorded.

After the interviews the officers and the care givers completed a questionnaire about their experience in the study. The authors then examined the questions and strategies used by the officers and caregivers.

The results showed that officers used few leading questions and coercive strategies; however, they often interrupted the participant's statement. Police officers also implemented relatively few encouragers to keep the participants talking. On the other hand, the primary caregivers used relatively more direct, leading questions and coercive strategies to get

information from the participants. Interestingly, when the primary caregivers implemented open-ended questions, the participants gave less occurrence-related information than they did to the police officers. The authors argued that the quality of information gathered from children with ID depends on the degree to which police officers use best-practice strategies.

Agnew et al., (2006) argued that one of the most important best-practice strategies is not to interrupt a narrative flow with question or requests for clarifications. This strategy may apply to all witness groups but is particularly important with children with ID. However, research with typical children also has shown that officers are inclined to use more leading questions than open-ended questions and often interrupt the statements (Powell, Fisher & Wright, 2005). In this study, the findings suggest that officers use open-ended questions relatively more often; however, they tend to interrupt the flow of statement by asking for clarifications. Also, officers used a very few appropriate verbal strategies to keep the child on task and to clarify statements. The officers seldom reminded the participants of the topic to keep them on task. Instead, they often repeated the same questions to gather further recollection from the participants.

In narrative storytelling, the speaker is expected to use perspective taking and to modify the message based on the listener's perceived level of background information (Agnew et al., 2006). Nelson (1996) indicated reporting an occurrence in chronological order is a very complicated skill. Narrative storytelling can be challenging due to ID such as acquired brain injury and learning disability. Also, some forms of ID are associated with reduced articulacy, thus, making the police officers to ask repetitions and clarification, which in turn comprise the flow of a free narrative.

Agnew et al., (2006) argued that police officers can underestimate the ability of people with ID to report incidents during a police interview (Brennan & Brennan, 1994). As people with ID are likely to provide less detailed accounts of events than general public (Agnew & Powell, 2004), police officers may overlook the relevance of many significant details that could possibly lead to corroborative evidence (Agnew et al., 2006). It is important to note that while individuals with ID give less comprehensive accounts of events, what they report in their own words is generally very accurate (Agnew & Powell, 2004; Henry & Gudjonson, 1999). Thus, it is particularly critical that officers best-practice strategies particularly with people with ID.

The best-practice strategies (Agnew et al., 2006, p. 45).

- a) Gaining the child's attention (e.g. 'Sean, are you ready to answer some questions?')
- b) Positive feedback about the process of the interview (e.g. 'you're doing a great job of sitting still and thinking about my questions')
- c) Restating the focus of the interview (e.g. 'I need to know some more about what happened in the Deakin activities')
- d) Instructing the child to try to concentrate (e.g. 'Have a little think and see if there's more you can remember about the Deakin activities')
- e) Repeating the question when the child does not answer
- f) Ask child to demonstrate or show what (s) he meant (e.g. 'Can you show me with your hands how you used the face spray')
- g) Repeat the child's response in the form of a question (without disbelieving the child)

- h)** Asking the child to clarify something that was said (e.g. 'I'm sorry, I didn't understand that, the lady wore a red what?').

In conclusion, Agnew et al., (2006) emphasized the importance of better police training in the implementation of best-practice strategies in interviewing children with ID.

According to the Canadian Oxford dictionary edited by Barber (2004) "a suspect is a person thought to be guilty of a crime or offense", on the other hand, "an accused is person or group of people who are charged with or on trial for a crime". As members of a society, people with ID have also been involved in the criminal justice systems as suspects and accused (Lyall, Holland, Collins & Styles, 1995).

Suspects and Accused with Intellectual Disabilities

Suspects and accused with ID can be at a disadvantage due to their disabilities when in contact with police officers, particularly in police interviews (Fulero & Everington, 2004; Linhorst, Bennett & Mccutchen, 2002; Perske, 2000). They can have difficulties in understanding their legal rights, knowing the implications of their answers and comprehending the consequences of giving a statement or refusing to give a statement (Gudjonsson, 2010). The following part includes the literature on the implications of being a suspect and accused with ID in the criminal justice system.

1. Incidence of Persons with a Learning Disability Detained in Police Custody: A Needs Assessment for Service Development (Lyall, Holland, and Collins, 1995)

Lyall, Holland, and Collins (1995) used semi-structured questionnaire to assess the attitudes of staff and the policies of the services to "offending behaviour" in learning disabilities (LD) services in the UK. The researchers included the adults with (LD), living in residential

homes or attending day services in the Cambridge Health District who were in contact with the justice system in the year of 1992. They have visited 30 sites in this study and conducted direct interviews with senior staff and examined clients' case records to analyse details of the offences, responses of police, and responses of the other agencies. The authors stated that 7 out of 358 adults with LD were reported to be in contact with police in 1992. The consequences of being in contact with police as a suspect of a criminal allegation was categorized as: not charged, cautioned, remanded in custody, or bailed to court. None of the alleged 7 offenders were prosecuted. The alleged offences included 2 thefts, 2 sexual offences, 1 assault, 1 wasting of police time, 1 offence against the Public Order Act and 1 traffic offence" (Lyall, Holland, & Collins, 1995). The researchers reported that there were unable to identify referral programs for suspects with LD in the Cambridge Health District. The referrals have been inconsistent with a large time-gap between alleged offence and referral.

Staff tolerance of offending behaviour was also examined in the semi-structured staff questionnaire. The objective was to find out under what circumstances staff would report offences against another client, a staff, or a member of public to the police. In the questionnaire, the offences were classified as minor assault, major assault, sexual assault, rape, theft, and property damage. Some of offences were highly tolerated in residential homes; thefts and property damage were often not reported to the police. The findings also included perplexing results, for instance, in one residential home staff reported that they would hesitate to report even serious allegations such as rape and serious assault to the police. Not reporting alleged offences to the police may be perceived as a way of protecting a person with LD, but it may also mean that the alleged offender and the victim do not receive the support and rehabilitation that they may need (Lyall, Holland, & Collins, 1995). The investigators indicated that they are not of the

opinion that all problem behaviours in LD services that may be considered as criminal offences should be reported to the police. Nevertheless, the results of this study suggest that serious offending behaviours such as sexual assault and major assault may go unreported in LD services, which may create hazardous environment for all involved parties, including alleged offenders.

Carson (1989) stated that an individual with LD who is alleged to commit a crime but was never in a trial, becomes associated with that unproven offensive behaviour for the rest of his or her life. Consequently, alleged offenders may indefinitely subject to negative consequences for unproven offences by facing restricted life-styles on the grounds that these restrictions are for their best interest and for the protection of others (Carson, 1989).

2. People with Learning Disabilities' Experiences of Being Interviewed by the Police (Leggett, Goodman, & Dinani, 2007)

Leggett, Goodman, and Dinani (2007) conducted a qualitative study to examine the experiences of people with learning disabilities (LD) who had been interviewed by the police in UK. The participants were 13 males and 2 females, with LD who had been interviewed by the police as suspects in alleged offences. The alleged offences were arson, assault, sexual assault, theft, drug related offences, and manslaughter. A semi-structured interview was conducted with the participants. At the beginning of each interview, the participants were prompted to give a free narrative of what happened to them when they were questioned by the police. The participants were then asked to talk about what they liked or disliked about the police questioning. Following questions explored particulars of the police interviews such as who were present and their understanding of the roles of the people who were present at the time. The participants were interviewed for 20 to 90 minutes, which was audio taped and transcribed.

The results were then analysed by implementing Interpretive Phenomenological Analysis (Smith, 1995). The investigators noted that this study was carried out while the participants were receiving a clinical service, but they did not indicate whether the participants were with mild or severe LD or some other information about their diagnoses.

The investigators reported that police and criminal evidence act (PACE) in the UK requires the police to have people with LD with an appropriate adults (AA) during police interviews. However, the results showed that 4 of the 15 participants were not accompanied with an AA during police interviews. 1 of these participants refused an AA when he was told that it would take 4 hours for the AA or solicitor to arrive. Of the 11 participants who were with an AA, 1 did not know who the AA was or their profession, 5 had a relative, 4 had a social worker, and 2 had a support worker as an AA. There were mixed levels of understanding the role of the AA. 11 participants had some understanding that an AA was present to assist them in the police interviews by helping them communicate and providing them with breaks. However, 2 participants did not know what an AA was. 2 knew that an AA would sit with them during police interviews. Some participants stated that in their experience the AA did not make any contribution during police interviews. Some other participants indicated that they did not wish to have a relative acting as an AA for confidentiality concerns.

