Were you being coercive or providing an opportunity to come clean?

An Investigation of Alternative Questions

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Abstract

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Interrogations in North America are guided by the Reid Model of Interrogations. The model comprises nine steps, and the two studies presented in this paper investigate step seven: alternative questions (AQs). Alternative questions provide a suspect with two incriminating options in the form of a forced-choice question. Study 1 investigated interrogations using 33 police interrogation videos provided by an Atlantic Canadian Police Department. It was found that officers rely heavily on AQs, but often the questions are met with silence. Study 2 (N = 43) investigated AQs in a lab setting which induced participants to cheat during a task meant to be completed independently. Participants were interrogated either using AQs or not. It was found that participants felt low levels of pressure to confess, and about half of participants lied about cheating on the independent task. No false confessions were obtained. Results of the studies are discussed independently and in combination.

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It has been suggested that confessions are exceptionally attractive to jurors and judges, and sometimes are weighted more heavily in court decisions than other evidence presented in court (Kassin & Gudjonsson, 2004; Kassin & Wrightsman, 1985). This can be problematic because even when confessions are found to be inadmissible, jurors do not discount the confessions during decision making (Kassin, 2008b). The Reid Model of Interrogations is the most commonly used interrogation technique in North America, however, it is lacking empirical support in almost all facets of the technique (Gudjonsson & Pearse, 2011). It is important to conduct empirical investigations of the Reid model, considering the consequences the model may pose if it is in fact coercive in nature, as some researchers suggest it is (e.g., wrongful convictions; Gohara, 2006). In particular, step seven of the Reid model, alternative questions, are of vital importance to empirically investigate, as they are considered the turning point of the interrogation, the component of the interrogation technique that will likely elicit the first incriminating evidence (Inbau, Reid, Buckley, & Jayne, 2011).

Despite the apparent success experienced using alternative questions, no studies have examined their frequency, effectiveness in eliciting true confessions, and their potential coercive nature. Further, of the scant empirical literature investigating the Reid model, many studies only explore the Reid techniques in a lab setting (Bull & Soukara, 2010) with the exception of King and Snook (2009) and Leo (1996). The current study aims to address these two problems by examining alternative questions for the first time in both a lab setting and in a forensic setting (i.e., filmed police interrogations).

Interviews, Interrogations, and the Voluntary Nature of Confessions

Interrogations inform police forces, judges, and jurors worldwide, providing insight about the potential criminal conduct of suspects. The terms interrogations and investigative interviews are frequently used interchangeably in North America, but in terms of the Reid model, the two are not truly synonymous so it is important to differentiate between them. In the Reid model, an interrogation should start with an investigative interview called the behavioural analysis interview (BAI). The BAI is a non-accusatory conversation with a suspect, which is used to gather information and establish rapport. An interrogation, however, is accusatory, involves psychological tactics and persuasion, and intends to establish guilt by obtaining a confession. The BAI precedes interrogations as a means to assess the suspect's potential guilty verbal and nonverbal behaviours and determine whether there are grounds to interrogate the suspect. Interrogations are most frequently employed by law enforcement such as police officers, but they can also be used by other organizations such as military personnel (Redlich, 2007).

In the criminal justice setting, confessions, typically obtained by interrogations, are the most compelling evidence and they often result in conviction (Kassin & Gudjonsson, 2004; Kassin & Wrightsman, 1985). McCormick (as cited in Kassin & Gudjonsson, 2004) suggests that confessions are so powerful, other components of a trial become superfluous. Recognizing the implications of interrogations and confessions in court, one could conclude that potentially coercive techniques that might elicit false confessions would have detrimental consequences, such as wrongful conviction, possibly

leading to time in prison or, in extreme circumstances in the United States, the death penalty (Drizin & Leo, 2004).

False confessions are admissions to a criminal act that are given by an innocent suspect. There are a few conceptualizations of false confessions. Ofshe and Leo (1997) suggest there are five types (i.e., voluntary, stress-compliant, coerced compliant, non-coerced-persuaded, and coerced-persuaded), Kassin et al. (2010) suggest two types (i.e., police-induced vs. non-police-induced), while Kassin and Wrightsman (1985) suggest there are three types (i.e., voluntary, coerced-compliant, and coerced-internalized). As each of the suggested types of false confessions include coerced, the interrogation procedure is very important.

The three types of false confessions suggested by Kassin and Wrightsman (1985) are frequently discussed in the literature, so will be discussed in more detail here. The three types of false confessions include: (1) voluntary (i.e., one that is purposefully provided by a suspect with no forced or convinced elicitation), (2) coerced-compliant (i.e., a suspect confesses despite knowing he or she is innocent, often due to extreme interrogation techniques, typically appealed during trial or challenged during pretrial admissibility hearing), and (3) coerced-internalized (i.e., the suspect begins to believe he or she actually committed the crime, usually due to high suggestibility and fatigue during lengthy interrogations; Kassin & Wrightsman, 1985). It is difficult to establish the frequency of false confessions, as discoveries of false confessions are not documented or publicized, and some false confessions remain undiscovered (Kassin, 2008b).

Depending on the personal characteristics of the suspect (e.g., mental illness, intellectual disability), detention conditions (e.g., no access to legal counsel), or the

interrogation technique (e.g., length, physical or psychological coercion, threats, or deception), false confessions may be more likely to occur (Kassin & Wrightsman, 1985). As personal characteristics, detention conditions, and interrogation techniques may each play a role in producing false confessions, they are considered when determining voluntariness of a confession (Ives, 2007; *R. v. Oikle*, 2000). Given the weight that interrogations and confessions bear during trial, it is important to utilize an interrogation technique that results in true confessions and ensures the voluntariness of the confession.

Voluntariness of a confession means that the suspect chose to confess through his or her own free will, without the influence of intolerable conditions, offers from interrogators, or other circumstances under which a suspect feels no option but to confess (*R. v. Oikle,* 2000). If a confession is involuntary (i.e., due to circumstances out of the suspect's control that influenced him or her to confess against his or her free will), the confession is unreliable and should be excluded from court deliberations or decisions (*R. v. Oikle,* 2000). During assessment of voluntariness and admissibility of confessions, a multitude of factors weigh into the determination of a voluntary confession. There are four conditions under which a confession may be inadmissible due to involuntariness in Canadian law (*R. v. Oikle,* 2000). These four conditions fall under the contemporary *confessions rule*, and they include threats or promises, oppression, operating mind, and police trickery (*R. v. Oikle,* 2000).

Threats or promises are addressed in the caution the suspect receives at the commencement of the interrogation [*Canadian Charter*, 1982, s 10(b)]. Threats or promises are covered under the confessions rule as well; threats of physical abuse, inducing fear, and suggesting leniency are traditionally inadmissible and create

conditions under which a false confession may be elicited (*Ibrahim v. The King,* 1914). Under the contemporary confessions rule, promises also include implications that the suspect will receive psychiatric help if he or she confesses, if the interrogator suggests threats or leniency towards a third party the suspect is closely associated with (e.g., interrogating the third party), or implying things will be better for the suspect once he or she confesses (*R. v. Oikle*, 2000).

Oppression includes the conditions of the interrogation, such as the duration of the interrogation, lack of sleep, clothing, food, or water. Additionally, the use of non-existent evidence linking the suspect to the crime can convince a suspect that his or her objections are futile. According to *R. v. Oikle* (2000), oppressive conditions are often linked to coerced-compliant false confessions.

The *operating mind* doctrine demands that the individual under investigation must be aware of his or her circumstances, including the fact that he or she is speaking with an individual in authority, and knowledge that his or her statements can be used against him or her in court. Thus, the operating mind doctrine is inherently associated with both personal characteristics of the suspect and the conditions under which the suspect is being interrogated. For example, vulnerable suspects such as someone who is under the influence of drugs or alcohol would not be of operating mind, and neither would someone who has low cognitive capacity, someone who is young, or other vulnerable individuals (Ives, 2007).

Police trickery is the final consideration of judges in determining voluntariness of a confession. The police trickery doctrine mandates that any police technique that might shock the Canadian community will render a confession involuntary. For example, if an

officer poses as a doctor or legal aid lawyer, this might shock the community; however, not all undercover sting operations might render a confession involuntary (*Rothman v. The Queen,* 1981). For instance, if an officer posed as a drug addict to infiltrate a suspected drug ring, it can be assumed the Canadian community would not be shocked, and the confession would be admissible in court (*Rothman v. The Queen*, 1981).

When evaluating the confession to determine voluntariness, a judge must consider each factor independently and as a totality of circumstances, meaning that independently, the tactics or conditions may not be coercive, however, in conjunction with other aspects of the interrogation, the confession may be ruled involuntary. Each of the conditions may be explicit and obvious, or it may be subtle and challenging to identify, thus, there is often no clear determination of voluntariness. Determining voluntariness bears importance because this determination ultimately influences the right to a fair trial and privilege against self-incrimination (Kassin & Wrightsman, 1985, *R. v. Oikle*, 2000). Voluntariness is challenging to determine as there is no definite rule, but it is up to the judge to determine beyond reasonable doubt upon considering the totality of circumstances that the confession is, in fact, voluntary (Ives, 2007).

In the early 1700s until around the 1960s, police interrogations were largely coercive, physically abusive, and unduly harsh (Smith, Stinson, & Patry, 2012). These coercive and harsh interrogations are now referred to as third degree interrogations (Kassin & Gudjonsson, 2004; Snook, Eastwood, & Barron, 2014). It was recognized, however, that a "get tough" philosophy elicited confessions that were inadmissible in court, reduced confidence in police, and had the potential to produce false or involuntary confessions (*Brown v. Mississippi,* 1936; Leo, 2004). As a result, physically abusive

interrogation practices were phased out by the 1960s and replaced with the models used presently (i.e., PEACE and Reid; Kassin & Gudjonsson, 2004; Leo, 2004). Further, in an attempt to protect innocent individuals from wrongful conviction, not all confessions are admissible in court. In American law, cases involving confessions include a preliminary hearing for the judge to examine the confession and determine the voluntary nature and admissibility of the confession, while in Canada, the prosecution must provide evidence beyond reasonable doubt that the confession was voluntary based on the totality of circumstances (Kassin & Gudjonsson, 2004; *R. v. Hodgson*, 1998; *R. v. Oikle*, 2000; Smith et al., 2012).

As a result of the movement away from third degree methods of interrogations (i.e., use of coercion or physical abuse), two distinct models of interrogations emerged, each attempting to avoid miscarriage of justice while extracting an incriminating confession. Police interrogations in North America are generally informed by the *Criminal Interrogation and Confessions* handbook (Inbau et al., 2011), while other areas of the world such as the United Kingdom (UK), Norway, and New Zealand implement the PEACE model (i.e., Preparation and planning; Engage and explain; Account, clarify, and challenge; Closure; Evaluation; Bull & Soukara, 2010; College of Policing, 2016). Although the Reid model and the PEACE model are both routinely used, there is limited research investigating the interactions between interrogator and suspect in either model. The research that does exist is often done in a lab setting, leaving a gap in the literature on interrogations.

The PEACE model used in the UK, Norway, and New Zealand is known to be less accusatory than the interrogation method used in North America, and involves a

simple non-confrontational interview (College of Policing, 2016). The PEACE model, implemented in the UK in 1993 to address complaints regarding miscarriages of justice due to police interviews, is also known as an *investigative interview* (College of Policing, 2016; Gudjonsson & Pearse, 2011). The model used in North America, referred to as the Reid model, comprises two phases: a behavioural analysis interview (BAI) intended to gather information and assess guilt, and a confrontational interrogation if the suspect is assumed to be guilty. The interrogation phase involves nine steps, each of which is followed with myriad guidelines that interrogators are recommended to adhere to with the intention of ultimately leading to a confession from the suspect (Inbau et al., 2011).

PEACE Model

A discussion of the PEACE model is warranted here in order to understand the difference between the Reid model and the PEACE model. Additionally, it is important to understand many aspects of the Reid model are not included in the PEACE model. For example, leading, forced choice, or closed ended questions are not questioning techniques used in the PEACE model but can be incorporated into the Reid model, and the PEACE model focuses on gathering information while the Reid technique focuses on obtaining a confession (College of Policing, 2016; Inbau et al., 2011). A thorough discussion of the PEACE model and the Reid model allows for a more comprehensive understanding of interrogation models in general.

The PEACE model aims to gain a complete and accurate statement of the offence under investigation, and is often referred to as an investigative interview, which differs in many ways from the BAI. The PEACE interview is never referred to as an interrogation. While conducting an investigative interview, investigators are encouraged to be

professional in order to avoid personal bias, gain the interviewee's trust, obtain accurate accounts, and are also encouraged to be methodical to ensure the interview unfolds as planned (College of Policing, 2016). Interviewers are given instruction on how to deal with suggestibility of suspects, witnesses, and victims, specifically by indicating types of questions to use (e.g., open questions) or avoid (e.g., leading questions). Further, interviewers are advised not to lie to suspects in an effort to obtain confessions, and police using the PEACE model do not present false evidence as a measure to avoid eliciting false confessions (Kassin et al., 2010).

In order to maintain a methodological approach, the PEACE model comprises five phases, and should be constructed in a way that each stage is identifiable (College of Policing, 2016). The primary stage is considered essential to engaging in an effective interview, and involves *Planning and Preparation*. The investigator assesses all available information, and creates a plan for the interview (College of Policing, 2016). Second, upon his or her initial meeting with the suspect, the investigator must *Engage and Explain*; he or she must establish rapport, encourage conversation, and outline the objectives and expectations of the interview (College of Policing, 2016). The tertiary step is *Account, Clarification, and Challenge*, meaning the investigator must ask the suspect to provide an account of what happened in his or her own words, show the suspect that he or she is actively listening to his or her account, and clarify the account by asking questions (College of Policing, 2016). The penultimate step is *Closure*; the investigator must not end the interrogation abruptly, but should check if the suspect has any further questions or comments, summarise what the suspect has said, and explain what will happen next (College of Policing, 2016). Finally, the investigator will *Evaluate* the

interview and determine what the next steps for the investigative team will be (College of Policing, 2016).

The PEACE model is designed to be non-accusatory and non-coercive. It is not guilt-presumptive, and does not rely on officers to conduct a behavioural analysis and make a decision of guilt (Snook, Eastwood, Stinson, Tedschini, & House, 2010). The goal is to derive a full and accurate sequence of events rather than extract a confession from the suspect (Snook et al., 2010). Gudjonsson and Pearse (2010) suggest there have been no false confessions as a consequence of the PEACE model regardless of the reportedly high rates of confessions, however, this has not been empirically examined (Bull & Soukara, 2010).