The authors reported that it may be beneficial to have an AA with suspects with ID in police interviews who can facilitate the process. However, one needs to be more vigilant if the designated AA is a family member or a relative. Medford, Gudjosson, and Pearse (2003) argued that a relative is more likely than other AAs to answer questions on behalf of the suspect or adopt the role of the investigating officer. In this study, the participants did not report general negative

experiences in the police interviews. Some participants also indicated that they were listened to and understood.

3. Interrogative Suggestibility, Memory and Intellectual Disability (Beail, 2002)

Beail (2002) examined the implications of the Gudjonsson Suggestibility Scales (the GGS) that has been used as a suggestibility test with suspects, complaints, and witnesses with ID for court proceedings.

The first GGS was published in 1984 (Gudjonsson, 1984) and the second edited version in 1987 (Gudjonsson, 1987). Both scales use a narrative passage that is read out to the client, who is then asked to recall the details about the narrative passage. There is an approximately 50 minute- delay between reading the narrative and the assessment. In the assessment part, the client is asked 20 specific questions about the narrative. 15 questions are misleading questions or suggest false alternatives. The "yield 1" score is obtained based on the clients' correct answers and their selection of false alternatives. After "yield 1" score obtained, a negative feedback is provided to the client by stating "you have made a number of errors". It is necessary to go through the questions once more and this time try to be more accurate." The same 20 questions are asked again and scores are obtained as before to calculate "yield 2" score. The extent to which the client modified their responses gives "shift" score. Beail (2002) conducted literature review and argued that reliability and validity of the GGS has mostly been assessed with the general and forensic populations, not with people with ID. Nevertheless, the GGS has been widely implemented as suggestibility test with suspects and accused with ID in the justice system (Beail, 2002). In this study, Beail (2002) critically examined the use of GGS with adults with ID.

Beail (2002) indicated that in relation to recollection of previous events, the poorer the person's memory the more suggestible he or she is likely to be. Some people with ID have poor memory due to their disabilities, and therefore it is not surprising that there are studies suggesting people with ID can be susceptible to agree with a person in authority (Kebbell & Hatton 1999). However, people with ID can also provide accurate descriptions of events when carefully interviewed (Kebbell & Hatton, 1999). Beail (2002) noted that there are two kinds of memory: memory for a narrative passage and memory of event.

Beail (2002) argued that police interviews usually do not involve semantic memory but often concerned with episodic or autobiographical event memory. Experienced events often involve multi-modal sensory input, resulting in a more comprehensive trace in associative memory (Beail, 2002). Research using verbal-visual material showed that people with ID recollect more and are less likely to yield to leading questions when they are presented with multi-modal sensory input (Beail, 2002). Also, differences between people with ID and the general population were found to be insignificant (Beail, 2002).

Beail (2002) concluded that implementation of the GGS with suspects and accused with ID is problematic as the GGS is specifically designed to measure semantic memory not event memory. Beail (2002) also stated that research on event memories of people with ID showed higher levels of accuracy, less of a tendency to acquiesce and more resistance to suggestions. The fact that people with ID may have difficulty describing their experiences does not necessarily mean that they are incompetent in the justice system. How people with ID are interviewed affects the quality of their statements (Kebbell & Hatton 1999). Beail (2002) suggested that open-ended free-recall questions have shown to produce more accurate information from people with ID than recognition-based questions do.

Although people with ID may report less complete information than the general population they can still provide relevant and accurate evidence in police interviews (Dent, 1986; Perlman et al., 1994; Kebbell & Hatton, 1999).

4. The First Critical Steps Through the Criminal Justice System for Persons with Intellectual Disabilities (Mercier, & Crocker, 2010)

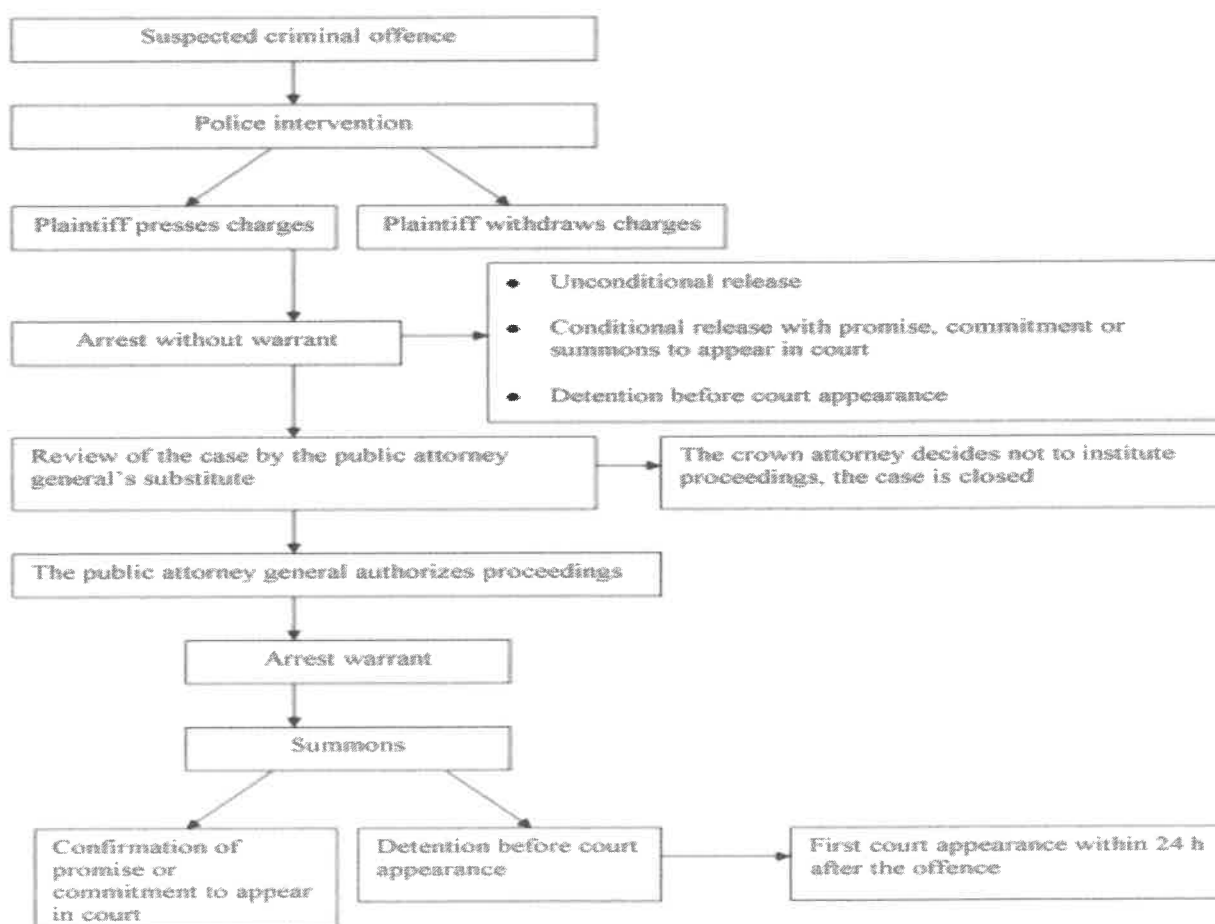
Mercier and Crocker (2010) conducted a qualitative study to examine the initial steps of the judicial process for people with ID who were suspected of a minor offence in the province of Quebec, Canada. The investigators conducted semi structured interviews with 14 participants from the criminal justice system and community organisations working in the area of ID. At the start of each interview, the participants were asked to describe the circumstances involving their role in relation to people with ID in the criminal justice system. Next, they were asked questions around pre-court procedures such as police intervention and the review of the case by the crown attorney. The participants were also invited to suggest changes to the current practices to improve the quality of services available for suspects with ID. The same research assistant conducted all the interviews, which were modified based on the participant role in the process. The interviews lasted approximately 2 hours.