Reid Model

The BAI is the preliminary step of an interrogation following the Reid model. The intention of the BAI is to gain rapport while establishing whether the suspect is guilty and if the interrogation should ensue. The BAI commences by asking some general personal questions such as the suspect's name, age, and employment status. These questions are asked so the interrogator is able to assess the suspect's regular patterns of verbal and nonverbal behaviour (Inbau et al., 2011). When the interrogator feels he or she has an idea of the suspect's regular behaviours, the interrogator asks behaviour-provoking questions and looks for behavioural cues or nonverbal behaviours that might indicate guilt. Behaviour-provoking questions are those that might catch the suspect off guard and are directly related to the crime under investigation. An example of a behaviour-provoking question is, "did you steal the money?" or "what do you think should happen to whoever took the money?" By asking these unexpected and direct questions among a

series of general investigative questions (e.g., relationship with victim), responses may be delayed or evasive, and are apparently paired with revealing nonverbal behaviours (Inbau et al., 2011). Cues of deception and guilt include gaze aversion, slouched posture, accounts that lack detail, or absence of emotion (Inbau et al., 2011). Inbau and colleagues (2011) clearly state that guilt is an opinion of the investigator and does not imply guilt beyond reasonable doubt as it is meant in court.

During the BAI, the interrogator assesses the behaviours and responses of the suspect, determining whether the suspect is an *emotional offender* (i.e., one who experiences remorse or guilt) or a *nonemotional offender* (i.e., one who does not experience moral guilt or a troubled conscience; Inbau et al., 2011). Depending on the emotional state of the suspect, the interrogator may treat the suspect differently during the subsequent interrogation, using either a sympathetic approach with emotional offenders or a factual analysis approach with nonemotional offenders. In some cases, however, a mixed approach will be utilized, but emphasis will be placed on one approach or the other depending on how the suspect is responding (Inbau et al., 2011).

The interrogator must determine the guilt and emotionality of the suspect, and once they have done so, the interrogation begins. The Reid model includes nine interrogation steps, but according to Inbau and colleagues (2011), the steps are in order simply to facilitate learning and because persuasion to confess often occurs in predictable stages. Not all nine steps will be observed in every interrogation, and assessments of suspects' behavioural responses does not end when the BAI concludes, rather, behavioural assessments should continue throughout the interrogation (Inbau et al., 2011).

To complete the BAI, the interrogator will directly confront the suspect with a statement suggesting knowledge of the suspect's guilt, followed by a behavioural pause (Inbau et al., 2011). The behavioural pause allows the interrogator to assess the suspect's response to the direct confrontation, and the way the suspect responds might guide the interrogator's next actions. For example, if the suspect lowers his or her head and avoids eye contact, he or she may be treated differently from someone who argues. The interrogator will offer a transition statement at this point, introducing a theme that the interrogator will follow throughout the rest of the interrogation.

The theme the interrogator will follow is the basis for step two of the Reid model. The interrogator proposes a theory as to why the suspect might have committed the crime. Usually the theory will place the blame on others such as the victim or an accomplice. Inbau et al. (2011) suggest that if the suspect is listening and deliberating over the theme, this might indicate guilt, while if the suspect appears resentful of the suggestion, he or she may be innocent. During the development of the theme, the suspect is likely to offer denials. The third step of the Reid model is to discourage the denials by returning to the theme that provides a moral excuse. The interrogator must not allow the suspect to repeat or elaborate on such denials. The authors indicate that those who are innocent will continue trying to have their denials heard, while those who are guilty will eventually weaken and denials will be less frequent until denials cease altogether and the interrogator is able to return to the theme (Inbau et al., 2011).

Step four is similar to step three; although the suspect may cease offering denials, he or she may start voicing objections. The diversion from denials to objections should increase the interrogator's confidence in the suspect's guilt. While a denial is simply the

suspect arguing that he or she did not do the crime, objections are reasons why an interrogator's accusation is wrong. For example, a suspect may tell the interrogator, "I couldn't have done it, I don't own a gun" rather than simply saying he or she did not commit the crime. According to Inbau and colleagues (2011), an innocent person will feel no need to embellish on his or her denial, as an innocent person will feel as though saying he or she did not do it is an adequate defence.

The idea that innocent people will simply rely on their innocence is supported by research and is grounded in Lerner's *Just World Theory* (as cited in Kassin, 2005). Kassin and Norwick (2004) found innocent suspects in a lab study were significantly more likely to waive their Miranda rights (i.e., the right to silence and counsel). The suspects who waived their rights indicated they did so because they did nothing wrong, had nothing to hide, and believed the interrogator would think they were guilty if they chose to uphold their rights (Kassin & Norwick, 2004). A lab study further supports this notion, as Kassin, Goldstein, and Savitsky (2003) found only 29% of innocent participants believed their interrogator might find them guilty. This is seen in real investigative situations as well, in which suspects waive their rights (Kassin, 2008a). The naïve belief that an individual's innocence will protect him or her may put innocent people at higher risk of falsely confessing (Kassin, 2005).

In step four, rather than interrupt and discourage objections as was the protocol for denials in step three, the interrogator should instead allow objections to be voiced. The objections that suspects offer may aid in the development of themes, or perhaps give the interrogator helpful information about the crime (Inbau et al., 2011). There are three types of objections; *emotional* reasons, which include personal reasons, such as

suggesting he or she loved the victim, *factual* reasons, such as having been at work that day, or *moral* reasons, such as being brought up in a way that would not condone criminal behaviour. Inbau et al. (2011) suggest interrogators should reward objections and encourage the suspect to expand on his or her objection in order to draw out more information, so they can later turn the objections around in a way to incriminate the suspect.

The suspect will eventually recognize his or her denials and objections are futile, and the interrogation transitions into step five. During step five, the suspect might withdraw mentally and begin to ignore the interrogation theme and the interrogator's attempt to elicit a confession. Inbau and colleagues (2011) assert innocent suspects will not withdraw, as they feel the need to maintain their innocence. This indicates that withdrawal solidifies the belief on behalf of the interrogator that the suspect is guilty. During step five, it is necessary for the interrogator to appeal to the suspect with sincerity; the interrogator might increase the proximity between him or herself and the suspect, and maintain direct eye contact. Moreover, the use of visual aids or hypothetical questions can be useful to the interrogator in maintaining attention.

In step six, Inbau et al. (2011) emphasize the importance of assessing body language and nonverbal cues. The suspect will likely remain silent in step six, but he or she might be revealing cues that he or she is feeling defeated and recognizing denials and objections are ineffective. Nonverbal cues may include crying, slouching, or a passive downward gaze. Upon recognizing the defeated and depressed mood, the interrogator should return to the core of the theme and prepare for step seven, the alternative questions.

According to Inbau et al. (2011), the suspect is likely to admit his or her first incriminating admission in step seven of the interrogation. Step seven requires an interrogator to come up with an "alternative question"; a question that presents a suspect with a choice between two incriminating options. Typically, one option of the alternative question is more dignified, while the other option is reprehensible. For example, during an interrogation, an alternative question could be, "Are you a calculated killer, or was it spur of the moment?"

Upon receiving an incriminating admission, step eight of the Reid model involves having the suspect provide an oral interpretation of events, including details such as weapons used, locations, and a timeline of events (Inbau et al., 2011). The interrogator must ask questions and draw out an entire confession. Prior to acceptance of an alternative in step seven, the suspect has likely been silent, only providing short answers to questions. Thus, the interrogator might be faced with resistance or hesitation, so he or she must develop conversation about the crime encouraging the suspect to elaborate on details and acquire the full story. It is recommended that the interrogator returns to the beginning of the crime and go through the whole story to elicit a full and well-developed confession. Inbau and colleagues (2011) indicate the purpose of step eight is to establish legal guilt and receive a statement.

Finally, step nine includes the legal statement and converting the statement into a written document signed by the suspect and witnessed by the interviewer and interrogator. Procuring documentation of the confession allows the interrogator to preserve the confession and will assist the confession to stand up in court.

A Further Look at Alternative Questions

The focus of the present study is step seven of the Reid model: alternative questions. The following information is derived exclusively from the confessions and interrogations manual by Inbau and colleagues (2011), as there appears to be little extant research examining alternative questions, aside from a study conducted by King and Snook (2009). King and Snook (2009) examined a sample of 44 police interrogation videos that occurred between 1996 and 2008, and the videos were provided by a police department located in Atlantic Canada, coding for each of the nine interrogation steps. King and Snook (2009) found that alternative questions were associated with confessions in their sample of videos.

As previously mentioned, alternative questions provide two incriminating options encouraging a suspect to admit to a crime. Typically, one of the options is morally excusable, while the other is reprehensible. It is suggested that the alternative question makes it easier for the suspect to begin a confession, however, it is important to note that to date no research has suggested this is the case (Inbau et al., 2011). In fact, in an assessment of PEACE model interviews with criminal suspects, Griffiths and Milne (2006) suggest the use of leading and forced choice questions, two characteristics of alternative questions, not only fail to elicit confessions, but these questions increase the likelihood of interrogation inadmissibility.

Specifically, Griffiths and Milne (2006) created advanced training for interviewers who use the PEACE model and created a question map to assess the use of appropriate and inappropriate question types used in the interviews. In line with the recommendations set forth by the PEACE model, Griffiths and Milne (2006) indicate

closed ended questions, forced choice, and leading questions are unproductive and a poor questioning technique, and labelled them “inappropriate”. The researchers then used their question map and in a preliminary analysis of the data, they examined three real interviews conducted with suspects of violent crimes. Two interviews were conducted by an interviewer with PEACE training but without advanced training, and one interview was conducted by an interviewer with both PEACE training and advanced training. They found that the interview conducted by the interviewer with advanced training was much more effective and did not use inappropriate questions (i.e., leading, closed, forced-choice) compared to those who did not receive training. Those without the advanced training tended to use inappropriate questions, which turned out to be less effective, and in one case inadmissible (Griffiths & Milne, 2006).

Inbau and colleagues (2011) describe the alternative question as an opportunity for a guilty suspect to begin telling the truth by providing a face saving option to admit to. It is suggested that the alternative question facilitates confessions, as it does not require the suspect to make a bold or direct confession, but merely asks the suspect to choose an option presented. It is the responsibility of the interrogator to make the process as easy as possible. Moreover, alternative questions might not only provide an opportunity for the suspect to confess in a morally excusable manner, but it might also provide incentive to confess. The suspect may become concerned that if he or she does not confess, others might believe the more inexcusable alternative. To further develop this concern and improve the chances of eliciting a confession, the interrogator might suggest the suspect’s family and friends might believe the reprehensible alternative (Inbau et al., 2011). It is emphasized that the suspect is never forced to choose an

alternative; the suspect always has the option to deny both options of the alternative question (Inbau et al., 2011).

There are numerous guidelines for a proper presentation of alternative questions that an interrogator is suggested to follow in order to appropriately utilize this key feature of the interrogation. Many of the recommendations are techniques to avoid when developing an alternative question in order to ensure the potential confession will be admissible in court, as a confession must be a product of the suspect's free will (Dufraimont, 2011; *R. v. Hodgson*, 1998; *R. v. Oikle*, 2000).

Inbau and colleagues (2011) indicate that no legal charges should be mentioned, and legal terms should not be used during the presentation of an alternative question. For example, differentiating between manslaughter and first-degree murder and their corresponding consequences (e.g., a jail sentence versus life in prison) is to be avoided, as this might suggest to the suspect confessing to the face saving alternative will result in reduced charges. Along with legal terms, emotionally charged language should be avoided as well, although if using harsh language, it should accompany the reprehensible option. For instance, "did you rob him because you thought he deserved it, or did you do this thing because you needed to support your family?", uses the contrasting terms "rob" and "this thing". The positive alternative appears even more acceptable because it is not associated with the serious implications of robbery. Moreover, a suspect must feel that he or she can reject both options of an alternative question without consequence. For example, an interrogator must not threaten the suspect by saying, "do you want to get it over with and confess to me, or do you want to be locked up without telling your side of the story?" A question phrased in this way is not only threatening, but it does not offer a

third possibility of rejecting both options presented because the suspect likely will think rejecting both alternatives will result in imprisonment, as suggested by the interrogator (Inbau et al., 2011). Additionally, an interrogator must never suggest a more lenient sentence will be given if the suspect confesses. In consideration of the confessions rule discussed previously, the proposed guidelines are provided to interrogators in an effort to reduce the likelihood of an inadmissible confession due to coercion perceived by the judge or defence.

Alternative questions should always assume guilt of the suspect, and should not include the alternative of blaming others (Inbau et al., 2011). For example, it would be improper to ask, "did you pick the lock or did someone you know pick the lock?" during a theft interrogation. By phrasing an alternative question this way, the suspect is provided with an opportunity to escape consequences of his or her alleged actions. Alternative questions should follow the theme that has been used throughout the interrogation and typically focus on why the suspect may have committed the crime, but may also inquire about details of the crime, such as the weapon used. For example, a proper alternative question about a detail such as the weapon might be, "did you own the gun or did you borrow it from a friend?"

Although alternative questions generally have two options, Inbau and colleagues (2011) suggest that the interrogator should continuously assess the demeanour of the suspect and consider the nature of the crime. In some cases, depending on demeanour and the crime, an interrogator might use a one-sided alternative question by presenting only the morally justified alternative and leaving the reprehensible alternative to be implied.

For instance, an interrogator might ask, “you feel bad about it, don’t you?” leaving the alternative of lacking remorse to be implied.

Although an interrogator may use a one-sided alternative question or ask about a detail of the crime, Inbau and colleagues (2011) maintain that the most effective alternative question (i.e., one that would elicit a confession) is inquiring about the reason behind the crime. The authors suggest the alternative providing a face-saving explanation for a crime is most effective because it is easier to admit to a wrongdoing if one is able to explain why he or she committed the act or provide an excuse, despite no research to support this claim (Inbau et al., 2011). Alternative questions are also thought to be effective because these questions imply the interrogator has certainty about the events in question, weakening the resistance of the suspect. Alternative questions also apparently catch the suspect by surprise, increasing the impulse to confess. Additionally, if an individual is contemplating confessing, the effort of coming up with a reason for the commission of the crime is reduced and explaining his or her actions is said to be less onerous (Inbau et al., 2011). Finally, the authors suggest asking about reasons for the commission of a crime imply the interrogator is sympathetic and is searching for an understanding rather than a confession (Inbau et al., 2011).

Inbau and colleagues (2011) encourage interrogators to be persistent in their use of alternative questions. Inbau et al. (2011) propose that frequently, a suspect will remain silent and unresponsive to the alternative question the first time it is asked, but it should be repeated in a similar form unless the suspect appears to completely reject the alternative. Repeated rejection might indicate the alternative question chosen was

unsuitable, thus, if rejection occurs, it is recommended that the interrogator develops a new alternative question (Inbau et al., 2011).

Supporting statements can be utilized to encourage the suspect to accept an alternative as well. An interrogator using a positive supporting statement might suggest that he or she could understand if the suspect chose the morally acceptable alternative, while a negative supporting statement would indicate the interrogator would be shocked or disturbed if the suspect chose the reprehensible option. Inbau et al. (2011) support the use of leading questions following the alternative question and supporting statement. An interrogator might ask, "did you shoot him to protect your family, or was it a malicious attack?", followed by either a positive supporting statement (e.g., "I'm sure you were trying to protect your family, that's an honourable thing to do") or a negative supporting statement (e.g., "if you maliciously attacked him, I've misread you and I'd rather not waste my time talking to you today"). The leading question in this case might be, "It was to protect your family, right?"

Alternative questions are the key to procuring a confession during an interrogation. Inbau and colleagues (2011) refer to the alternative questions as a closing tactic, per se, similar to how a car salesman might close a deal with a client. The authors suggest that interrogations that are unsuccessful (i.e., those that do not obtain a confession) are missing the key component of the interrogation: alternative questions. This notion was supported by the work of King and Snook (2009), who found that interrogations that resulted in a full or partial confession had more alternative questions than those that resulted in a denial or no comment. Alternatively, if the interrogation did not result in a confession but did include alternative questions, the questions may not be

presented properly or supporting statements may not have been used (Inbau et al., 2011). In instances where confessions are not obtained, Inbau and colleagues (2011) believe favourable results would have occurred if the interrogator had followed the directions and developed a proper alternative question, utilized supporting statements, and offered a leading question. In those that use alternative questions properly, even one word (e.g., "yes" or "accidental") can be the first step to a full confession.

Criticisms of the Reid Model

Despite its wide use across North America, the Reid model is subject to much criticism. Criticism and concerns are threefold: (1) research in support of the effectiveness is lacking, (2) the BAI may not adequately distinguish between innocent and guilty suspects, and (3) the psychology that underpins the technique may be covertly coercive (Snook et al., 2010). Addressing the criticisms is important because, as mentioned in the first criticism, much of the Reid model is lacking empirical examination or support, and as such, there is potential the framework is not producing the intended effects (Kassin, 2008b; Kassin & Gudjonsson, 2004).

The second criticism addresses issues with the BAI. Kassin and Gudjonsson (2004) describe interrogations as guilt-presumptive, and driven by investigators who hold beliefs about the suspect. Interrogators consider an interrogation successful only if a confession is obtained. In the face of criticisms, Inbau and colleagues (2011) continue to defend the model, asserting false confessions are never extracted. Inbau et al. (2011) believe the model is both morally and legally justified. This claim is founded upon the suggestion that the BAI differentiates between guilty and innocent suspects, and

following the BAI, only guilty suspects are interrogated (Inbau et al., 2011; Kassin & Gudjonsson, 2004).

Masip, Herrero, Garrido, and Barba (2011) put forth some fundamental issues with the BAI, highlighting the lack of scientific support, and suggesting the BAI is based on unfounded common beliefs surrounding deception detection. In part one of their two-part study, Masip et al. (2011) asked a group of participants who had training in BAI techniques and a group of participants who were not trained to examine two transcripts of BAIs and identify which suspect was guilty. Results revealed that 98% of those trained in BAI techniques were successful in identifying the guilty suspect, while most of the laypeople, who would be expected to answer correctly at around chance levels, also correctly identified the guilty suspect (69%). In part two, individuals with no training in BAI were asked to identify which answer to 15 probing questions were provided by a guilty suspect, and which were provided by an innocent suspect. The participants in the study by Masip et al. (2011) often relied on deception detection techniques that align with those suggested by Inbau and colleagues (2004). For example, participants indicated those with delayed, evasive responses, grooming behaviours, or those who provided unrealistic explanations for the crime were guilty suspects, while those who sounded sincere, gave credible reasons, and gave specific responses were more likely to be innocent suspects. The results of both studies suggest the techniques might simply be common notions held by the general population, not techniques grounded in theory or research (Masip et al., 2011). The authors indicate Inbau et al.'s (2004) recommendations are inaccurate and should be practiced with caution.

Adding to the deception detection literature showing low accuracy rates, Bond and DePaulo (2006) found that when attempting to determine whether a person is being deceptive, laypersons' accuracy hovered around chance (54%), and police officers who were trained at detecting deception did not perform significantly better than those who were not trained. Additionally, professionals who regularly assessed medical claims (e.g., lawyers, appeal judges) who received training in deception judgment had only moderate increases from 51.2% accuracy in a pre-training trial to 60.7% accuracy post-training, indicating training does not significantly improve deception judgment (Porter, Juodis, ten Brinke, Klein, & Wilson, 2010). Other research has shown similar results, indicating deception detection abilities of investigators and other professionals are likely not much more impressive than the average layperson's abilities (Ekman & O'Sullivan, 1991; O'Sullivan & Ekman, 2004). In fact, the only group that seems to be able to identify deception accurately and consistently tend to be Secret Service Agents (Ekman & O'Sullivan, 1991).

These findings suggest that even with training and practice, officers conducting interrogations may falsely identify innocent suspects as guilty. O'Sullivan (2001) suggests this could be due to the fundamental attribution error, in which individuals overestimate the significance of initial impressions and dispositional features when making deception judgments. Additionally, officers generally have higher confidence in their deception detection skills (Kassin & Gudjonsson, 2004), and once they identify someone as guilty, a confirmation bias might develop (Kassin et al., 2003). A confirmation bias occurs when an individual pursues support for his or her beliefs. Kassin et al. (2003) displayed confirmation biases in interrogations; they found participants

acting as interrogators asked more guilt presumptive questions if they were told there was an 80% chance the suspect was guilty compared to those who were told there was only a 20% chance the suspect was guilty. Potential for confirmation bias is problematic in interrogations of innocent individuals, because officers believe they are interrogating guilty suspects and will ignore evidence the suspect is innocent, only focusing on guilty behaviours indicated by Inbau and colleagues (2011), such as shifting or grooming (Kassin et al., 2003).

Further refuting the suggestion that the BAI effectively identifies innocent versus guilty suspects, Vrij, Mann, and Fisher (2006a) examined behaviour-provoking questions, a component of the BAI discussed previously. Vrij et al. (2006a) randomly assigned 40 undergraduate participants to a truth telling condition or a deceptive condition. The truth tellers were asked by a confederate to help find his wallet, then afterwards they were told money was missing from the wallet and they were questioned about finding the wallet. The participants in the deceptive condition were asked to take money from the wallet, and were told to convince the interviewer that they did not take the money. In both conditions, the interviewer was blind to the participants' conditions, and he engaged in a BAI involving 15 questions.

The authors found that behaviour-provoking questions are not a reliable indication of guilt, as they found that those who were innocent exhibited "guilty" behaviours (e.g., crossed legs, shifted posture) at a higher rate than the guilty participants. Vrij et al. (2006a) suggest those who are guilty engage in more impression management behaviours as they do not take their credibility for granted, while innocent suspects believe their innocence will be enough. Moreover, Blair and Kooi (2004) compared the deception

detection cues suggested by the fourth version of Inbau et al.'s (2004) *Criminal Interrogations and Confessions Handbook* to an exhaustive list of non-verbal behaviours proposed in a meta-analysis by DePaulo et al. (2003) that have been found to differentiate between veracity and deceit. Blair and Kooi (2004) found only three of the indicators of deception suggested in the Reid model are consistent with indicators of deception suggested by DePaulo et al. (2003). In fact, some of the deception detection techniques suggested by Inbau et al. (2011) were found to actually indicate truth, according to DePaulo and colleagues (2003). The inaccuracy of the BAI in determining innocence versus guilt can have implications on the rest of the interrogation. For example, innocent individuals who are deemed guilty during the BAI and who are susceptible to suggestion might fall victim to accepting an alternative when presented with an alternative question. If the BAI were more accurate, or if the interrogations were not guilt presumptive, the risk of false confessions in response to coercive psychological techniques such as alternative questions may be reduced.

The third criticism, that the psychology that underpins the model might be coercive, is supported by many critics of the model. Critics believe interrogators use deceit and trickery, and encourage a cost-benefit analysis of confessing, which may elicit false confessions (Gohara, 2006). Furthermore, it is suggested that the technique also has a basis in learning psychology, with the use of reward when the suspect is cooperating, and punishment when the suspect is denying involvement in the crime under investigation (Cutler, Findley, & Moore, 2014). In addition, Kassin, Redlich, Alceste, and Luke (2018) questioned 87 individuals who are experts in confessions psychology, and two of the interrogation tactics used in the Reid model were repeatedly reported as

coercive and at risk of eliciting false confessions. One of those two is offering moral justification, one of the main components of alternative questions (Kassin, et al., 2018).

There are also claims that the Reid model is ignorant of legal rights, such as the right to refrain from making a statement (see *R. v. Chapple*, 2012; *R. v. Oikle*, 2000). Trickery and deceit are reportedly used, and may involve presentation of false evidence; however, many interrogators and interrogation trainers disapprove of this practice (Gohara, 2006). According to Kassin (2005), a large proportion of documented false confessions elicited by police interrogations are a result of presentation of false evidence.

A problem with alternative questions in particular, are that they use minimization tactics (i.e., normalizes and reduces the apparent seriousness of the crime), which communicates the possibility of a more lenient punishment in response to a confession (Kassin et al., 2018). Suggesting leniency is considered coercive and inadmissible in court, however, since direct suggestions of leniency are not communicated, minimization is an admissible technique used in the Reid model (*R. v. Oikle*, 2000).

Overall, in Canada the Reid model is not only controversial, but the implementation of the model is also deemed inadequate (Snook et al., 2010). Police officers in Canada who conduct interrogations only receive brief training on proper techniques and professional interviews (Snook et al., 2010). The training is cursory and officers do not receive follow up or refresher training, there is no performance evaluation, and many officers lack supervision (Snook et al., 2010). Further, Inbau et al. (2011) assert that if an innocent person is interrogated, the nature of the Reid model will not elicit false confessions. With this in mind, it is important to consider the vast number of individuals in the United States exonerated through DNA evidence who provided false confessions in

response to interrogations (e.g., CBC, 2003; *People v. Wise, Richardson, McCray, Salaam, & Santana,* 2002; Innocence Project, 2017). In fact, more than 25% of defendants exonerated by DNA evidence in the United States had falsely confessed during an interrogation (Innocence Project, 2017). Innocence Canada has not provided statistics on reasons exonerees were originally incarcerated, however (The Innocence Compensation Project, 2012).

Compliance, Suggestibility, Leading Questions, and False Confessions

False confessions are sometimes obtained due to the complex interactions that occur during an interrogation (Kassin & Gudjonsson, 2004). Two factors are involved in producing false confessions: the first are situational characteristics of the interrogation (e.g., unfamiliar environment, psychological interrogation tactics) and second are individual characteristics (e.g., personality, cognitive abilities). Situational factors that lead to false confessions often include interrogation techniques such as minimization and leading questions (Klaver, Lee, & Rose, 2008). Leading questions can produce confession contamination, which occurs if an interrogator releases information to a suspect that the public does not know, causing the suspect to introduce this information into his or her statement or confession (Leo, 2013). In addition to confession contamination, suggestive statements can also lead to false confessions, as individuals who are more suggestible are more likely to accept leading questions and incorporate suggestive statements into their own statements (Sharman & Powell, 2012). Suggestibility is the alteration of individuals' memories through misleading or suggestive questions, and is an issue in the criminal justice system for eyewitnesses and suspects alike (Chan, Manley, & Lang, 2017).

Other situational factors of interrogations have been found to increase individuals' susceptibility to suggestion, potentially leading to false confessions. Chan and colleagues (2017) have shown that repeating one's story as a result of repeated interviews or questioning can reduce the reliability of testimonies and can increase suggestibility of individuals, in turn increasing the likelihood of falsely confessing. Moreover, susceptibility to suggestion increases as cognitive resources are depleted, so repeated questioning and lengthy interviews can increase the risk of accepting suggestions creating false confessions (Otgaar, Albert, & Cuppens, 2012). Further, it was found that those with higher shift scores (i.e., change in memory recall score from initial memory recall score) on the Gudjonsson Suggestibility Scale (GSS) were more apt to falsely confess in response to an interrogation that used minimization techniques.

Individual characteristics of suspects can increase susceptibility to suggestion, resulting in a higher risk of producing false confessions in response to leading questions. These characteristics can include mental illness, intellectual disability, or younger age (i.e., adolescents are more suggestible than adults; Kassin et al., 2010; Kassin et al., 2018). Personality traits are also influential. Individuals who have antisocial personality characteristics and impulsivity, personality characteristics common among offenders (Gudjonsson, Sigurdsson, Bragason, Einarsson, & Vladimarsdottir, 2004; Gudjonsson, Sigurdsson, & Einarsson, 2004), individuals who have depression (Gudjonsson, Sigurdsson, Asgeirsdottir, & Sigfusdottir, 2006), those who are highly compliant (Kassin & Kiechel, 1996; Sigurdsson & Gudjonsson, 1996), and individuals with low self-esteem have been found to be at risk of producing false confessions (Gudjonsson, Sigurdsson, Bragason et al., 2004).

Some researchers have looked at the relationship between factors of personality (e.g., five-factor model) and suggestibility. Gudjonsson and colleagues (2004) found that individuals who had falsely confessed scored higher on measures of extraversion than those who had never falsely confessed. Alternatively, Porter, Birt, Yuille, and Lehman (2000) found that individuals who are low in extraversion are significantly more likely than those high in extraversion to exhibit false childhood memories and memory distortion. The finding that those who were low in extraversion were more vulnerable to memory distortion was magnified when the interviewer was high in extraversion. Liebman and colleagues (2002) also investigated personality differences in relation to suggestibility, and found individuals who were higher in facets of agreeableness or openness and lower in facets of conscientiousness or extraversion were more apt to be susceptible to suggestion. A study by Nurmoja and Bachmann (2008), however, found no correlation between suggestibility and personality in a sample of Estonian adults.

Individual characteristics of the interrogator can influence suspect suggestibility and false confessions. The risk of being susceptible to suggestion is heightened when an interrogator is friendly in demeanor and the suspect is not aware the interrogator is attempting to mislead him or her into admitting incriminating evidence (Baxter, Boon, & Marley, 2006). However, if the suspect is aware the interrogator might be attempting to mislead him or her, the suspect is less likely to accept the suggestion (Baxter et al., 2006). Avoiding suggestibility is observed if the suspect is being vigilant and mistrusting of the interrogator, and if the interrogator is seen as firm and severe. The perceived levels of competency, power, and control of the interrogator influence susceptibility to suggestion as well. The researchers found that if suspects perceive the power, competency, and

control of the interrogator as much higher than his or her own power, competency, or control, the suspect is more susceptible to suggestion (Gudjonsson & Lister, 1984).

In addition to suggestibility, compliance can be influential in producing a false confession. Research has shown that individuals who display higher levels of compliance are more at risk to falsely confess compared to those with lower levels of compliance (Blair, 2007; Gudjonsson, 1991; Sigurdsson & Gudjonsson, 1996). Compliance is defined by Gudjonsson (1989) as having two facets: the disposition to respond agreeably to requests, especially those made by authority figures, and the desire to evade conflict or confrontation. Gudjonsson (1989) proposed that compliance is distinct from suggestibility, however, the two should be measured in conjunction in order to determine whether the individual is being compliant with the researcher or interrogator, or if he or she is influenced by suggestion and is incorporating suggested information into his or her statement.