The findings showed that multiple parties, including police officers and crown attorneys make important decision that have serious consequences for a suspect with ID.

Following the commission of an alleged minor offence, complainant is the first decision maker. If the complainant decides not to proceed with charges the suspect may be released. Some participants reported that police officers often suggest complainants to withdraw complaints in relation to minor offences. If a complaint is filed, a police officer writes a report

for the crown attorney's office. The information on this report has great impact how the incident will be processed in the next stages of the justice system. The police officer may note a suspected mental health problem, substance abuse, or intellectual disability. Nevertheless, this study showed that the standard incident report is not designed to include information on intellectual disabilities. In the following stage, crown attorney reviews the case and decides whether or not proceed with charges. The crown attorney can also ask for an assessment of the defendant's fitness to stand a trial by a psychiatrist. Once a defendant is deemed to fit a trial, allegations are being brought before a judge. During a trial, a judge can also ask for a psychiatric assessment for the defendant. The judge then may dismiss the charges or proceed with the trial.

Figure 1 Judicial process within 24 hours following an offence (Mercier & Crocker, 2010, page 133).



Mercier and Crocker (2010, p135) stated that the participants recommended the following improvements to the current judicial system:

- a) Early screenings of ID, for instance, check-up box in the police report.
- b) Training of criminal justice system personnel in issues related to intellectual disabilities.
- c) Use of summons to appear in court.
- d) Memorandums of understanding.
- e) Crisis intervention teams and emergency residential facilities.
- f) Community-based follow-up program.

The authors expressed their concerns about screening for ID, given the risk of stigmatisation and discrimination. Suspects with ID may attempt to hide their disabilities to circumvent the label of ID. The investigators also noted that the criminal justice system procedures in relation to suspects with ID changes from one jurisdiction to another, depending of the criminal laws and procedures, available services and support systems.

As indicated earlier the BAI is the one of the most common police interview method in North America (Kassin, Drizin, Grisso, Gudjonsson, Leo, and Redlich, 2010). The following includes a literature review on the effectiveness of the BAI.

The Effectiveness of the BAI

1. Differentiation of Truthful and Deceptive Criminal Suspects in Behaviour Analysis Interviews (Horvath, Jayne, & Buckley, 1994)

Horvath, Jayne, and Buckley (1994) conducted a study to evaluate the effectiveness of the BAI to differentiate between truthful and lying suspects.

They asserted that the BAI method is designed to assist officers in differentiating truthful suspects from lying suspects. During the BAI, officers assess suspects' verbal responses and nonverbal behaviours to determine whether a suspect is involved in the criminal incident (Horvath et al., 1994).

In this study, 4 evaluators who are trained in the BAI, scored 60 videotaped interviews from real-life settings, 30 truthful suspects and 30 lying suspects. The interviews were videotaped by trained staff members of John E. Read and associates between November 1989 and November 1991. All interviews were about an investigation of loss or suspected theft of money or property. Each interview contained the complete BAI (30 to 45 minutes) with "background", "investigative", and "behaviour-provoking" questions (Appendix B). The 4 evaluators were blind to the conditions (truthful or lying suspects). The mean age of all suspects in the interviews was 28 years with ($SD = 8.22$). The authors conducted an analysis of variance (ANOVA) with three factors, status (truthful / deceptive), race (white / non-white), and gender (male /female) with age as a dependent variable. There were no significant differences in the mean age of the sample for race or gender. On the other hand, the mean age of those who were lying ($M=24.4$) was lower than those of suspects who were truthful ($M=30.6$).

The authors reported that the 4 evaluators' average accuracy on truthful suspects was 91% and on lying suspects was 80%, excluding inconclusive decisions. The authors also indicated that lying suspects displayed the predicted behaviours of "deceptiveness" more than truthful suspects. They concluded that the BAI is a useful tool to differentiate between truthful and lying suspects in criminal investigations.

Inbau, Reid, Buckley, and Jayne (2001) argued that they designed the BAI to induce different verbal and non-verbal responses from liars and truthful people. According to the BAI predictions, liars are less helpful than truthful people in police investigations and exhibit more nervous behaviour (Inbau et al., 2001). On the other hand, Vrij, Mann, and Fisher (2006) argued that the lie detection predictions of the BAI in relation to behavioural characteristics displayed by the liars and truthful people are not accurate (Appendix C).

2. An Empirical Test of the Behaviour Analysis Interview (Vrij, Mann, & Fisher, 2006)

Vrij et al., (2006) conducted the first empirical test of the BAI to assess its validity and effectiveness in UK at a university union. 40 undergraduate students, 21 male and 19 female, participated in this experiment. The participants' age were between 18 to 46 years old ($M = 21.73$ and $SD = 6.3$). The participants received £5 with a possibility of getting an additional £10 at the end of the experiment. The participants were randomly assigned to either truth telling condition or the deception condition after they signed an informed consent form. The participants in the deception condition ($N = 20$) were asked to lie whereas the ones ($N = 20$) in the truth telling condition were asked to tell the truth about a mock theft occurrence in a BAI interview. All participants were interviewed by the same uniformed British male police officer who was blind to the participant's condition (deception or truth telling). After the interview, the police officer gave each participant a questionnaire. The experimenter then advised the participants that the police officer had believed them and each participant received the full £15.

All interviews were audio- videotaped and transcribed. The interviews were coded in accordance with Inbau et al., guidelines (2001). The inter-rater reliability scores suggested strong

reliability in BAI coding, $r(40)=.82$. The two raters were blind to the participants' condition (deception or truth telling).

The researchers also assessed the two groups with regards to motivation, £10 incentive, and self-control. The two groups appeared to be motivated equally and did not differ with regards to their beliefs that they would receive a £10 incentive at the end. However, the participants in the deception condition reported trying much harder to appear honest than the ones in the truth telling condition. The authors conducted ANOVA with Veracity (deception vs. truth telling) as the factor. The results were in line with the impression management hypothesis while contradicting the BAI predictions. The participants in the deception condition received a higher BAI score than truth-tellers $F(1, 38)=7.25, p < .01, \eta^2 = .16$. The results also indicated that the participants in the truth telling condition appeared to be uninformed when articulating the purpose of the interview and exhibited more nervous behaviours, all of which are contradicting the BAI predictions.

3. Police-induced Confessions: Risk Factors and Recommendations. (Kassin, Drizin, Grisso, Gudjonsson, Leo, & Redlich, 2010)

Kassin, Drizin, Grisso, Gudjonsson, Leo, and Redlich (2010) conducted an extensive literature review on police-induced confessions. This study consisted of approximately 300 citations including some case laws. In their review, they examined both suspect characteristics (e.g., intellectual disability, mental illness) and interrogation tactics (e.g., introduction of false evidence and minimization of the alleged offence) that are reported to influence confessions.

The authors analysed the BAI method and recommended use of the PEACE (another interview technique developed in the UK) to improve interrogation practices for the protection of vulnerable suspect populations (e.g., youth offenders and people with ID).

Kassin et al., (2010) argued that the BAI is a guilt-presumptive and confrontational method that put innocent adolescents and people with ID and others at risk. They made the following recommendation to increase the quality of police interrogations.

Recommendations by Kassin et al., (2010).

- a) Police interrogations should be recorded.
- b) Officers should consider implementing the PEACE. The objective of PEACE model is reported to be fact finding rather than obtaining confessions from the suspects as oppose to being a guilt-presumptive. It is beyond the scope of this paper to examine the PEACE model in details. In short, the PEACE stands for "Preparations and Planning", "Engage and Explain", "Account", "Closure", and "Evaluate". Kassin et al., (2010) reported that officers are able to gather facts and relevant evidence from suspects in mock interviews by implementing the PEACE.
- c) Officers should receive special training on the added risks to people with ID and other vulnerable groups.

4. Interviewing Suspects: Practice, Science, and Future Directions. (Kassinm Appleby, & Perillo, 2010)

Kassin, Appleby, and Perillo (2010) conducted a literature review to examine models of interrogation. They compared the BAI and the PEACE methods and suggested that the PEACE is more effective than the BAI.

They indicated that the BAI model is the most frequently used technique in North America and around the world, whereas the PEACE is commonly implemented in the UK.