Compliance has been investigated in the context of interrogations and confessions within lab settings. Kassin and Kiechel (1996) found that individuals who were compliant were more inclined to sign a confession stating they participated in an act that they had not actually been involved in (i.e., they were innocent) than those who did not display high compliance. Sigurdsson and Gudjonsson (1996) also found Icelandic inmates who reportedly falsely confessed scored significantly higher on a measure of compliance than inmates and juveniles who had not falsely confessed. Further, Gudjonsson (1991) found that inmates who reported they had falsely confessed were higher on both suggestibility and compliance than forensic patients and individuals who successfully resisted admitting self-incriminating information during police interrogations. The combination of high

compliance and high suggestibility is related to memory distrust, a concept associated with internalized false confessions (Gudjonsson, Sigurdsson, Sigurdardottir, Steinthorsson, & Sigurdardottir, 2014). Blair (2007) asserts that individual differences such as compliance and suggestibility account for more variance in false confessions than interrogation tactics do.

Current Studies

To investigate alternative questions, two studies have been conducted. The first study used real police interrogation videos to investigate how officers use alternative questions in real situations, and how suspects respond to alternative questions. The second study was a lab study which involved an experimental paradigm adapted from Russano, Meissner, Narchet, and Kassin (2005). Investigating interrogations in both a forensic and a lab setting is imperative to understanding alternative questions. The forensic setting demonstrated the high stakes environment and heightened stress, thus showing the true responses one might provide for alternative questions. The lab setting is important because the ground truth is known, thus, the type of confession can be identified (i.e., false confession, true confession, false denial, true denial).

Study 1

In North America, it is common for primary suspects of crime to be interrogated by police. Although interrogations are commonplace and sometimes essential to the criminal justice system, literature investigating the actual interactions and strategies that occur in an interrogation room between a suspect and interrogator is scarce (Bull & Soukara, 2010). The purpose of the current study is to investigate the nature of interrogations, whether they are coercive, and how alternative questions are used.

The first study consisted of an analysis of police interrogation videos. It was hypothesized that (1a) each interrogation would use at least one unique alternative question (i.e., an alternative question that has not been presented in the interrogation before, explained in detail below), and (1b) the alternative question would be presented multiple times. Hypothesis two was that interrogations that used alternative questions more frequently would be more likely to obtain confessions. Additionally, hypothesis three expected that alternative questions would be met with silence the first time they were asked, but with an increased number of questions the suspects would respond to the alternative questions.

Method

Study one involved viewing and coding interrogation film provided by an Atlantic Canadian Police Department.

Sample. A sample of interrogation films were supplied by the police department. Study 1 is part of a larger project for which the police department agreed to share all interrogations that occurred between 2008 and 2018, with a few exceptions: Any interrogations involving sexual assault were withheld in order to protect the identities of the victims, any open or ongoing cases were withheld, and any cases that involved private police procedures were withheld. By providing all interrogations, excluding the types listed above, potential bias on behalf of the police department was reduced. Nineteen cases were randomly selected for coding using a random number generator on Google, and assigned to one of six coders. The 19 cases included 33 interrogation videos and 26 suspects. Crime type varied, however, 76% of cases investigated homicides and only 33% resulted in a confession. Further demographic variables of the interrogations are found in Table 1. The length of time it took to code each video varied depending on the

dependence on alternative questions, the number of periods of isolation, and other variables. It took approximately 90 minutes to code 60 minutes of an interrogation if the interrogator were in the room conducting the interrogation during that 60 minutes.

Procedure. Coding was completed with a coding guide loosely based on the coding guide developed by King and Snook (2009). See Appendix A. A team of researchers helped code the videos, and each video was coded one time aside from five videos (15%) which were randomly selected to conduct intercoder reliability assessments and were coded independently by two coders. When there was disagreement among coders, the coding conducted by the coder who was assigned to the video initially was retained for the analysis. Coder 1 coded 14 videos, Coder 2 completed 14 videos, Coder 3 completed three videos, Coder 4 completed one video, and Coder 5 completed one video. The coders were focused solely on coding for alternative questions and associated variables listed below. Interrater reliability was measured on the five videos that were each coded by two coders using Pearson's correlations, and the agreement among raters for alternative questions was very high, $r = .984$, $p = .002$, while for one-sided alternative questions the agreement was low, $r = .411$, $p = .492$ (Mukaka, 2012). The primary researcher for the project checked through each coding document prior to entering them into the dataset in order to approve the questions that were coded for by the research assistants, ensuring that questions that did not qualify as alternative questions or one-sided alternative questions would not be used in the dataset.

Demographic and interrogation variables. Demographic variables of both the interrogator(s) and the suspect were coded (e.g., gender, ethnicity). Variables relating to the criminal behaviour were also coded (e.g., type of crime, relationship to victim).

Interview and interrogation durations were calculated. The variable referred to as session length indicates the length of time the suspect was in the interrogation room in total (including breaks and isolation periods) calculated in minutes, and the variable referred to as interrogation length is total time in minutes that the suspect was interrogated by an officer. The length of interrogation was calculated by subtracting the length of any breaks the participants received (e.g., bathroom breaks, time away from the interrogation to sleep, etc.) and isolation time. Finally, coders indicated whether the suspect confessed fully to the crime (i.e., took complete responsibility, explained in detail his or her role in commission of the crime), partially confessed (i.e., confessed to specific details of the crime but not entire involvement, such as confessing to being at the scene of the crime, providing the weapon used in the crime, etc.), denied involvement completely, or made no comment (i.e., invoked the right to remain silent throughout the entire interrogation).

Alternative questions. The number of unique alternative questions and unique one-sided alternative questions were recorded. A unique alternative question or unique one-sided alternative question is one that has not been presented in the interrogation before. For example, if the alternative question "did you plan this out, or was it spur of the moment?" was asked for the first time, it would be a unique alternative question. If this question is asked again, it would be coded under the first, as a repetition of the alternative question. Questions did not have to be asked verbatim in order to fall under a previously asked question. For example, if an interrogator asked, "did you go to the location with a plan for how you would rob her, or did you get caught up in the moment?", this would be coded under the unique alternative question presented previously, as it was the same two alternatives phrased slightly differently. The number

of times the same alternative or one-sided alternative question was presented, not necessarily verbatim, as described above, was counted for a total number of alternative questions and one-sided alternative questions. Unique alternative questions and total alternative questions were coded for separately, because Inbau and colleagues (2011) suggested alternative questions should be repeated multiple times, and if the question is not working after being presented multiple times, a new alternative question should be selected. The responses to alternative questions were analyzed with responses falling into one of four categories: accepted, denied, did not respond, or other response. Further, the relationship between confessions and alternative questions was analyzed. See Appendix A for details on coding materials.

A typical interrogation began with an isolation period, in which the suspect was alone in the interrogation room. The interrogator would eventually enter the room, discuss the caution statement (i.e., mention it had been read upon arrest, or read the caution statement to the suspect). At this point, the interrogator would allow the suspect to contact a lawyer, which tended to be legal aid. The suspect often had to wait for the lawyer to arrive if the conversation was to be held in person, or they would speak over the phone. The suspect left the room and was taken to a private room that was not video or audio recorded for the conversation with his or her lawyer, and this conversation typically lasted approximately 30 to 60 minutes. Once the suspect returned to the room, there was more isolation, then the interrogator would begin interviewing the suspect beginning with more neutral topics and broad questions about the crime. Occasionally a forensic examiner would enter the room following the suspect's conversation with his or her lawyer and the examiner would take DNA samples and the suspect's clothing. The

interrogation would begin once the examiner was finished and the interrogator established their belief in the suspect's guilt.

Results

The descriptive statistics for all demographic variables of Study 1 are presented in Table 1, descriptive statistics for main study variables (i.e., alternative questions) are presented in Table 2, descriptive statistics of alternative questions broken down by interrogation outcome are presented in Table 3, and correlations for main study variables are presented in Table 4.

Table 1

Descriptive Statistics for Study 1 Demographic Variables

Variables	
PI Gender N (%)	
Male	28 (84.8%)
Female	5 (15.2%)
PI Ethnicity N (%)	
Caucasian	32 (97.0%)
African	1 (3.0%)
PI Attire N (%)	
Formal	23 (69.7%)
Casual	10 (30.3%)
PI Rank N (%)	
Constable	15 (45.5%)
Sergeant	5 (15.2%)
Unknown	13 (39.3%)
Suspect Age *M* (*SD*)	29.19 (11.50)
Suspect Gender N (%)	
Male	26 (78.8%)
Female	7 (21.2%)
Suspect Ethnicity N (%)	
Caucasian	18 (54.5%)
African	7 (21.2%)
Middle Eastern	8 (24.2%)
Prior Record N (%)	
Yes	15 (45.5%)
No	10 (30.3%)
Unknown	8 (24.2%)
Sole Suspect N (%)	8 (24.2%)
Victim Age *M* (*SD*)	30.47 (17.44)
Victim Gender	
Male	13 (65.0%)
Female	7 (35.0%)
Suspect-Victim Relationship	
Friend	4 (12.1%)
Family	6 (18.2%)
Romantic Partner	5 (15.2%)
Acquaintance	5 (15.2%)
Stranger	12 (36.5%)
Main Crime	
Homicide	25 (75.7%)
Attempted Murder	2 (6.1%)
Assault	2 (6.1%)

Robbery	2 (6.1%)
Other	2 (6.1%)
Session Length *M* (*SD*)	746.73 (451.13)
Interrogation Length *M* (*SD*)	316.69 (261.32)
Number of Isolation Periods *M (SD)*	8.48 (5.72)
Total Isolation Length *M (SD)*	208.92 (238.11)
Number of Breaks *M (SD)*	3.38 (2.48)
Total Break Length *M (SD)*	165.84 (210.03)
Interrogation Outcome	
Full confession	11 (33.3%)
Partial confession	11 (33.3%)
Denial	4 (12.1%)
No comment	7 (21.2%)
Plea	
Guilty	16 (48.5%)
Not Guilty	6 (18.2%)
Unknown	11 (33.3%)
Court Outcome	
Conviction	24 (72.7%)
Unknown	14 (27.3%)

Note. PI = Primary Investigator. Session length = entire time suspect is in the interrogation room, includes breaks and isolation. Interrogation length = time suspect spends being interrogated by an officer (interview length with breaks and isolation time subtracted). Session, interrogation, isolation, and break lengths are reported in minutes. Not all pleas or court outcomes were able to be found. One crime had no victim and some investigations had the same victim, so some victim variables < 33.

Table 2

Descriptive Statistics of Alternative Questions per Interrogation (N = 33)

Variable	*M* (*SD*)
Unique AQs	2.76 (2.69)
Total AQs	7.12 (8.93)
AQs Accepted	0.67 (1.00)
AQs Denied	1.07 (1.44)
AQs No Response	6.04 (8.75)
AQs Other Response	0.93 (1.38)
Unique One-Sided AQs	2.15 (2.35)
Total One-Sided AQs	9.48 (16.22)
One-Sided AQs Accepted	0.65 (0.80)
One-Sided AQs Denied	1.62 (2.35)
One-Sided AQs No Response	8.12 (15.05)
One-Sided AQs Other Response	1.62 (2.40)
Positive Supporting Statements	2.31 (4.50)
Negative Supporting Statements	.52 (.99)
Statements of Reinforcement	.21 (.49)

Note. AQ = Alternative Question

Table 3

Descriptive Statistics of Alternative Questions by Interrogation Outcome

	Alternative Question *M* (*SD*)	One-Sided Alternative Question *M* (*SD*)
No Comment (N = 7)	13.00 (15.63)	15.00 (17.74)
Denial (N = 4)	9.75 (6.85)	11.25 (11.00)
Partial Confession (N = 11)	4.18 (3.57)	4.18 (3.19)
Full Confession (N = 11)	5.36 (6.86)	10.64 (23.49)

Note. Excluding the four participants who confessed immediately, the mean of alternative questions increased slightly (*M* = 8.43, *SD* = 6.95) as did the one-sided alternative questions (*M* = 16.71, *SD* = 28.31) for those who fully confessed.

Table 4

Correlation Matrix for Study 1 Variables

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Age of Suspect	-									
2. Gender of Suspect	-.14	-								
3. Age of Victim	.57**	.06	-							
4. Gender of Victim	.06	.11	-.50**	-						
5. Length of Interrogation	.33	.00	.48	-.02	-					
6. Number of Partial Admissions	.30	.12	.42*	-.25	-.07	-				
7. Number of Unique AQs	.06	-.18	-.12	.35	.54*	-.21	-			
8. Total Number of AQs	.07	-.12	-.12	.40*	.52*	-.14	.93**	-		
9. Number of AQs Accepted	.03	-.32	-.12	.26	-.09	.21	.24	.14	-	
10. Number of AQs Denied	.14	.04	-.17	.40*	-.19	.13	.23	.19	.13	-
11. Number of AQs with No Response	.00	-.07	.01	.23	.58*	-.09	.84**	.96**	.03	-.06
12. Number of AQs Other Response	.08	.10	-.06	.20	-.21	.15	.33	.27	-.10	.52**
13. Number of Unique OS AQs	-.16	-.03	-.09	.11	.55**	-.19	.63**	.69**	-.11	-.30
14. Total Number of OS AQs	.01	-.02	-.07	.25	.77**	-.10	.60**	.63**	.06	-.11
15. Number of OS AQs Accepted	.01	.16	-.16	.26	-.30	.35	.13	.06	.25	.40
16. Number of OS AQs Denied	-.09	-.01	-.35	.48*	.46	.01	.24	.18	.26	.45*
17. Number of OS AQs No Response	-.01	-.15	-.12	.31	.77*	.00	.69**	.70**	.02	-.14
18. Number of OS AQs Other Response	-.10	-.01	-.12	-.10	.56*	-.08	.36	.20	-.17	.18
19. Positive Supporting Statement	.11	-.13	.07	.18	.51*	-.06	.76**	.87**	.01	-.06
20. Negative Supporting Statement	-.30	.03	.07	-.04	.77**	-.21	.23	.24	-.15	-.14
21. Statements of Reinforcement	.41*	-.24	.10	-.15	.26	.17	.25	.40*	-.08	.14

Note. The number of videos included in each correlation varied as pairwise deletion was used. OS = One-sided; AQ = Alternative Question. 1 = Male, 2 = Female.

Table 4 Continued

Correlation Matrix for Study 1 Variables Continued

Variables	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.
1. Age of Suspect											
2. Gender of Suspect											
3. Age of Victim											
4. Gender of Victim											
5. Length of Interrogation											
6. Number of Partial Admissions											
7. Number of Unique AQs											
8. Total Number of AQs											
9. Number of AQs Accepted											
10. Number of AQs Denied											
11. Number of AQs with No Response	-										
12. Number AQs Other Response	.05	-									
13. Number of Unique OS AQs	.79**	-.30	-								
14. Total Number of OS AQs	.66**	-.11	.72**	-							
15. Number of OS AQs Accepted	-.03	-.02	.10	.03	-						
16. Number of OS AQs Denied	.07	-.08	.13	.62**	.14	-					
17. Number of OS AQs No Response	.73**	-.01	.74**	.98**	-.06	.51**	-				
18. Number of OS AQs Other Response	.19	.14	.26	.58**	.12	.38	.46*	-			
19. Positive Supporting Statement	.91**	.03	.81**	.63**	.09	.00	.71**	.19	-		
20. Negative Supporting Statement	.38	-.14	.48**	.60**	-.14	.31	.57**	.50**	.34	-	
21. Statements of Reinforcement	.40*	-.03	.28	.23	.01	-.12	.25	.08	.42*	-.08	-

Note. The number of videos included in each correlation varied as pairwise deletion was used. OS = One-sided; AQ = Alternative Question. 1 = Male, 2 = Female.

The first hypothesis was that each interrogation would use at least one unique alternative question, and that each unique alternative question would be presented multiple times. In 81.8% (n = 27) of interrogations, at least one alternative question was presented. In 12.2% (n = 4) of interrogations, the suspect immediately confessed, so the interrogations became information gathering interviews rather than an attempt to elicit an incriminating statement. In the final 6.0% (n = 2) of interrogations, the interrogator opted not to use alternative questions. The number of unique alternative questions ranged from zero to 12, with a mean of 2.76 (*SD* = 2.69) unique alternative questions per interrogation. On average, 7.12 (*SD* = 8.93) alternative questions were asked per interrogation.

A similar trend was seen with one-sided alternative questions. One-sided alternative questions were presented to the suspect in 78.8% (n = 26) of interrogations, with 21.2% (n = 7) containing no one-sided alternative questions. Once again, 12.2% (n = 4) of interrogations comprised an immediate confession, so there was no opportunity for one-sided alternative questions to be used. In the final 9.0% (n = 3), interrogators chose not to use one-sided alternative questions. The number of unique one-sided alternative questions ranged from zero to 12. Interrogators used an average of 2.15 (*SD* = 2.35) unique one-sided alternative questions per interrogation, and an average of 9.48 (*SD* = 16.22) one-sided alternative questions.

In six (22.2%) interrogations of the 27 that included alternative questions, the interrogator presented his or her alternative questions only one time. In the remaining 21 (77.8%) interrogations that used alternative questions, the interrogator presented at least one of his or her alternative questions multiple times. In four (15.4%) of the 26

interrogations that used one-sided alternative questions, the interrogator presented his or her one-sided alternative questions only one time. In the remaining 22 (84.6%) interrogations that used one-sided alternative questions, at least one of the one-sided alternative questions was presented multiple times.

To address hypothesis two, a hierarchical binary logistic regression was conducted in order to analyze the relationship between the number of alternative questions presented and the outcome of the interrogation (i.e., no confession vs confession) while controlling for the age and gender of the suspect, and the gender of the primary interrogator. The predictor variable in this binary logistic regression was the number of alternative questions, and the outcome variable was the outcome of the interrogation, with a full or partial confession as the target category. The hierarchical binary logistic regression model provided a statistically significant prediction of interrogation outcome, χ^2 (4, N = 31) = 11.47, $p < .05$. The Nagelkerke pseudo R^2 indicated that the model accounted for approximately 43% of the total variance. Classification accuracy for predicting the outcome of the interrogation was relatively high, with an overall correct classification rate of 77.4%, with no confession having a slightly lower correct classification (63.6%) than the correct classification of confessions (85.0%). Table 5a presents the partial regression coefficients, the Wald test, the odds ratio [Exp(β)], and the 95% confidence intervals (CI) for odds ratios for the predictor. The results suggest that for every additional alternative question presented, the likelihood of obtaining a confession was reduced by 19%.

Table 5a

Binary Logistic Regression Results (N = 31)

Model	b	SE-b	Wald	df	*p*	Exp(β)	95% CI Exp(β) (Lower – Upper)
Block 1							
Intercept	-1.440	1.406	1.048	1	.306	.237	
Gender of PI	-.125	1.121	.012	1	.911	.883	.098, 7.937
Age of Suspect	.079	.053	2.215	1	.137	1.082	.975, 1.201
Gender of Suspect	-.242	.972	.062	1	.803	.785	.117, 5.275
Block 2							
Intercept	-1.463	1.892	.598	1	.439	.439	
Gender of PI	.186	1.363	.019	1	.891	1.205	.083, 17.406
Age of Suspect	.139	.086	2.614	1	.106	1.150	.971, 1.361
Gender of Suspect	-.657	1.128	.339	1	.560	.518	.057, 4.730
Total AQs*	-.214	.100	4.550	1	.033	.807	.663, .983

Note. The dependent variable was interrogation outcome with confession as the target category and no confession as the reference category; Nagelkerke $R^2 = .425$. PI = Primary Interrogator. AQ = Alternative Question. 1 = Male, 2 = Female. * $p < .05$.

As alternative questions and one-sided alternative questions are both used quite frequently, although it was not hypothesized, a second hierarchical binary logistic regression was conducted with alternative questions and one-sided alternative questions as the predictor variables and interrogation outcome as the dependent variable. Age and gender of the suspect and the gender of the interrogator were controlled for, and both alternative questions and one-sided alternative questions were entered in the same step. The hierarchical binary logistic regression model provided a statistically significant prediction of interrogation outcome, χ^2 (5, N = 25) = 12.380, $p < .05$. The Nagelkerke pseudo R^2 indicated that the model accounted for approximately 53% of the total variance. Classification accuracy predicting the outcome of the interrogation was moderately high, with an overall correct classification rate of 80.0%, with no confession having a slightly lower correct classification (70.0%) than the correct classification of

confessions (86.7%). With the addition of one-sided alternative questions, regular alternative questions no longer significantly predicted interrogation outcome. Results of the hierarchical binary logistic regression are presented in Table 5b. As the age of the suspect increased by one year, the likelihood of confessing during an interrogation increased by 1.172 times.

Table 5b

Binary Logistic Regression Results (N = 25)

Model	b	SE-b	Wald	df	*p*	Exp(β)	95% CI Exp(β) (Lower – Upper)
Block 1							
Intercept	-3.404	2.033	2.802	1	.097	.033	
Gender of PI	-.306	1.263	.059	1	.809	.736	.062, 8.756
Age of Suspect	.145	.082	3.141	1	.076	1.156	.985, 1.357
Gender of Suspect	.127	1.072	.014	1	.906	1.135	.139, 9.276
Block 2							
Intercept	-3.220	2.034	2.505	1	.113	.040	
Gender of PI	.583	1.611	.131	1	.718	1.791	.076, 42.067
Age of Suspect*	.159	.079	3.998	1	.046	1.172	1.003, 1.369
Gender of Suspect	.044	1.198	.001	1	.971	1.045	.100, 10.940
Total AQs	-.062	.132	.221	1	.638	.940	.726, 1.217
Total One-Sided AQs	-.173	.129	1.807	1	.179	.841	.653, 1.083

Note. The dependent variable was interrogation outcome with confession as the target category and no confession as the reference category; Nagelkerke R^2 = .528. PI = Primary Interrogator. AQ = Alternative Question. 1 = Male, 2 = Female. * $p < .05$.

Hypothesis three was that alternative questions would be initially met with silence, and an answer would eventually be elicited. On average, 53.1% of unique alternative questions were initially met with no response, with 16.3% of those met with no response eventually eliciting a response. Similarly, for one-sided alternative questions,

on average 58.7% of unique one-sided alternative questions were met with no response, and 31.8% were eventually responded to.

Additional analyses were performed in order to explore the use of alternative questions in more depth. The type of alternative questions and one-sided alternative questions asked were recorded, with the questions being categorized into three possible categories: reason, detail, or other. Alternative questions most frequently inquired about the reason the suspect committed the crime (M = 3.81, SD = 3.55), followed by details of the crime (M = 2.11, SD = 3.06), and lastly other crime related alternative questions (M = 1.62, SD = 2.47). One-sided alternative questions asked most frequently about the reason the crime was committed (M = 4.33, SD = 4.91), followed by other crime related questions (M = 3.65, SD = 9.09), and detail oriented questions (M = 3.26, SD = 8.69). The majority of "other" crime related questions involved inquiring about feelings of remorse, morals or character of the suspect, and whether to take responsibility.

Over the 33 interrogations, a few interrogations contained alternative questions considered to be "improper" techniques by Inbau and colleagues (2011). Three alternative questions mentioned legal charges, one one-sided alternative question offered leniency, and two one-sided alternative questions mentioned legal charges. On average, 2.50 (SD = 3.55) alternative questions per interrogation pitted one suspect against the other. This was slightly less common among one-sided alternative questions, with about one one-sided alternative question per interrogation suggesting the accomplice or other suspect is to blame (M = 0.93, SD = 2.76), and about one one-sided alternative question per interrogation suggesting the suspect being interrogated is to blame (M = 0.93, SD = 1.96).

Discussion

Little research has investigated interrogations by police officers with real suspects. Empirical data on true interrogations is important in understanding what actually goes on in an interrogation room, and which aspects of an interrogation are useful and which are less useful. There is a dearth of research on what strategies from the Reid model are actually employed and how closely the Reid model is followed by Canadian investigators. Study 1 had strong ecological validity, and provided perspective on the utilization of alternative questions in a true criminal environment. Real interrogations allow researchers to investigate responses of actual suspects in high stakes situations, a task that is almost impossible in lab studies. The suspects have more motivation to appear innocent in real interrogations and the gravity of the consequences can be life altering, so investigating alternative questions and interrogations with real interrogation film adds to the literature and the research in a profound manner in comparison to lab studies.

The Reid model of interrogations suggests that a successful interrogation is one that ultimately obtains a confession (Inbau et al., 2011). Interrogations within the Atlantic Canadian Police Department seem to rely heavily on both alternative questions and one-sided alternative questions in an attempt to obtain a confession, however, successful interrogations (i.e., those that result in confessions) do not seem to be positively related to use of alternative questions in the videos coded for Study 1. As indicated in the results of Study 1, the majority of alternative questions and one-sided alternative questions were met with no response on behalf of the suspect. Inbau and colleagues (2011) indicated that interrogators should expect the suspect to remain silent the first few times the alternative

question is presented, but the authors suggested with continued use of the question the suspect would eventually succumb to the pressure or relentlessness of the question, and respond. Study 1 shows that this may not be the case, as over half of the alternative questions were initially met with no response, and few eventually elicited a response. It is also interesting to note that one-sided alternative questions seem to appear more frequently in interrogations, and they also seem to have a lower response rate and a lower acceptance rate when compared to alternative questions. One-sided alternatives may simply be easier to come up with, as it can be difficult to come up with both a face-saving and a reprehensible reason for committing a crime.

It was expected that interrogations that used alternative questions at a higher rate would result in confessions more frequently, a phenomenon that appeared in the study conducted by King and Snook (2009). It seems as though alternative questions may not increase the likelihood of obtaining a confession. Contrarily, Study 1 implies that the increased use of alternative questions actually might decrease the probability of obtaining a confession. Although this finding was surprising, this may have happened for a few reasons.

First, in Canada, suspects are read a caution warning before the officers are allowed to begin the interrogation, which includes the fact that suspects have the right to access counsel without delay and the right to remain silence [*Canadian Charter*, 1982, s 10(b)]. The suspects are often told by their lawyers that they should remain silent, and they are not to answer any questions asked by the officer. Many of the suspects in the interrogation films used in Study 1 either employed this right and chose not to speak to the interrogators, or mentioned their right to remain silent various times throughout the

interrogation. Since suspects do seem to be aware of their right to remain silent, this may be an influencing factor in the lack of confessions and the lack of responses to alternative questions. Secondly, some of the alternative questions presented were quite eccentric (e.g., “Are you a monster or a volcano?”) and perhaps seemed hypothetical to the suspects, although the questions were only coded for if the officer paused following the question indicating they expected a response.

As there has been little previous research on alternative questions, a number of exploratory analyses were conducted. Although it was not considered in the hypotheses, it was of interest to examine whether the interrogators followed the recommendations of Inbau and colleagues (2011). It is important to examine these variables, as Inbau et al. (2011) suggest that interrogations that used alternative questions but did not have the desired result (i.e., a confession) likely did not follow the recommendations of the interrogation handbook. Study 1 did not find a positive association between the use of alternative questions and confessions, so the use of improper alternative questions were investigated.

Indeed, the results indicated that alternative questions were occasionally used improperly. First, Inbau and colleagues (2011) recommended avoiding pitting one suspect against another, as this form of alternative question provides a means for the suspect to deny participating in the crime by blaming his or her accomplice. The results revealed that interrogators used this technique approximately 2.5 times per interrogation. Additionally, Inbau and colleagues (2011) strongly discourage implying leniency or mentioning legal charges in the alternative questions. Although leniency and legal charges were infrequently implied or mentioned, a few interrogators did allude to

leniency or legal charges. All interrogators followed the recommendations of Inbau et al. (2011) in that none of the officers implied severe consequences. These recommendations allow for confessions to be considered admissible. It is unknown whether any of the interrogations investigated in Study 1 were deemed inadmissible in court, however, the interrogations with questions that implied leniency could potentially result in an investigation into the voluntariness of the confession. It could be argued that Inbau and colleagues (2011) cautioned against using incorrect alternative question techniques, and the results of Study 1 may reflect the incorrect format of questions chosen by some interrogators.

Alternative questions tend to covertly imply leniency, and with the finding that some expressly imply leniency, voluntariness of each confession must be considered. By providing two options for committing the crime, one that seems considerably less severe than the other, the suspect might understand that they are being given the opportunity to confess to a lesser charge. Since alternative questions imply leniency so subtly, they may seem innocuous when taken at face value. A judge must consider the relentlessness of the questioning and the repeated implications of leniency, despite how covert the implications are, in determining voluntariness.

In terms of the types of alternative questions asked, the majority of alternative questions and one-sided alternative questions were inquiring about the reason the suspect committed the crime. In the guidelines for selecting a good alternative question, Inbau et al. (2011) discuss alternative questions inquiring about the reason first and most frequently, so this type of alternative question may be most salient in an interrogator's mind. Additionally, because many of the crimes were similar in nature (e.g., mostly

homicides), interrogators seemed to recycle alternative questions surrounding general reasons for certain criminal behaviours. For example, a question implying the homicide was intentional and planned versus being an accident is an alternative question that an interrogator could ask in any homicide investigation.