Kassin et al., (2010) stated that suspects in the USA are typically interrogated in a two-step procedure, the BAI. First, police officers use behavioural lie detection techniques during a pre-interrogation interview that is followed by an interrogation, in which the objective is to get confessions from suspects (Kassin et al., 2010). The authors reported that research conducted on the pre-interrogation step showed that police officers frequently include innocent people in interrogations. Research on the second step showed that innocent people sometimes falsely confess to crimes that they did not commit due to some dispositional vulnerabilities (e.g. mental illness or intellectual disabilities) (Kassin et al., 2010).

Research on the pre-interrogation phase revealed that police officers often get innocent people for interrogation due to flawed but confident detections of lies (Kassin et al., 2010). According to the authors, police officers tend to be overly confident in detecting lies in interrogations; however, they argue that according to research neither lay people nor professionals, including police officers, have been found unable to reliably detect lies in interrogations (Kassin et al., 2010). Research on the interrogation phase also showed that innocent people are sometimes induced to falsely confess crimes as a result of some dispositional vulnerabilities (e.g., intellectual disability) or the implementation of persuasive interrogation

Pre-interrogation.

The objective of pre-interrogation interview is to provide ways in which officers can assess if suspects are lying or telling the truth. In this step, officers ask non-accusatory questions and then observe the suspect for verbal and non-verbal behavioural evidence of deception. Inbau et.al.(2001) argued that police officers, trained in the BAI can achieve very high

accuracy rates at detecting deceptions that can differentiate between criminals and innocent suspects. Research on the science of human lie detection has consistently shown that many of the behavioural cues that officers are taught to use, such as avoiding eye contact, rigid posture, and fidgeting, are not diagnostic of truth and deception (Bond & DePaulo, 2006). Kassin et al., (2010) argued that based on research the BAI relies on behavioral stress cues that do not reliably assess deception (Akehurst, Kohnken, Vrij, & Bull, 1996; DePaulo, Lindsey, Malone, Muhlenbruck, Charlton, & Cooper, 2003; Stromwall & Granhag, 2003; Vrij, Akehurst, & Knight, 2006). The BAI training was not found to increase police officers' accuracy of detecting deception (Bond & DePaulo, 2006). However, the officers tend to believe that they can much better detect lies with the BAI techniques (Kassin et al., 2010). Experiments designed to assess the BAI have repeatedly shown that there is no empirical evidence for the diagnostic value of the behavioural cues that officers are trained to observe in suspects (Kassin et al., 2010). Participants who have received the BAI training were not more accurate detecting deceptions than others. However, they were more confident in their judgements and biased toward observing deception in mock trials (Vrij, Mann, and Fisher 2006; Kassin & Fong, 1999).

In the BAI, suspects who are believed to be deceptive in the pre-interrogation interviews are taken into a highly confrontational interrogation.

The interrogation.

The interrogation is a guilt-presumptive process where a person of authority already believes that he or she is interrogating a criminal and that the only acceptable outcome is a confession (Kassin et al., 2010). In cases of innocent suspects who are mistakenly taken into interrogation, one would hope that officers systematically re-evaluate their beliefs; however, research showed that once people form a judgement, they tend to look for behavioural data to

verify their judgement which is also known as the behavioural conformation bias (Kassin et al., 2010). According to Kassin et al., (2010) this type of bias has also been seen in various settings including classrooms, military, and workplace. Behavioural conformation bias can result in police-induced false confessions (Kassin et al., 2010). The authors indicated that there are 3 types of false confessions; voluntary false confessions, coerced-compliant, and coerced-internalized (Kassin et al., 2010). They also reported 2 types of risk factors in relation to false confessions; situational and dispositional. Situational risk factors are physical custody and isolation, presentation of false evidence, and minimization (promises implied but not articulated) whereas dispositional risk factors include adolescence and immaturity, cognitive and intellectual disability, and psychopathology (Kassin et al., 2010).

The problem of false confessions.

Kassin et al., (2010) indicated that interrogation process can be deemed successful as long as it provides police with a lawful ways of convincing suspects to confess their crimes. However, as stated earlier, innocent suspects are sometimes induced to confess to offences that they did not commit. The authors reported that according to research, false confessions are a contributing factor in approximately 20% of false convictions in the USA (Drizin & Leo, 2004). This data did not include false confessions that were excluded by police or prosecutors.

Kassin et al., (2010) argued that some suspects (e.g. youth, people with mental illness, and people with ID) are more vulnerable to give a false confession than others. They reviewed a paper by Gudjonsson (2003) who suggested that persons with high score on a self-report assessment of compliance in social settings are particularly vulnerable because they tend to avoid confrontational situations and try to please others. Gudjonsson (2003) conducted a study with alleged false confessors who have been diagnosed with psychological disorders.

The results showed that people with psychological disorders are particularly susceptible to offer a false confession under police interrogation.

Kassin et al., (2010) indicated that officers who are led to perceive guilt rather than innocence asked more guilt-presumptive questions, used more techniques, and tried harder to get a confession. These officers made innocent suspects appear more anxious, more defensive, and more likely to give a false confession. Innocent suspects would hope that their innocence will be apparent during interviews, but the guilt-presumptive method of interrogation and the behavioural conformation bias can bring about serious negative consequences for innocent suspects.

Kassin et al., (2010) also argued that police officers start the interrogation with one objective that is “to persuade a suspect to tell the truth”. The legal rights to remain silent and to speak with counsel should defend suspects from harsh interrogations; however, research showed that these rights do not necessarily protect suspects from such interrogations (Kassin et al., 2010). In *Miranda versus Arizona* (1966), the US Supreme Court ruled that police should tell suspects of their legal rights to remain silent and speak with counsel of their choice. Officers permitted to start interrogation only after these rights have fulfilled. However, this safeguard appears not to be effective, it is estimated that 80% of suspects waive their Miranda rights (Leo, 1996). Once suspects waive their rights, they face with interrogation.

Kassin et al., (2010) concluded that the PEACE is more effective alternative model to the BAI in gathering facts and relevant evidence from suspects. See Clarke and Milne (2001) for detailed description of the PEACE.

5. Is the Behaviour Analysis Interview Just Common Sense. (Masip, Herrero, Garrido, & Barba, 2011)

Masip, Herrero, Garrido, Barba (2011) conducted 2 studies to investigate the effectiveness and validity of the BAI. In study number 1, the participants read the narratives of two BAIs and asked to indicate which one corresponded to the guilty suspect. In study number 2, a questionnaire was used to analyse whether those behaviours that the BAI supporters suggest are guilt indicators were judged by lay participants as more indicative of guilt than those behaviours are indicators of innocence according to the BAI. The investigators reported that the BAI recommendations were inaccurate and that they are in line with what lay participants already believe. The investigators argued that the BAI techniques were not based on unsupported common-sense beliefs, not science!

Masip et al., (2011) noted that police officers are not better at detecting deception and lie than any other observer with an overall accuracy of approximately 55%. The authors also noted that the BAI aimed at creating observable difference between guilty (deceptive) and innocent (truthful) suspects during the first interview. The BAI includes total of 15 questions, a few background questions and more investigative questions, which are specific for each investigation (see the Appendix D).

Massig et al., (2011) indicated that they designed study 1 to examine whether the BAI techniques were just common sense. The participants were 85 undergraduate criminology students (37 males and 46 females) at the University of Salamanca in Spain. The task was completed as an in-class exercise for a psychology of crime course. The investigators used the two interviews that were transcribed as examples of the BAI in Inbau et al., (2001). Both interviews were about the same case (theft of money in a bank by one of the employees).

The two interviews were translated into Spanish. The participants were randomly assigned to either informed group or naive group. The participants in the informed group (n=48) were required to read a BAI booklet. The participants in the naive group (n=35) did not receive any specific information about the BAI. The participants on both group received the following information prior to reading the two interviews:

When a crime has been committed, both innocent and guilty individuals deny their involvement. This makes it difficult to solve the case, in particular when physical evidence is lacking. In order to make the task easier for the investigators, Inbau, Reid, Buckley, and Jayne (2004) designed the Behaviour Analysis Interview (BAI). The BAI is a kind of interview with a number of Investigative Questions, which are specific for every case under investigation, and a number of Behaviour-Provoking Questions, which can be adapted to any case. The purpose of the Behaviour-Provoking Questions is to generate different reactions in innocent and guilty individuals.