The second most frequently used alternative questions investigated details of the crime, such as location, accomplices, or other crime related details only the suspect might know, such as the number of times the victim was stabbed. These questions are more specific to the crime itself, so may be more difficult to create on the spot, and these types of questions run the risk of confession contamination (Leo, 2013). As previously mentioned, confession contamination is when a question includes information about the crime only the culprit would know (Leo, 2013), so interrogators may be wise to avoid asking detail related questions to avoid eliciting a confession in which the suspect repeats the information he or she heard during the interrogation. The second most common one-sided alternative questions were those that were labelled "other". Most interrogators inquired about feelings of remorse, a question that is most naturally asked in a one-sided manner (i.e., "do you feel bad about what you did?" or "are you sorry?").

Limitations

There are a number of limitations to Study 1. First, the sample size was small, so it is advised to take caution in making strong conclusions based on the information collected from this sample. Having a small sample size indicates that the power of the study is low, meaning the results of the study may not be representative of the results. Had more interrogations been coded, Type II error would be reduced and the results of the study can be interpreted more conclusively. The small sample size, as well as the

resource from which the data was obtained calls into question the generalizability of the study. The films all came from one police department in Atlantic Canada with few investigators who conducted interrogations. Additionally, the majority of the cases were homicide cases, reducing the generalizability to different types of crime. Moreover, there is an overall lack of control within the study.

Five of the videos were assessed for interrater reliability, with two researchers each independently coding the five videos. A primary problem here is that a larger quantity of videos should be coded by more than two coders to address the reliability of coding. Secondly, it was found that interrater reliability for one-sided alternative questions were low, in contrast with the high agreement found for alternative questions. One-sided alternative questions may be more difficult to code for, because a coder must decide whether a second alternative is inferred by presenting one alternative. It is considerably more challenging to infer the second alternative compared to coding for a question with two alternatives that are overtly present within the question. Sometimes one of the coders had picked up on one-sided questions for which a second alternative could be implied that the other coder did not pick up on. This was particularly a problem in one of the videos that was coded for interrater reliability, which may have skewed the results.

A challenge in using interrogation videos to investigate the effectiveness of Reid techniques is the fact that the ground truth is never known. Many of the cases could be found online, and information on the suspect's plea (i.e., guilty or innocent) could be found in addition to the court outcome (i.e., conviction, withdrawal, acquittal). Although the court outcome is publicized, we know that approximately 25% of individuals who are ultimately exonerated falsely confessed to a crime (Innocence Project, 2017), and

approximately 872 wrongful convictions happen each year in Canada, showing that the justice system is not perfect and innocent individuals are sometimes convicted (The Innocence Compensation Project, 2012).

In study 1, I was interested in looking at alternative questions in relation to interrogation outcomes; more specifically, investigating whether alternative questions had the power to encourage confessions. With this being said, it is important to keep in mind that alternative questions are only a small part of a much larger interrogation framework. To this end, there are numerous other variables that are influencing the situation, such as rapport building, minimization, and development of themes, so alternative questions likely do not work in isolation and other variables should be considered in future research.

A final limitation of Study 1 was the quality of the films and resources provided. In some cases, the suspect was difficult to hear clearly. One case was coded predominantly using the transcript in conjunction with the video. This transcript was extremely detailed, however, some transcripts were particularly limited in the content they provided, so many of the transcripts were unable to be used to decipher what the suspect was saying. For the most part, however, the suspect and interrogator were able to be heard clearly and the transcripts were not necessary to understand the content of the interrogation.

Future Directions

The Reid model is vastly used and hugely influential in police interrogations across North America, yet little literature exists examining the interrogation framework. Researchers should commit to investigating the interrogation techniques further, as they

play a critical role in the criminal justice system, and confessions appear to be held to a higher standard than other types of evidence (Kassin & Gudjonsson, 2004; Kassin & Wrightsman, 1985). As confessions are so attractive to judges and jurors, the Canadian criminal justice system should be setting high standards for interrogation techniques, and should only be using techniques with empirical support for eliciting true confessions and avoiding false confessions. Study 1 attempts to begin investigating the interrogation technique used in Canada by studying interrogations from a small Canadian detachment, and is interested in providing some empirical evidence to shed light on the utility of techniques used.

Study 1 is one of few studies conducted using interrogation film from Canadian police departments, and the first study of its kind to investigate the use of alternative questions and the responses to alternative questions elicited from suspects in such detail. It is important to continue work similar to Study 1 to understand if the Reid model is useful, if it is coercive, and if Canadian police should continue to follow the recommendations proposed by Inbau et al. (2011). In the future, other aspects of the interrogation model should be coded for in the same videos to investigate the effectiveness of other techniques used by the Atlantic Canadian Police Department whose videos we used, and North America more generally. Additionally, larger samples of interrogation videos should be used, and this study among other similar studies investigating the techniques should be used among police detachments in other parts of Canada.

In the future it would be interesting to view interrogation videos in which the suspect falsely confessed and was later exonerated in order to investigate what tactics

may have influenced the suspect's false confession. Additionally, in those same cases, it would be important to assess the court transcripts, investigate whether the interrogation was found to be admissible, and potentially interview the exoneree about his or her experience. In addition to exoneree experience, it would be useful to gain a new perspective on interrogations by interviewing offenders who were interrogated to understand their experiences in the interrogation room and their perceptions of interrogations, and find out what style of interrogation they feel would work better to elicit a true confession.

Study 2

In real forensic interrogations, such as those examined in Study 1, although there may be confessions and convictions, the ground truth is never truly known by individuals other than the perpetrator him or herself. As previously mentioned, false confessions account for approximately 25% of all wrongful convictions in the United States (Innocence Project, 2017). Due to the high rates of false confessions, it is important to examine alternative questions in a lab setting, where ground truth is known and the wrongdoing (i.e., cheating) and interrogation both occur in a highly controlled setting. Additionally, Inbau and colleagues (2011) place high importance on alternative questions, saying they are the point in the interrogation during which the officer will receive his or her first incriminating evidence from the suspect, and interrogations which do not elicit a confession likely did not use alternative questions. Taking into consideration the high importance Inbau et al. (2011) place on alternative questions, it is imperative to the investigative interviewing literature that this questioning technique be empirically examined in a controlled setting. By isolating the alternative questions, they

are able to be examined as a standalone method of interrogating to discover the true effects of alternative questions.

The second study was a true experiment, in which guilty and innocent conditions were manipulated, and up to four alternative questions were presented to some participants but not others. Briefly, participants were asked to complete a task with a partner who was a confederate, and then complete a task individually. In some cases, the confederate elicited cheating on the independent task by asking for help, while in others she did not ask for help. Blind to the condition, the experimenter confronted the pair about cheating and questioned them separately. It was expected that:

(1) Those who were in the innocent condition would be less likely to confess than those who were in the guilty condition, however, if any false confessions were obtained from innocent participants, false confessions would be elicited from individuals who were asked an alternative question.

(2) Participants in the guilty condition would be more likely to confess whether they received an alternative question or not, however, those who received an alternative question would confess at a higher frequency than those who did not receive an alternative question.

(3) Participants, whether guilty or innocent, would feel more pressure to confess in the interrogation that utilized an alternative question compared to those who did not receive an alternative question.

(4) Participants who scored high on a measure of suggestibility would be more likely to truly or falsely confess to cheating than those who had low suggestibility scores.

(5) Similarly, those who were found to be more compliant will be more likely to truly or falsely confess to cheating compared to those who have lower compliance scores.

(6) Finally, participants who had high suggestibility scores would score higher on agreeableness and openness and lower on conscientiousness and extraversion.

Method

Participants. Recruitment took place on Saint Mary's University campus through the psychology SONA systems and via in-class recruitment from Criminology and Business courses. Participants who were completing a psychology major were excluded from participating in the study to reduce any ethical issues arising from the supervisor of the study or the experimenter having taught, or potentially teaching the students in the future. Forty-three undergraduate students participated, and participants received either course credit (i.e., 2% per hour of research participation) for those who were eligible for SONA, or a $5 gift card to Starbucks for those who were not eligible for SONA (i.e., non-psychology students). Participants were between 18 and 46 years old (M = 21.88, SD = 4.50), mostly female (64.3%), and mostly Caucasian (38.1%). All demographic variables are presented in Table 6. A priori power analysis indicated that approximately 120 participants would be needed to have 80% power for detecting a medium sized effect when employing an alpha of .05. Due to time constraints, only 43 participants were collected, so post-hoc power analyses were performed. The post-hoc analyses revealed the chi-square analysis achieved a power of 51%, while the MANOVA analysis achieved a power of 31%.

Table 6

Demographic Variables of Study 2 (N = 42)

Characteristic	N (%)
Age (M, SD)	*M* = 21.88, *SD* = 4.50
Gender	
Male	15 (34.9%)
Female	27 (62.8%)
Year of Study	
One	9 (20.9%)
Two	8 (18.6%)
Three	10 (23.3%)
Four	13 (30.2%)
Other	2 (4.7%)
Race	
Caucasian	16 (37.2%)
African/Black	13 (30.2%)
Asian	7 (16.3%)
Hispanic	1 (2.3%)
Other	5 (11.6%)

Note. Proportions do not add up to 100% as one participant withdrew this portion of their data.

Measures. *Demographics questionnaire*. An author-constructed questionnaire was used to analyze participants' age, gender, ethnicity, and education level. See Appendix B.

Brief HEXACO Personality Inventory (BHI; de Vries, 2013). The BHI is a 24-item measure of personality types. It includes six subscales: honesty-humility (e.g., "I

find it difficult to lie"), emotionality (e.g., "I am afraid of feeling pain"), extraversion (e.g., "I easily approach strangers"), agreeableness (e.g., "Even when I am treated badly, I remain calm"), conscientiousness (e.g., "I make sure things are in the right spot"), and openness (e.g., "I have a lot of imagination"), each of which have four items to represent them. Participants were asked to respond on a five-point Likert type scale on which they indicated the extent to which they agreed or disagreed with each statement. For each item, 1 = "strongly disagree", 3 = "neutral", and 5 = "strongly agree". Twelve items on the BHI were reverse-scored and the mean of each subscale was calculated. A high score (5) indicated the individual was described well by the personality subscale, while a low score (1) indicated the individual lacked qualities of the personality subscale. de Vries (2013) found that the BHI has satisfactory reliability, with all Cronbach's alphas between .43 and .72. Test-retest reliability had a mean of .76 and ranged from .71 (extraversion) to .79 (conscientiousness). In the current study, reliability was low with reliability scores ranging from .04 to .68. Low reliability is justified when using short personality scales in exploratory research, however, as researchers must be mindful of the length of surveys they are expecting participants to complete. The literature suggests that although many short personality scales have low internal reliability, they often have high test-retest reliability, and rater consistency, so validity loss is a minor issue (de Vries, 2013). Additionally, it is more acceptable to use short scales despite potential reliability loss in situations in which one is looking at group statistics rather than individual level statistics, as was done in the current study (Kruyen, Emons, & Sijtsma, 2013). See Appendix C.

Gudjonsson Suggestibility Scale (GSS; Gudjonsson, 1984). The GSS is a free recall task followed by a 20-item measure of interrogative suggestibility. A story was

read orally to the participant by the experimenter, and the participant was asked to provide free recall immediately after hearing the story. The number of events in the story that were recalled were scored, with a total of 40 possible points. If participants recalled parts of the event, they would receive a half point for that event. Following free recall, the participant completed the 20 items on the GSS, which are based on the story they just heard. Fifteen of the 20 questions are suggestive questions. There are three types of suggestive questions: leading (e.g., did the woman's glasses break during the struggle?), affirmative (e.g., were the assailants convicted six weeks after their arrest?), or false alternative questions (e.g., did the women hit one of the assailants with her fist or handbag?). The 'true' questions were presented within the 15 suggestive questions in order to conceal the true purpose of the GSS, and they were not included in scoring. The participant was provided feedback indicating he or she made a number of errors, and he or she completed the 20 questions again, with each distinct change in answer included in scoring. The opportunity to complete the GSS again is based on the idea that suggestibility will increase for individuals who receive feedback indicating failure (Chan et al., 2017). The change in responses indicates further evidence of suggestibility.

During scoring, three suggestibility scores were calculated. *Yield* is the number of suggestive questions for which affirmative answers were given or a false alternative was elicited. Yield scores can range from 0 (none endorsed) to 15 (all endorsed). *Shift* scores are the number of suggestive questions a participant changed his or her answer to (e.g., if the participant changed his or her answer from "no" to "yes"). Shift scores can range from 0 (no changes) to 15 (changed all answers). Six participants chose not to complete the questions a second time, so their shift scores were imputed using the mean shift score

from the rest of the sample. *Total* scores were calculated by summing the yield and shift scores, generating a score out of 30 points. Higher scores indicated more suggestibility.

Cronbach's alphas were .79 for yield, .75 for shift, and .82 for total suggestibility, indicating acceptable to good internal consistency (Merckelbach, Muris, Wessel, & Van Koppen, 1998). Merckelbach and colleagues (1998) also found modest but significant test-retest reliability. In the current study, reliability was acceptable for yield ($\alpha = .71$), shift ($\alpha = .69$) and total suggestibility ($\alpha = .72$). See Appendix D.

Gudjonsson Compliance Scale. (GCS; Gudjonsson, 1989). The GCS comprises 20 items to which respondents answered as True or False. Three of the items were reverse coded, meaning that a "False" answer corresponded with high compliance. The items are loaded on three factors indicating three components of compliance. Factor one includes 10 items, and assesses the ability of the participant to cope with pressure (e.g., I give in easily to people when I am pressured). In particular, factor one investigates coping with individuals in authority, and measures avoidant and fearful behaviours. Factor two is composed of five items and measures the participants' desire to please others and obey expectations (e.g., I generally believe in doing as I am told). The final five items make up factor three which is more a more obscure factor, and includes the three reverse coded items (e.g., I am not too concerned about what people think of me). Scores range from 0 to 20 with higher scores indicating higher compliance. In previous research the GCS has shown satisfactory reliability and a Cronbach's alpha of .75 (Gudjonsson, 1997). Test-retest reliability is good, with a coefficient of stability of .88, and acceptable split-halves reliability has been found ($\alpha = .71$; Gudjonsson, 1989). In the current study, reliability was acceptable, with a Cronbach's alpha of .69. See Appendix E.

Logic problem tasks. There were two sets of three problem solving tasks presented to the participants. The first set was completed as a pair, and the second set was completed independently. The participants had ten minutes per session (i.e., team and individual) to complete all of the tasks. If participants were not finished in ten minutes, they were given extra time. The ten minutes was used as a guideline for the participants to understand how long they should take, but because all questions needed to be completed for the procedure to advance properly, those who needed extra time were given the time. The logic problems were not scored. See Appendix F.

Follow-up Questionnaire. A few days after completion of the study, participants were sent a follow-up questionnaire over email inquiring about their personal experience in the study and how they felt about participating. The questionnaire comprised eight items, such as, "Do you feel that deception was justified?" Participants responded on a 7-point Likert-type scale, with 1 indicating negative feelings (e.g., not justified at all) and 7 indicating positive feelings (e.g., completely justified). See Appendix G.