In this exercise, two interviews are presented, each one with a different person (A´lvaro or Ana), with the BAI Behaviour-Provoking Questions. Both interviews concern the same case—the shortage of \$1,000 from a bank teller’s drawer. Please read carefully both of the interviews and, after having read them, answer the following questions (Masip et al., 2011, p. 597).

After they read the two interviews, the participants were first asked "who do you think the guilty person is?" The participants were asked to check either "Alvaro" or "Ana". The second question was that "How confident are you that your decision is correct?" on a scale of 1 (very little) to 5 (completely) (Masip et al., 2011, p 597).

In this study, the informed group performed better than the naive group; 97.9% of the informed group and 68.6 % of the naive group correctly identified the guilty interview. However, the authors noted that the naive group performed notably above chance probability, which suggests that training in the BAI may not be necessary to identify the guilty suspect. The participants also read the interview, whereas the BAI experts assess live or videotaped interviews.

The second study was designed to evaluate lay participants' beliefs about the verbal and nonverbal cues of guilt (deception) and innocence (truth) during an interview. The participants were 83 undergraduate students (6 males and 77 females) at the University of Salamanca in Spain. The participants indicated they did not know anything about the BAI or forensic interviewing. They were given a questionnaire, which was designed to evaluate the extent to which their beliefs about the characteristic behaviour of guilty and innocent suspects coincided with those of the BAI.

The participants completed the questionnaire as a part of a social psychology lecture. They are first asked to write their gender and age on the first page of the questionnaire. The experimenter started with reading the first page in the class. The participants then completed the questionnaire in about 20 minutes. The following week, the same experimenter debriefed the participants during a lecture.

The investigators reported that they conducted a multivariate analysis of variance (MANOVA) with Inbau et al., (2004)'s guilty versus innocent answers as the repeated-measures factor and the 15 BAI questions as the dependent variables. At the multivariate level, the effect was significant, Wilks = 0.19, $F(15, 68) = 419.65$, $p < 0.001$, $\eta^2 = 0.813$. The investigators noted that the participants' scores were very similar to the BAI predictions, which were contrary to empirical findings about actual indicators of guilt and innocence. The researchers argued that the BAI is based on common sense as the participants' predictions, who were not trained in the BAI, were similar to those of the BAI.

The authors suggested that officers should receive training based on science not common sense on interview methods.

Discussion

Findings of this literature review supported the first hypothesis; the challenges that people with ID face in the criminal justice system are risk factors as opposed to being ultimate labels of unreliability in police interviews. People with ID face challenges and risks as a result of ID. On the other hand, police officers can adapt scientific evidence based interview techniques and questioning styles, for instance using open-ended questions as opposed to close ended question, to facilitate people with ID's participation. All of the studies in this review made some recommendations to improve people with ID's experiences in the criminal justice system. One of the most important recommendations was that officers should receive training to refrain from assuming that people with ID are unable to provide meaningful and complete evidence. Officers should also refrain from interrupting the witnesses and use open ended questions.

Finding of this literature review also supported the second hypothesis; the BAI has been reported as an ineffective interview method for people with ID in the literature. It is startling that the BAI is still frequently used in North America, even though it is reported to be ineffective method in the literature.

To date, there is limited research on people with ID in the justice system and on the BAI as an interview method with this population. The findings of this literature review perhaps extended current literature by summarising serious challenges that people with ID face in the criminal justice system and the ways in which these challenges can be minimized. It was equally important to review the literature on the effectiveness of the BAI as it is still frequently being used by officers in North America. The finding of this study was consistent with previous studies with the exception of one study, which was carried out by the founders of the BAI (Inbau, Reid, Buckley, and Jayne, 2001).

In relation to limitations and weaknesses of this review, this paper only reviewed English language studies that were conducted in Europe and North America. Future studies may include studies from other parts of the world to review similarities and differences in practices with people with ID in various justice systems.

In sum, challenges that people with ID face in the criminal justice system are not inevitable. There are many expert recommendations based on empirical evidence that can improve the quality of people with ID's participation in the justice system. As being the first responders in the justice system, officers have tremendous impact on people with ID's experiences. Officers should rethink about using the BAI that is not based on empirical evidence. There is a real need for evidence based training to implement best practices with people with ID.

References

- Agnew, S. E., & Powell, M. B. (2004). The effect of intellectual disability on children's recall of an event across different question types. *Law and Human Behaviour*, 28, 273–294.
- Agnew, S.E., Powell, M.B., & Show P.C. (2006). An examination of the questioning styles of police officers and caregivers when interviewing children with intellectual disabilities. *Legal and Criminological Psychology*, 11, 35-53.
- Anderson S. W., Bechara A., Damasio H., Tranel D. & Damasio A. R. (1999). Impairment of social and moral behaviour related to early damage in human prefrontal cortex. *Nature Neuroscience* 2, 1032–1037.
- Akehurst, L., Kohnken, G., Vrij, A., & Bull, R. (1996). Lay persons' and police officers' beliefs regarding deceptive behavior. *Applied Cognitive Psychology*, 10, 461-471.
- Barber, K (Ed.). (2004). *Canadian Oxford Dictionary*. Oxford: Oxford University Press
- Beail, N. (2002). Interrogative suggestibility, memory and intellectual disability. *Journal of Applied Research in Intellectual Disability*, 15, 129-137.
- Beail, N. & Warden, S. (1995). Sexual abuse of adults with learning disabilities. *Journal of Intellectual Disability Research* 39 (5), 382-387.
- Bradshaw J. L. (2001) *Developmental Disorders of the Frontostriatal System*. Psychology Press, Hove.
- Brennan, M., & Brennan, R. (1994). *Cleartalk: Police responding to intellectual disability*. Wagga Wagga, NSW: School of Education, Charles Stuart University.

- Bond, C. E. & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality & Social Psychology Review*, 10, 214-234
- Carson, D. (1989). Prosecuting people with a mental handicap. *The Criminal Law Reviews*, 87-94.
- Cederborg, A. C., Lamb, M. (2008). Interviewing alleged victims with intellectual disabilities. *Journal of Intellectual Disability Research* 52 (1), 49-58.
- Cederborg, A. C., Orbach, Y., Sternberg, K. J., & Lamb, M. E. (2000). Investigative interviews of child witnesses in Sweden. *Child Abuse and Neglect*, 24, 1355-1361.
- Chabert C. Jamon M. Cherfouh A. Duquenne V. Smith D. J. Rubin E. & Roubertoux P. I. (2004). Functional analysis of genes implicated in down syndrome: 1. Cognitive abilities in mice transpolygenic for down syndrome chromosomal region-1 (DCR-1). *Behavior Genetics* 34, 559-569.
- Clare, I. (2001). Witnesses with learning disabilities. *British Journal of Learning Disabilities*, 29, 79-80.
- Clarke, C., & Milne, R. (2001). National evaluation of the PEACE investigative interviewing course. Police Research Award Scheme. London: Home Office.
- Dent H. (1986). An experimental study of the effectiveness of different techniques of interviewing mentally handicapped child witnesses. *British Journal of Clinical Psychology*, 25, 13-17.
- Drizin, S. A., & Leo, R. A. (2004). The problem of false confessions in the post-DNA world. *North Carolina Law Review*, 82, 891-1007.

- DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin*, 129, 74-112.
- Fulero S.M. & Everington C.T. (2004) Mental retardation, competency to waive Miranda rights, and false confessions. In: Lassiter G.D. (Ed.), *Interrogations, confessions, and entrapment* (163–179). New York, NY: Kluwer Academic/Plenum publishers.
- Gudjonsson, G. H. (1984). A new scale of interrogative suggestibility. *Personality and Individual Differences*, 5, 303-314.
- Gudjonsson, G. H. (1987). A parallel form of the Gudjonsson suggestibility scale. *British Journal of Clinical Psychology*, 26, 215-221.
- Gudjonsson G. H. (2003) *The Psychology of Interrogations and Confessions: A Handbook*. John Wiley, Chichester.
- Gudjonsson, G.H. (2010). Psychological vulnerabilities during police interviews. Why are they important? *Legal and Criminological Psychology*, 15, 161–75.
- Gudjonsson, G. H., Joyse, T. (2011). Interviewing adults with intellectual disabilities. *Mental Health and Intellectual Disabilities*, 5 (2), 16 – 21.
- Henry, L. A., & Gudjonsson, G. H. (1999). Eyewitness memory and suggestibility in children with in mental retardation. *American Journal on Mental Retardation*, 104, 491–508.
- Home Office and Department of Health (2008) *Achieving Best Evidence in Criminal Proceedings: Guidance for vulnerable and intimidated witnesses, including children (updated)*. London: Author.
- Horvath, F., Jayne, B., Buckley, J. (1994). Differentiation of truthful and deceptive criminal suspects in behaviour analysis interviews. *Journal of Forensic Sciences*, 39 (3), 793-807.

- Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2001). *Criminal interrogation and confessions* (4th ed.). Gaithersburg, Maryland: Aspen Publishers.
- Jones D. P. H. (2003). *Communicating with Vulnerable Children. A Guide for Practitioners*. Gaskell, London.
- Kebbell M. R. & Hatton C. (1999) People with mental retardation as witnesses in court: a review. *Mental Retardation* 37, 179–187.
- Kassin S.M., Drizin, S.A., Grisso, T., Gudjonsson, G. H., Leo, R. A., & Redlich, A. D. (2010). Police-induced confessions: risk factors and recommendations. *Law and Human Behavior* 34, 3–38.
- Kassin, S, M., & Fong, C, T, (1999), 'I'm innocent!' Effects of training on judgments of truth and deception in the interrogation room. *Law and Human Behaviour*, 23, 499-516.
- Kassin, M. S., Appleby, C. S., Perillo, J. T. (2010). Interviewing suspects: Practice, science, and future directions. *Legal and Criminological Psychology*, 15, 39-55.
- Leggett, J., Goodman, W., and Dinani, S. (2007). People with learning disabilities' experiences of being interviewed by the police. *British Journal of Learning Disabilities*, 35, 168-173.
- Leo, R. A. (1996). Inside the interrogation room. *The Journal of Criminal Law and Criminology*, 86, 266-303.
- Linhorst D.M., Bennett L. & Mccutchen T. (2002) Development and implementation of a program for offenders with developmental disabilities. *Mental Retardation*, 40, 41–50.

- Lyall, I., Holland, A. J., Collins, S. (1995). Offending by adults with learning disabilities and the attitudes of staff to offending behaviour: Implications for service development. *Journal of Intellectual Disability Research*, 39 (6), 501-508.
- Lyall, I., Holland, A. J., Collins, S. & Styles, P. (1995). Incidence of persons with a learning disability detained in police custody: A needs assessment for service development. *Medicine Science and the Law*, 35, 61-71.
- Massip, J., Herrero, C., Garrido, E., Barba, A. (2010). Is the behaviour analysis interview just common sense. *Applied Cognitive Psychology*, 25, 593-604.
- Medford, S., Gudjonsson, G.H. & Pearse, J. (2003). The efficacy of the appropriate adult safeguard during police interviewing. *Legal and Criminology Psychology*, 8, 253-66.
- Mercier, C., & Crocker, A. G. (2010). The first critical steps through the criminal justice system for persons with intellectual disabilities. *British Journal of Learning Disabilities*, 39, 130-138.
- Miranda v. Arizona, 384 U.S. 336 (1966).
- Nelson, K. (1996). *Language in cognitive development: The emergence of the mediated mind*. Cambridge: Cambridge University Press.
- Perlman, N. B., Ericson, K. I., Esses, V. M., Issacs, B. J. (1994). The developmentally handicapped witness. *Law and Human Behaviour*, 18, 171-187.
- Perske R. (2000). Deception in the interrogation room: Sometimes tragic for persons with mental retardation and other developmental disabilities. *Mental Retardation*, 38, 532-537.

- Powell, M. B., Fisher, R. P., & Wright, R. (2005). Investigative interviewing. In N. Brewer & K. Williams (Eds.), *Psychology and law: An empirical perspective* (pp. 11–42). New York: Guilford Press.
- Powell, M. B., Roberts, K., Ceci, S. J., & Hembrooke, H. A. (1999). The effects of repeated experience on children's suggestibility. *Developmental Psychology*, 35, 1462–1477.
- Rispens J., Yule W. & van Yperen. T. A. (eds) (1997) *Perspectives on the Classification of Specific Developmental Disorders*. Springer-Verlag, New York, LLC.
- Smith J.A. (1995) Semi-structured interviewing and qualitative analysis. In J. A. Smith, R. Harre, L. Van Langenhove (Ed.), *Rethinking methods in psychology* (pp 9-26). London: Sage.
- Sobsey, D., & Varnhagen, C. (1989). Sexual abuse of people with disabilities. In M. Caspero & L. Gougen (Eds.), *Special education across Canada: Challenges for the 90's* (pp. 199–218). Vancouver: Centre for Human Development and Research.
- Stromwall, L., & Granhag, P. (2003). How to detect deception: Arresting the beliefs of police officers, prosecutors, and judges. *Psychology, Crime, & Law*, 9, 19-36.
- Tager-Flusberg H. (ed.) (1999) *Neurodevelopmental Disorders. Developmental Cognitive Neuroscience*. Bradford Books, Cambridge.
- Vrij, A., Akehurst, L., & Knight, S. (2006). Police officers', social workers', teachers' and the general public's beliefs about deception in children, adolescents and adults. *Legal and Criminological Psychology*, 11, 297-312.

Vrij, A., Mann, S., Fisher, R. P. (2006). An empirical test of the behaviour analysis interview.

Law and Human Behaviour, 30 (3), 329-345.

Williams, C. (1995). *Invisible victims: Crime and abuse against people with learning*

difficulties. London: Jessica Kingsley.

Appendix A

Literature Review Summary Table: People with ID as victims and witnesses

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Gudjonsson, G., Joyse, T. (2011). Interviewing adults with intellectual disabilities. <i>Mental Health and Intellectual Disabilities</i> , 5(2), 16–21.	Literature review on police interviews and people with ID's capacity to give evidence in courts.	Researchers cited 25 studies in this paper	Narrative literature review	1. Identified vulnerabilities and the competency requirements of witnesses and suspects. 2. Suggested key elements of "good practice" for interviewing people with ID.

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Cedenborg, A.C., Lamb, M. (2008). Interviewing alleged victims with intellectual disabilities. <i>Journal of Intellectual Disability Research</i> , 52(1), 49-58.	To examine how alleged victims with ID have been interviewed by police officers in Sweden	11 alleged victims were selected from a larger sample in Sweden. The participants were between 6.1 and 22 yrs old.	Quantitative analysis used to examine the types of questions asked in police interviews and the details that they elicited in response.	1. The officers used very few open-ended questions but heavily relied on close-ended questions that are more likely to elicit inaccurate information. 2. The officers need "special skills" to properly interview victims with ID. 3. The officers should use open ended questions and shorter sentences

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Agnew, S. E., & Powell, M. B., Snow, C. (2006). An examination of the questioning styles of police officers and caregivers when interviewing children with intellectual disabilities. <i>Legal and Criminological Psychology, 11</i>, 35-53.	Examined the questioning styles and verbal strategies implemented by police officers and primary caregivers to interview children with ID in Australia-Victoria.	28 children were selected from 120 children from 6 special schools. The participants were from 9 to 13 yrs old who were with mild or moderate ID. The participants legal guardians provided consent. The attrition rate was high, around 50%.	Each participant interviewed by their primary caregiver and by a police officer about a staged 30 minute-event at their school. Interview were audio-taped and transcribed for coding. MANOVA was conducted on the findings including the main number or negative and other strategies used by interviewers	1. The officers used few leading questions and coercive strategies, but they often interrupted the participant's statement. 2. The officers also implemented relatively few encouragers to keep the participants talking. 3. The caregivers used relatively more leading questions and coercive strategies. 4. One of the best-practice strategies is not to interrupt a narrative flow with questions or request for clarifications.