Procedure. Individuals participated in an experimental paradigm adapted from Russano and colleagues (2005). Participants were randomly assigned to one of four cells produced by a 2 (innocent vs. guilty) x 2 (alternative question vs. no alternative question) between-subjects design. The confederate would randomly assign the participant to the guilt condition, and the interrogator would randomly assign the participant to the interrogation condition. The interrogator was always blind to the guilt condition, so her biases or beliefs should not have impacted the way she conducted the interrogation. Participants were told they were participating in a study on team and individual logic task

problem solving, as recruiting them for an interrogation study would influence the behaviours of the participant.

A female confederate who was an undergraduate university student at Saint Mary's University posed as a second participant in the study. Prior to the participant arriving at the lab, the experimenter turned on a video camera and began recording. Participants were unaware they were being recorded during the experiment, and recordings were used to refer back to when coding for cheating behaviours and confessions. Once the participant and the confederate both arrived to the lab, the experimenter, one of four female research assistants, introduced the participant and the confederate to one another, and both the confederate and participant completed an informed consent form explaining the logic task study. Next, the participant and confederate were instructed on the tasks. They were told that the team problem is to be solved first, and then the individual problem will be solved second. The pair was informed that for each session, they will receive three problem solving tasks, and will have ten minutes to complete all of them, with extra time if necessary. The experimenter would leave the room for the ten-minute duration they had to complete the tasks in order to remove confounding variables (e.g., performance stress). The pair was informed that once the first ten minutes is up, the experimenter will enter the room, retrieve the team tasks and provide them with the individual tasks, then she will leave the room again so they can complete the tasks. The team task served as a rapport building session, so that the participant was comfortable with the confederate. The experimenter explained that it is critical that the individual task is completed independently, and there is no discussion about the individual task allowed. When the experimenter entered the room to inform the

pair that the team task was over and the individual task was set to start, she once again reminded the pair that they were not to talk to one another during the individual tasks.

During the tasks, the experimenter was not present in the room. For the guilty condition, the confederate asked the participant for help on the last question of the individual task, and for the innocent condition, the confederate did not ask for help on the individual task. The experimenter returned and informed the pair she was checking the answers for the tasks while the pair completed the first two questionnaires (i.e., demographics and BHI). After pretending to review the individual task, the experimenter told the pair she had to check something with her supervisor. Upon returning, she confronted the pair explaining that she had identified a problem and they needed to discuss the problem individually. She asked the confederate to wait in the hallway.

The experimenter was blind to the participant's condition (i.e., guilty or innocent) and she interrogated the participant following the interrogation script presented in Appendix H. She explained to the participant that the pair wrote the same wrong answer, and that writing the same wrong answer to a logic task is extremely rare. Further, the participant was informed that the professor in charge of the study had been told about the situation and is upset, and she is not sure who she may have to notify as this could be an incident of academic cheating. Following, the experimenter accused the participant of cheating on the task with the confederate. In both the alternative question and no alternative question conditions, the experimenter asked the participant to explain exactly what happened in the lab while the pair was completing the individual task without her supervision. In the alternative question condition, if the participant confessed to cheating right away, the participant was thanked for his or her honesty and continued without the

interrogation. However, if the experimenter received a denial, the experimenter presented the participant with an alternative question. The alternatives presented were, “do you always cheat, or was this a one-time thing?” If the participant denied both alternatives, the alternative question was presented up to three more times, in an effort to pressure a confession. The reason for repetition and pressure to confess is in line with Inbau and colleagues’ (2011) suggestion that a successful interrogation is one with which a confession is obtained, and that many alternative questions are not successful the first time they are asked.

Following the completion of the interrogation, the experimenter then informed the participant that she needed to go discuss the situation with the other participant, and a research assistant posing as an unsuspecting colleague was asked to come in to administer the questionnaires and complete the study. The new experimenter came in and administered the rest of the questionnaires, then subsequently, the experimenter began the debriefing and asked the participant to rate the pressure they felt to confess on a scale ranging from 1 (no pressure at all) to 10 (the most pressure possible). The purpose of the second experimenter was to remove the potential discomfort the participant may have experienced if the participant were to continue interacting with the original experimenter after the interrogation.

Following the pressure to confess scale, the original experimenter and the confederate re-entered the lab and provided a full explanation of the true purpose of the study, informed the participant the other individual was a confederate, that they had been video and audio recorded throughout the experiment, and that the logic problem tasks would not be scored. The participant was also informed the professor was not upset, and

those who provided help to another student were told helping others is admirable and benevolent even though it was portrayed as wrong during the current study. All participants were provided the opportunity to withdraw their questionnaire data alone, their video data alone, or both video data and questionnaire data following debriefing. They were also provided with information for the Saint Mary's University counselling services on campus and online in the event that they feel distressed about the experience. Two to four days following the study, participants were sent the follow-up questionnaire. The study took approximately 90 minutes to run, including time spent setting up for the study (e.g., printing logic task workbooks, turning on computers and opening questionnaires, starting the video camera), time spent running the participant, and time spent entering the results of the participant into an Excel spreadsheet (e.g., conditions, responses to the interrogation, responses to the manipulation check).

Results

Prior to conducting the study, ethics clearance was received through the Saint Mary's University Research Ethics Board. Following ethics approval, research assistants were trained in conducting the study. Before the participants arrived, they were each randomly assigned to one of the four groups, resulting in 27.9% of participants who were guilty and not interrogated, 34.9% who were innocent and not interrogated, 14.0% who were guilty and interrogated, and 23.3% who were innocent and interrogated.

Participants who were in the guilty/interrogation condition were first asked an open-ended question inviting them to explain what happened while the experimenter was outside of the room, allowing them to confess to cheating prior to receiving the alternative question. Six participants who were meant to be in the interrogation condition

confessed to cheating before receiving any alternative questions, making their interview identical to those who were guilty and in the no interrogation condition. These six participants were then assigned to the no interrogation condition, resulting in a slightly skewed proportion in each condition. Additionally, two participants who were in the guilty condition chose not to share their answers, so all analyses were completed excluding the participants and again including these two participants in the innocent condition. Changes in the results without these participants were minimal, so the participants remained in the dataset and changes will be described below.

A manipulation check was conducted to ensure participants were unaware that the interrogation was staged, and five participants indicated after the final questionnaire in the survey (i.e., an Academic Behaviours Questionnaire), they had an idea that the study was about cheating, but none of the participants caught on during the interrogation, and no participants believed the study was about interrogation tactics. All other participants believed the study was about logic tasks. The experimenter was blind to the condition for every participant and did not find out prior to interrogating the guilt condition of the participant in any of the cases. The descriptive statistics and correlations of all study variables for Study 2 are shown in Table 7.

Table 7

Correlation Matrix and Descriptive Statistics of Study 2 Variables (N = 42)

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Confession	-									
2. Truth	.28	-								
3. Age	.04	-.10	-							
4. Gender	-.24	-.17	-.29	-						
5. Year of Study	.26	-.09	.31*	.07	-					
6. Honesty/Humility	.01	-.15	.21	.01	-.10	-				
7. Emotionality	-.33*	-.16	-.25	.50**	.13	-.11	-			
8. Extraversion	.03	-.11	.01	-.05	.22	-.11	-.04	-		
9. Agreeableness	.18	-.03	-.17	-.10	-.17	.00	-.28	-.01	-	
10. Conscientiousness	.17	-.30	.25	-.15	.00	.43**	-.41**	-.04	.20	-
11. Openness	-.16	.02	.14	-.01	-.15	-.16	.052	.24	-.13	-.08
12. Compliance	-.04	.26	-.37*	.25	-.06	-.08	.26	.05	.18	-.08
13. Free Recall	.03	-.35*	.29	.16	.43**	.13	.25	.16	-.14	.02
14. Yield	.01	.13	-.03	.10	-.28	-.08	.01	-.10	.23	.05
15. Shift	.22	.17	-.10	-.07	.07	-.06	-.19	.04	.24	.00
16. Suggestibility Total	.13	.20	-.08	-.04	-.19	-.10	-.10	-.05	.32*	.04
17. Pressure to Confess	-.04	.09	-.21	.36*	.02	-.29	.19	-.03	-.21	-.21
Mean			21.88		2.79	3.61	2.80	3.72	3.05	3.76
Standard Deviation			4.50		1.24	.82	.77	.49	.53	.55

Note. *$p < .05$. **$p < .01$. Confessions: 1 = Confession, 2 = Denial; Truth: 1 = Truth 2 = Lie; Gender: 1 = Male, 2 = Female.

Table 7 Continued

Correlation Matrix and Descriptive Statistics of Study 2 Variables Continued (N = 42)

Variables	11.	12.	13.	14.	15.	16.	17.
1. Confession							
2. Truth							
3. Age							
4. Gender							
5. Year of Study							
6. Honesty/Humility							
7. Emotionality							
8. Extraversion							
9. Agreeableness							
10. Conscientiousness							
11. Openness	-						
12. Compliance	-.18	-					
13. Free Recall	.22	-.39*	-				
14. Yield	-.13	.39*	.61***	-			
15. Shift	-.05	.09	-.02	.07	-		
16. Suggestibility Total	-.13	.37*	-.50**	.83***	.61***	-	
17. Pressure to Confess	.10	.09	-.19	.28	.08	.16	-
Mean	3.71	10.62	9.85	6.44	3.06	9.50	4.62
Standard Deviation	.62	3.49	5.68	3.28	2.30	4.13	3.22

Note. *$p < .05$. **$p < .01$. Confessions: 1 = Confession, 2 = Denial; Truth: 1 = Truth 2 = Lie; Gender: 1 = Male, 2 = Female.

Given that there were four different interrogators, it was necessary to examine whether there was a difference in pressure felt by participants and confession rates across interrogators. A one-way analysis of variance (ANOVA) was conducted in order to assess the difference in pressure to confess between interrogators to ensure there was consistency across interrogators. No significant differences between interrogators' pressure to confess scores were found, $F(3, 38) = 0.896$, $p = .452$, partial $\eta^2 = .066$. A Fisher's Exact Test was conducted on the confession rate, which indicated there was a significant difference across experimenters, $p < .05$, Cramer's $V = .426$. For distribution of confessions and mean pressure to confess across interrogators, see Table 8.

Table 8

Confessions, Denials, and Pressure to Confess by Interviewer

	True Confessions	True Denials	False Denials	Interrogation PtC *M* (*SD*)	No Interrogation PtC *M* (*SD*)	Total PtC *M* (*SD*)
Interviewer 1	1 (2.3%)	11 (25.6%)	6 (14.0%)	7.00 (3.16) N = 7	4.40 (3.60) N = 10	5.47 (3.57)
Interviewer 2	2 (4.7%)	11 (25.6%)	1 (2.3%)	4.75 (2.22) N = 4	3.10 (3.21) N = 10	3.57 (2.98)
Interviewer 3	3 (7.0%)	5 (11.6%)	1 (2.3%)	3.25 (2.63) N = 4	5.60 (2.97) N = 5	4.56 (2.92)
Interviewer 4	2 (4.7%)	0 (0.0%)	0 (0.0%)	-	5.00 (2.83) N = 2	5.00 (2.83)

Note. PtC = Pressure to Confess. One participant interviewed by Interviewer 1 withdrew questionnaire data.

The first hypothesis, that those who were in the innocent condition would be less inclined to confess than those in the guilty condition, was supported. As predicted, a chi-square analysis of independence with a Yate's correction showed that guilty participants were significantly more likely than innocent participants to confess to cheating, $\chi^2(1) = 13.45$, $p < .001$, Cramer's $V = .621$. The rates of confessions based on guilt or innocence is displayed in Table 9. It is important to note that no false confessions were obtained during the study, so all confessions displayed in Table 9 were elicited from guilty participants.

Table 9

Rates of confessions by guilt condition. (N = 43)

	Confession	Denial
Guilty	8 (18.6%)	8 (18.6%)
Innocent	0 (0.0%)	27 (62.8%)

A chi-square analysis of independence with a Yate's correction was conducted on guilty participants to examine their inclination to confess to the interrogation versus no interrogation ($\chi^2(1) = 3.00$, $p = .08$, Cramer's $V = .577$). Table 10 displays the numbers and proportions of participants in the guilty condition who confessed or denied guilt based on their group association (i.e., interrogation/no interrogation). As mentioned previously, six of the eight participants in the no interrogation/confession group were meant to be in the interrogation group but confessed prior to receiving any alternative questions. As displayed in Table 10, the results were opposite than expected in both conditions, with interrogations eliciting fewer confessions and similar rates of denials compared to no interrogations.

Table 10

Rates of confessions of guilty participants only by interrogation condition. (N = 16)

	Confession	Denial
Interrogation	0 (0.0%)	4 (25.0%)
No Interrogation	8 (50.0%)	4 (25.0%)

An independent samples *t*-test was conducted in order to analyze pressure to confess based on interrogation group, $t(40) = -1.179$, p - .245. Unexpectedly, the pressure to confess did not differ between those who were interrogated ($M = 5.40$, $SD = 3.26$) and those who were not interrogated ($M = 4.19$, $SD = 3.09$), therefore, hypothesis three was not supported. To investigate this finding further, a factorial ANOVA was conducted to compare the main effects of interrogation condition and guilt condition and the interaction effect between the interrogation and guilt conditions on the pressure to confess. The main effect for interrogation condition yielded an *F*-ratio of $F(1, 38) = .35$, $p = .556$, partial $\eta^2 = .009$ which indicated no statistical significance. Similarly, the main effect for guilt condition indicated no statistical significance ($F(1, 38) = .06$, $p = .808$, partial $\eta^2 = .002$) revealing there was no significant effect of guilt condition on pressure to confess (Guilty $M = 5.07$, $SD = 2.89$; Innocent $M = 4.37$, $SD = 3.41$). Overall, the interaction effect was also not significant, $F(1, 38) = 1.86$, $p = .181$, partial $\eta^2 = .047$, however, as indicated by the means of the two conditions, the effects were going in the expected direction.

Table 11

Factorial ANOVA Investigating Pressure to Confess by Interrogation and Guilt Condition (N = 42)

Source	*SS*	df	*MS*	*F*	*p*	Partial η^2
Interrogation Condition	3.54	1	3.54	.35	.556	.009
Guilt Condition	.60	1	.60	.06	.808	.002
Interrogation x Guilt	18.64	1	18.64	1.86	.181	.047
Error	380.92	38	10.02			
Total	1320.00	42				

Note. R Squared = .101 (Adjusted R Squared = .030)

To examine the difference in suggestibility scores and compliance across the three confession types (i.e., true confession, true denial, false denial), a multivariate analysis of variance (MANOVA) was conducted, with the expectation that suggestibility and compliance scores would differ between confession types. The MANOVA revealed that there was no significant differences between suggestibility and compliance scores across confession type, $F(4, 76) = 1.18$, $p = .326$, Wilk's $\Lambda = .886$, partial $\eta^2 = .059$. Descriptive statistics for compliance and suggestibility scores broken down by confession type are presented in Table 12 and MANOVA results are presented in Table 13.