Literature Review Summary Table: People with ID as suspects

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Lyall, I., Holland, A.J., Collins, S. (1995). Offending by adults with learning disabilities and the attitudes of staff to offending behaviour: implications for service development. <i>Journal of Intellectual Disability Research</i> 39(6), 501-508.	1. To determine all adults with LD living in residential homes or attending day services in the Cambridge Health District (UK) participated in the criminal justice system in 1992. 2. To assess the responses of services involved. 3. To analyse the attitudes of staff and the policies of the services to "offending behaviour".	30 sites were visited in this study in the Cambridge Health District. 7 out of 358 adults with LD were reported to be suspects of criminal allegations.	The managers of service providers for adults with LD in the Cambridge Health District were contacted. Semi-structured questionnaire was used to assess the attitudes of staff and the policies of the services to "offending behaviour". The questionnaire included 2 sections: a) Focused on the alleged offender, the offence, and existing referral structures and liaison systems. b) Examined the attitudes of senior staff towards problem behaviour & the operational policies.	1. Some offences were highly tolerated in residential homes, thefts and property damage were often not reported to the police. 2. Not reporting alleged offences may be seen as a protection of a person with LD but it also means the alleged victim and offender do not receive the support. 3. Serious offending behaviours such as sexual assault and major assault may go unreported in LD services. 4. Alleged suspects of unreported offences become associated with that unproven offensive behaviour for the rest of their lives.

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Leggett, J., Goodman, W., Dinani, S. (2007). People with learning disabilities' experiences of being interviewed by the police. <i>British Journal of Learning Disabilities</i> , 35, 168-173.	To examine the experiences of people with LD who had been interviewed by the police in UK.	13 males and 2 females with LD who had been interviewed by the police as suspects in alleged offences.	This was a qualitative study. First, the participants were prompted to give a free narrative of what happened. Second, semi-structured interview was conducted. The interviews were audio-taped and transcribed.	1. Criminal Evidence Act in UK requires the police to have appropriate adult while interviewing people with LD. 2. 4 participants did not have AA. 3. The participants also had mixed understanding of the role of AA. 4. Some were also dissatisfied with the assistance of AAs in the police interviews. 5. The participants did not report general negative experiences in the police interviews.

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Beail, N. (2002). Interrogative suggestibility, memory and intellectual disability. <i>Journal of Applied Research in Intellectual Disabilities</i>, 15, 129-137.	To examine the implications of the Gudjonsson Suggestibility Scale that has been used a suggestibility test with suspect, complaints, and witnesses with ID for court proceedings.	The author cited 26 references in this literature review.	Narrative literature review.	1. GGS with suspects and accused with ID is problematic as GGS is specifically designed to measure semantic memory not event memory. 2. People with ID may have difficulty describing their experiences but that does not mean they are incompetent in participating the justice system. 3. Open ended free recall questions have shown to produce more accurate information from people with ID that recognition based questions do.

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Mercier, C., Crocker, A. G. (2010). The first critical steps through the criminal justice system for persons with intellectual disabilities. <i>British Journal of Learning Disabilities</i>, 39, 130-138.	Examined the initial steps of the judicial process for people with ID who were suspected of a minor offence in the province of Quebec in Canada.	14 participants who are from the criminal justice system and community organizations working in the area of ID.	A qualitative study with semi structured interviews. Participants were asked questions around pre-court procedures such as police intervention and the review of the case by the crown attorney.	1. The findings showed that multiple parties, including police officers, crown attorneys make important decision that have serious consequences for a suspect with ID. 2. The participants made number of recommendations to improve the current judicial system. 3. The investigators expressed their concerns about screening for ID, given the risk of stigmatization and discrimination.

Literature Review Summary Table: The Behaviour Analysis Interview

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Harvath, F., Jayne, B., Buckley, J. (1994). Differentiation of truthful and deceptive criminal suspects in behavior analysis interviews. <i>Journal of Forensic Science</i> , 39, (3), 793-807.	The effectiveness of the BAI to differentiate between truthful and lying suspects.	4 evaluators who are trained in the BAI.	The participants scored 60 videotaped interviews from real-life settings, 30 truthful suspects and 30 lying suspects. The participants were blind to the conditions (truthful or lying suspects). An analysis of variance (ANAVO) was conducted.	1. 4 evaluators' average accuracy on truthful suspects was 91% and on lying suspects was 80%, excluding inconclusive decisions. 2. 4 evaluators were staff members of John E. Read and associates who designed the BAI that raises concerns regarding conflict of interests.

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Kassin S.M., Drizin, S.A., Grisso, T., Gudjonsson, G. H., Leo, R. A., & Redlich, A. D. (2010). Police-induced confessions: risk factors and recommendations. <i>Law and Human Behavior</i> 34, 3–38.	Examined suspect characteristics and interrogation tactics that influence confessions.	Extensive narrative literature review with over 300 references including case laws.	Narrative literature review.	1. The BAI relies on the behavioural stress cues that do not reliably assess deception. 2. The BAI training does not increase police officers' accuracy of detecting deception. 3. The BAI techniques are biased towards observing deception in mock trials. 4. Police officers should consider to implement another method such as the PEACE that is another interrogation method developed in the UK.

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Vrij, A., Mann, S., and Fisher R. P. (2006). An empirical test of the behaviour analysis interview. <i>Law and Human Behaviour</i> , 30(3), 329-345.	Empirical test of the BAI to assess its validity and effectiveness in UK.	40 undergraduate students, 21 male and 10 female. The participants' age were between 18 and 46 yrs old. (M=21.73 SD= 6.3)	The participants are asked to lie or tell the truth about a mock theft occurrence in a BAI interview. All participants were interviewed by the same British male police officer who was blind to the participants' condition. All interviews were audio and videotaped. The interviews were coded based on the BAI guidelines. The 2 raters blind to the participants' conditions.	The participants in the deception condition received a higher BAI score than the other group. $F(1, 38)=7.25$, $p < .01$, $\eta^2 = .16$ Contradicting results with the BAI predictions; the participants in the truth telling condition were more naive and vague when articulating the purpose of the interview and exhibited more nervous behaviours. The findings suggest that the BAI is not a valid or effective interview method.

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Kassin, S. M., Appleby C. S., Perillo, T. J. (2010). Interviewing suspects: Practice, science, and future directions. <i>Legal and Criminological Psychology</i> , 15, 39-55.	Examined models of interrogation by comparing the BAI and PEACE.	Narrative literature review. Cited 97 studies.	Narrative literature review.	1. Police officers often get innocent people for interrogation due to flawed but confident detections of lies in the pre-interrogation phase. 2. The interrogation is a guilt-presumptive process where innocent people are sometimes induced to falsely confess crimes due to dispositional vulnerabilities (e.g., ID). 3. The PEACE is more effective alternative model to the BAI

Full Citation	Purpose and Objective	Participants	Research Design	Key Findings and Implication
Masip, J., Herrero, C., Garrido, E., & Barba, A. (2011). Is the behavior analysis interview just common sense?. <i>Applied Cognitive Psychology</i> , 25, 593-604.	Assessed the effectiveness and validity of the BAI.	85 undergraduate criminology students (37 males and 46 females) at the University of Salamanca in Spain. Informed group (n= 48) were asked to carefully read a booklet with some detailed information on the BAI. The naive group (n=35) did not receive any specific information about the BAI. The task was completed as an in class exercise for a psychology of crime course. 2nd study participants 83 (6 males & 77 females).	Study # 1. The participants read the two narratives of the BAIs and asked to indicated which one corresponded to the guilty suspect. Study # 2. A questionnaire was used to analyse whether those behaviours that the BAI supporters suggest are guilt indicators were judged by lay participants as such. A multivariate analysis of variance (MANOVA) was conducted with 2nd study, guilt versus innocent answers as the repeated- measures factor and the 15 BAI questions as the dependent variables.	1. The informed group performed better than naive group in identifying the guilty interview (97.9% versus 68.6%). The participants read the interviews, whereas the BAI experts have assessed live or videotaped interviews. 2. At the multivariate level, the effect was significant, Wilks =0.19, F (15, 68) ¹ 419.65, p<0.001, h ² ¹ 40.813. The participants' scores were in line with the BAI prediction but contrary to empirical findings about actual indicators of guilt and innocence.

Appendix B

Behaviour Provoking Questions (Horvath et al., 1994, p. 799-800).

1) Purpose

What is your understanding for the purpose of this interview today?

2) You

(Name) If you stole (this money) you should tell me that now. Did you steal that money?

3) Knowledge

Do you know who stole (this money)?

4) Suspicion

Who do you suspect may have stolen (this money)?

5) Vouch

Is there anyone you can vouch for, who you do not think was involved in (this theft of money)?

6) Opportunity

Who would have had the best opportunity to (steal this money) if they wanted to?

7) Think Stolen

Do you think this (money) was actually Stolen?

8) Feel

How do you feel about being interviewed regarding this (theft)?

9) Results

How do you think the investigation will come out on you?

10) Think

Have you ever thought about (stealing money)?

11) Punishment

What do you think should happen to the person who stole (this money)?

12) *Second Chance*

Do you think the person who (stole this money) should be given a second chance?

13) *Why Not*

Tell me why you wouldn't (steal this money)?

14) *Motive*

Why do you think someone did (steal this money)?

15) *Tell Loved One*

Have you told your (mother/spouse/family) about coming in for the interview today?

Appendix C

Predictions According to the Behaviour Analysis Interview (BAI) and the Impression Management Hypothesis (IMH) Vrij et al., (2006, p. 333)

Question	Label	BAI Predictions	IMH predictions
Verbal cues			
Q1	Purpose	Liars are more evasive than truth-tellers	Liars are less evasive than truth-tellers
Q2	Guilt	Liars are less emphatic in their denials	Liars are more emphatic in their denials
Q3	Knowledge	Liars are more likely to deny knowledge	No prediction
Q4	Suspicion	Liars are less likely to name another suspect	No prediction
Q5	Vouch	Liars are less likely to name someone who is innocent	Liars are more likely to name someone who is innocent
Q6	Credibility	Liars are less likely to admit that a crime took place	Liars are more likely to admit that a crime took place
Q7	Opportunity	Liars are less likely to admit that they had an opportunity	No prediction
Q8	Attitude	Liars are more likely to voice negative feelings	No prediction
Q9	Think	Liars are more likely to admit to having thought about committing a crime	No prediction
Q10	Motive	Liars are less likely to give a reasonable motive	Liars are more likely to give a reasonable motive
Q11	Punishment	Liars are less likely to suggest serious punishment	Liars are more likely to suggest serious punishment

Q12	2nd chance	Liars are more likely to give someone a second chance	Liars are less likely to give someone a second chance
Q13	Objection	Liars are more likely to answer in the third person	No prediction
Q14	Results	Liars are thought to express less confidence in being exonerated	No prediction
Q15	Loved ones	Liars are less likely to have informed their loved ones	No prediction
Q16	Bait	Liars are thought to express less confidence in being exonerated	No prediction

Non-verbal cues

Leg crossing	Liars are more likely to	Liars are less likely to
Shifting in chair	Liars are more likely to	Liars are less likely to
Performing grooming behaviours	Liars are more likely to	Liars are less likely to
Leaning forward	Truth-tellers are more likely to	Truth-tellers are less likely to
Establish eye contact	Truth-tellers are more likely to	Truth-tellers are less likely to
Use of illustrators	Truth-tellers are more likely to	Identical to BAI prediction
Answer quickly	Liars are more likely to	Identical to BAI prediction
Sincerity	Liars' answers sound less sincere	Liars' answers sound more sincere
Anxiety-induced behaviours	Liars are more likely to show anxiety-induced behaviours	Liars are less likely to show anxiety-induced behaviours

Appendix D

The BAI questions and characteristic guilty and innocent reactions in a murder case (Masip et al, 2011, p 603-604) , which is adapted from Criminal interrogation and confessions (4th ed.) Sudbury, MA. Jones and Bartlett Publishers by Inbau , Reid, Buckley, & Jayne (2004)
Note: This writer was not able to reach the original source, Inbau et al., 2004

Question 1: Purpose. ‘What is your understanding of the intention for this interview?’

Guilty suspect: Naive or evasive reply.

Innocent suspect: Direct response, realistic language.

Question 2: History/You. ‘As you know, Alice Smith was murdered a couple of days ago in her house at 123 Avenue. If you murdered Alice Smith, we will find it out. If you were not involved, we will show this as well. Before we proceed with the interview, let me tell you that if you had anything to do with Alice Smith’s murder you should tell me now’ (A direct question can also be used: ‘Did you kill Alice Smith?’).

Guilty suspect: Bolstered response, delayed response, evasive response. Crossing of the legs, shifting in the chair, grooming behaviour.

Innocent suspect: Emphatic denial, immediate denial. Forward lean, direct eye contact, use of illustrators.

Question 3: Knowledge. ‘Do you know who killed Alice Smith?’

Guilty suspect: The guilty suspect distances himself or herself geographically and emotionally from the crime, or denies without much thought any knowledge of whom the guilty person might be, or gives an evasive answer.

Innocent suspect: The innocent suspect intimates a suspicion, or gives an apology for his or her denial, or states that he or she has been thinking about who the culprit might be, and sounds sincere.

Question 4: Suspicion. ‘Who do you suspect might have killed Alice Smith? A suspicion may be just a feeling and you might be wrong. Any name you give will not get back to that person. Who do you suspect may have killed her?’

Guilty suspect: Unlikely to name anyone, or tendency to name the other suspect (if there are only two suspects) and difficulty in giving reasons for fingering the other suspect.

Innocent suspect: Likely to name someone and to give credible reasons for fingering that person.

Question 5: Vouch. ‘Is there anyone you could vouch for, anyone you could say for sure didn’t kill Alice Smith?’

Guilty suspect: Noncommittal response, or evasive response.

Innocent suspect: Willing to name specific individuals.

Question 6: Credibility. ‘Do you think Alice Smith was really murdered? Or do you think she fell down the stairs just by accident?’

Guilty suspect: Suggestion of unrealistic possibilities that exclude that the event was a crime.

Innocent suspect: Agreement that a crime was committed.

Question 7: Opportunity. ‘Who would have had the best opportunity to kill Alice Smith? I am not suggesting that this person is the murderer, but who do you think would have had the best opportunity?’

Guilty suspect: Naming of unrealistic suspects, or claim that no one had any opportunity to commit the crime.

Innocent suspect: Acknowledgement of one’s own opportunity to commit the crime.

Question 8: Attitude. ‘How do you feel about being interviewed about Alice Smith’s murder?’

Guilty suspect: Negative attitude (voicing negative feelings).

Innocent suspect: Positive attitude (‘I’m happy to help’).

Question 9: Think. ‘Have you ever thought about killing Alice Smith? I am not suggesting you killed her, but did you ever have that thought?’

Guilty suspect: Acknowledgement of these thoughts, use of qualifications (e.g., ‘Not really’).
Innocent suspect: Denial of these thoughts.

Question 10: Motive. ‘Why do you think someone killed Alice Smith?’

Guilty suspect: Reluctance to speculate about the motives for the crime, or very specific answer. Posture shifts in the chair or anxiety reducing behaviours.

Innocent suspect: Reasonable motives for the crime, appearing comfortable while discussing the motives.

Question 11: Punishment. ‘What do you think should happen to the individual who murdered Alice Smith?’

Guilty suspect: Suggestions of indulgent treatment, or evasive response not to suggest any specific punishment (e.g., 'It's not me who has to decide about the punishment').

Innocent suspect: Suggestions of reasonably harsh punishments.

Question 12: Second chance. 'Under any circumstances would you give a second chance to the person who killed Alice Smith?'

Guilty suspect: Willingness to give the guilty person a second chance, evasive response ('It's hard to say') or reference to conditions or circumstances.

Innocent suspect: Unwillingness to give a second chance.

Question 13: Objection. 'Why would you have never killed Alice Smith?'

Guilty suspect: Third-person response 'That's illegal', references to future negative consequences, or reference to external factors (e.g., security cameras).

Innocent suspect: First-person response in which a personal trait is mentioned (e.g., 'Because I am not a killer'), or reference to present responsibilities or past accomplishments (not risking everything one has worked for during one's entire life).

Question 14: Results. 'What do you think the results of our investigation will be concerning your involvement in Alice Smith's murder?'

Guilty suspect: One-word responses (e.g., 'Innocent'), or uncertainty, or evasive responses, or suspicion that the investigation will show negative results coupled with accusations against someone else.

Innocent suspect: Confidence in being found innocent.

Question 15: Tell Loved Ones. 'Did you tell anyone about this interview?'

Guilty suspect: Denial of having told any loved one about the interview, or having played down the interview when speaking with a loved one.

Innocent suspect: Acknowledgement of having told loved ones about the investigation or about the interview.