Table 12

Descriptive Statistics for Compliance and Suggestibility by Confession Type

	Compliance *M* (*SD*)	Suggestibility *M* (*SD*)
True Confession (N = 8)	10.88 (3.27)	8.38 (4.00)
True Denial (N = 27)	9.96 (3.52)	9.16 (4.11)
False Denial (N = 7)	12.86 (3.02)	10.86 (3.34)
Total (N = 42)	10.62 (3.49)	9.30 (3.96)

Table 13

Univariate Tests of Between-Subjects Effects (N = 42)

	SS	*df*	*MS*	*F*	Partial η^2
Confession Type					
Compliance	47.21	2	23.61	2.03	.094
Suggestibility	24.32	2	12.16	.77	.038
Error					
Compliance	452.70	39	11.61		
Suggestibility	619.43	39	15.88		
Total					
Compliance	5236.00	42			
Suggestibility	4272.99	42			

Pearson's correlations were conducted to assess the relationship between suggestibility and the six personality variables as measured by the BHI. The results of the Pearson's correlation revealed that agreeableness was the only personality factor

significantly positively associated with suggestibility ($r = .32$, $p < .05$), partially supporting the sixth hypothesis. For all correlation statistics, refer back to Table 7. When the two participants who chose not to cheat were removed from the dataset, the correlation between agreeableness and suggestibility was no longer significant ($r = .30$, $p = .06$).

Due to the deceptive nature of the study and the ethical concerns involved in conducting the study (e.g., inducing high stress, videotaping without informed consent), a follow up survey was sent to participants two days following their participation. Fourteen participants completed the follow up questionnaire. As shown in Table 14, most participants felt that deception was completely justified, reported having an overall positive experience in the study, felt average levels of stress, and felt as though the study contributed to research in psychology.

Table 14

Descriptive Statistics of Responses to Follow Up Questionnaire (N = 14)

	Rating Distribution								
Question	1	2	3	4	5	6	7	*M*	*SD*
Overall Experience 1 = very negative 7 = very positive	0	7.1%	0	7.1%	14.3%	14.3%	57.1%	6.00	1.52
Educational Value 1 = not educational 7 = very educational	0	0	0	21.4%	7.1%	21.4%	50.0%	6.00	1.24
Deception Justified 1 = not justified at all 7 = completely justified	0	0	14.3%	7.1%	0	7.1%	71.4%	6.14	1.56
Contribution to Psychology 1 = little contribution 7 = large contribution	0	0	0	14.3%	7.1%	35.7%	42.9%	6.07	1.07
Stress Experienced 1 = extremely stressful 7 = not stressful at all	7.1%	28.6%	14.3%	28.6%	7.1%	7.1%	7.1%	3.50	1.70

Additional analyses were run in order to identify possible differences between guilty participants that confessed immediately when they were asked what happened while the experimenter was outside of the room compared to guilty participants who did not confess to cheating when they were first asked about their cheating behaviours. A number of *t*-tests were conducted to compare the two groups. Most of the variables did not differ significantly between the guilty participants who immediately confessed and those who lied (agreeableness, $t(13) = .834$, $p = .420$; compliance, $t(13) = 1.939$, $p = .074$; suggestibility, $t(14) = 1.899$, $p = .078$). There was a significant difference on honesty and humility between those who were guilty and confessed immediately ($M = 3.92$, $SD = 0.72$) and those who were guilty and lied about cheating ($M = 3.06$, $SD = 0.69$), $t(13) = -2.323$, $p = .037$.

Discussion

Study 2 was the first study to investigate alternative questions in a lab setting, and one of the few studies that examine interrogations in a Canadian context. Furthermore, much of the literature that examines interrogations examines the interrogation as a whole (e.g., King & Snook, 2009; Leo, 1996), or investigates the BAI (e.g., Masip et al., 2011; Vrij et al., 2006a) or minimization (e.g., Russano et al., 2005) rather than other elements of the Reid model that have not yet been empirically examined. This study is one of few that parses out one specific aspect of the Reid model to examine in isolation, a necessary aspect of scientific investigations. Additionally, as Inbau and colleagues (2011) place heavy emphasis on the fact that successful interrogations include alternative questions, it was necessary to examine the role of alternative questions in isolation and in the context of an interrogation (i.e., Study 1). Study 2 strengthens the overall assessment of

alternative questions, as the ground truth is known. Participants are paired with a confederate and are videotaped, so the researchers know whether or not the participant cheated during the task.

The primary goal of Study 2 was to discover how known guilty and known innocent people differed in response to alternative questions and investigate whether alternative questions put undue pressure on participants to confess to a wrongdoing they did or did not do. The purpose was to analyze true and false confessions, investigate the pressure participants felt to confess to the alternative questions, and examine individuals' responses to forced choice, leading questions based on their susceptibility to suggestion and their levels of compliance. As alternative questions had not previously been examined, a lab study was important to look at the interrogation technique in a controlled setting, questioning an intentional act (i.e., cheating). For the most part, hypotheses were unsupported in Study 2, however, the information collected is still useful in understanding alternative questions, especially when presented in conjunction with Study 1.

The results of Study 2 suggest that alternative questions may not be as coercive as expected, and may not be exerting undue pressure on participants in a laboratory context, as all innocent participants maintained their innocence throughout the interrogation and half of guilty participants lied to experimenters. This suggestion must be considered in light of the low statistical power and low number of participants, as well as the low levels of reported stress felt by participants. Those in true interrogations would be under considerably higher stress, and likely feel more pressure to confess. Considering guilty participants were still inclined to lie to researchers even through the full interrogation,

perhaps the suggestion by Inbau and colleagues (2011) that the questions remove the burden of coming forth with a full confession may not be accurate. In the sample of the present study, all participants who initially chose to lie about their guilt remained deceitful through the entire interrogation. Given this, it seems that individuals who are choosing to lie about their behaviours are apt to maintain their story throughout forced choice, leading questions that are intended to elicit truthfulness and encourage confessions. It was also found that individuals who were guilty and confessed immediately but were meant to be in the interrogation condition were higher in honesty and humility compared to those who were deceitful.

The present study showed that participants who were questioned forcefully (i.e., using the alternative questions) were more inclined to lie to researchers about their behaviours. This finding could be due to the fact that those who chose to lie to the researcher felt that they must maintain their innocence once they initially decided to lie, not realizing they might be questioned multiple times about their lie. Alternatively, false denials could have occurred because the alternative questions were quite harsh and accusatory, and caused participants to become defensive and shut down. If this is the case, the questioning tactic may cause individuals to feel disrespected and may make people feel more closed off towards their accuser, creating the opposite effect than intended and reducing the likelihood of true confessions. These results align with the findings of Griffiths and Milne (2006) that the use of leading and forced choice questions fail to elicit confessions and are overall unproductive, and that open ended questions may be more likely to elicit confessions.

The alternative questions presented also did not provide incentive to confess. Inbau et al. (2011) recommend using alternative questions to insinuate that others may believe the morally inexcusable option (i.e., cheating all the time) is the truth if the suspect does not confess. The incentive did not exist in this paradigm, as academic cheating is a more private issue such that others would not find out if a student cheated, so the incentive may be reduced in the present study. In a more positive light, it appears that alternative questions do not appear to pose risk to innocent individuals in this study, as no false confessions were obtained, which supports the suggestion by Inbau and colleagues (2011) that the suspect always has the opportunity to deny both alternatives.

Study 2 results revealed that individuals who were interrogated using the alternative questions did not feel more pressure to confess to cheating than individuals who were not interrogated. It is important to distinguish pressure from harshness and accusation, as mentioned in the previous paragraph. Participants may feel the way they are being questioned is harsh and accusatory, but not feel as though they have no option but to confess. These ideas are distinct; therefore, they can exist simultaneously. In the present study, there are a few reasons why pressure to confess did not differ between conditions. First, the interrogators were young women who had no experience prior to the present study in confrontational interviews or interrogations, and may not have seemed very intimidating, thus, they likely did not exert the same amount of pressure a suspect may feel while under interrogation from a police officer. As mentioned previously, if suspects perceive the power, competency, and control of the interrogator as superior to his or her own power, competency, or control, the suspect is more susceptible to suggestion (Gudjonsson & Lister, 1984). Participants in the present study knew the

interrogator was a research assistant, and some of the assistants were undergraduate students, so they may have believed their power, competency, and control were fairly equal.

Secondly, the situation was meant to simulate a high stakes circumstance for students (i.e., academic misconduct), placing responsibility on participants to defuse the situation by confessing to an interrogation. It is possible that the manipulation was not as effective as anticipated, and students did not feel the pressure intended when facing threats of academic misconduct. In research conducted by Vrij, Mann, and Fisher (2006b), participants were questioned either using an accusatory method or an information gathering method. Similar to the present study, the researchers found no difference in pressure across the types of questioning, but they found that participants who reported being more shy scored higher on a measure of pressure. Third, some participants completed the pressure to confess scale without understanding what the scale was measuring. Participants were meant to be partially debriefed prior to completing the scale so they would understand the purpose of the study was to accuse them of cheating and question them either using an interrogation tactic or no interrogation tactic, however, some participants skipped to the pressure scale and completed it before debriefing and instruction had been given. Consequently, the pressure to confess scale may be inaccurate for some participants.

Suggestibility and compliance were expected to influence the decision to confess to cheating, whether the participant was innocent or guilty. In line with previous literature, suggestibility was positively correlated with compliance (Kassin & Kiechel, 1996; Sigurdsson & Gudjonsson, 1996). Contrary to expectations, the results of the

present study show suggestibility and compliance scores did not differ based on confession group (i.e., true confession, true denial, or false denial). Mean scores of suggestibility and compliance revealed opposite results than expected; participants who lied about cheating had higher suggestibility and compliance scores compared to those who were truthful about their guilt or innocence, although these results were not significant.

It had been predicted that suggestibility would be associated not only with confessions, but also with a variety of personality traits, such as high agreeableness and openness, and low extraversion and conscientiousness as indicated by previous research (Liebman et al., 2002). Nurmoja and Bachmann (2008), however, found no relationship between suggestibility and personality in their research. The results of the present study indicate suggestibility is statistically related to agreeableness, but there was no relationship with the other personality factors suggested by Liebman and colleagues, so the results of this study were more consistent with Nurmoja and Bachmann's (2008) results.

Limitations

The present study must be considered in light of its limitations. First, the study has a small sample size (N = 43), a limitation exacerbated by the fact that the experiment involved four independent conditions. With a larger sample size, differences in pressure to confess scores may emerge, as well as higher internal reliability in the scales that were used. With the small sample size, the study had low power, meaning there was greater risk of Type II error. With greater risk of Type II error, there is a greater chance that there were significant effects that were not found simply due to the low sample size and low

power. One could predict that perhaps with a higher sample size and higher power, there is greater likelihood of finding significant results. Moreover, the BHI scale was used in order to increase efficiency, as the experiment was lengthy and there were a number of scales participants were expected to complete potentially causing fatigue. Prior to conducting the study, however, the benefits and shortcomings of shortened scales were considered, and it was decided that the increased efficiency outweighed the potential loss in reliability. Furthermore, shortened scales are commonly used in psychological research, especially when group information is being examined, but there was still a significant loss of internal reliability for the current study (Kruyen et al., 2013).

Secondly, undergraduate students are inherently different than individuals who would typically be found in an interrogation room. According to a review on Canadian prisoner health, most adults in custody have not completed high school (Kouyoumdjian, Schuler, Matheson, & Hwang, 2016), and 25% of inmates in Canadian federal prisons have cognitive deficits (Stewart, Sapers, Cousineau, Wilton, & August, 2014), so the susceptibility to suggestion, the comprehension of the interrogation they are involved in, and the intelligence levels would likely significantly differ between the samples. Thus, the present study does not use a generalizable sample to the individuals who would normally be found in an interrogation situation.

Third, as alluded to above, there were noteworthy issues with the pressure to confess scale. Participants were completing the questionnaires on a computer, and were asked to “Please stop here” on a screen before the participant reached the pressure to confess scale. This was done so that the experimenter could briefly explain what had just happened so the participant would understand what he or she is being asked on the

pressure to confess scale. Some participants skipped past the stop page and rated their pressure to confess with no context. As participants were asked following the completion of the study what they thought the study was about and no students were able to guess what it was about, rating their pressure to confess without knowing what they are truly rating is problematic and may skew our results.

An issue with the cheating paradigm used is that the participants were told the confederate would also be questioned, therefore, they were relying on the confederate to corroborate their claims. This worked in favour of the innocent participants, as they likely believed the confederate would corroborate their innocence and claim the pair did not cheat. Participants who were guilty, however, had to consider whether the confederate would admit to cheating, or whether the confederate would choose to lie. Participants who chose to lie were relying on the confederate to also lie, corroborating their claims to innocence. In both cases, however, the behaviours of the innocent and guilty participants were likely changed due to the fact that they had an alibi or a witness to their cheating or innocent behaviours. It is conceivable, then, that had the paradigm been formatted so the participant was alone and either cheated or did not cheat, the results of the alternative questions may have been different because there is no longer an alibi or witness to the innocence or guilt of the participant.

There are, of course, significant differences between a real interrogation with an offender, and a lab simulation of an interrogation. In Canada, the statute of limitations in criminal law for summary offences does not exist, meaning an investigation can be ongoing and an individual can be charged at any time following the crime (*Criminal Code*, 1985; Engel and Associates, 2014). Due to the potential delay in arrest, and the fact

that memory is vulnerable to interference and memories may change over time for a variety of reasons, there may be memory deterioration and distortion (Conway & Loveday, 2015; Conway, Loveday, & Cole, 2016; Schacter, Guerin, & St. Jacques, 2011). In the lab study, it was not within ethical limitations to allow students to leave the lab for an extended period of time, then be brought back into the lab to be told they are under investigation for academic misconduct, interrogate them, and then debrief them. This would cause myriad problems, such as attrition and unethical treatment of participants. Additionally, interrogations in North America involve all or most aspects of the Reid technique. For example, isolation, developing a theme, and overcoming denials are each components of the Reid model that were not able to be integrated into the present study, as the objective was to isolate alternative questions to examine them alone. However, it is important to consider the fact that perhaps alternative questions alone are not going to elicit true or false confessions, but a combination of the techniques might. With this being said, more research must examine each of the steps individually to analyze how the steps work as standalone techniques, and work on combining the steps to assess how the Reid model works in tandem.

The paradigm used attempted to create circumstances that seemed to be high stakes for the participant by indicating they may be reported for academic cheating. Some participants seemed to truly buy into the fact that their status at the university may be at risk, while others seemed to realize this was a study and cheating in the lab should pose no threat to their student status as they are voluntarily participating. It can be seen in the follow up questionnaire that participants felt average levels of stress during their participation, so it is possible that the manipulation did not have the intended high stakes

effect to mimic a true criminal interrogation. Furthermore, although we completed a manipulation check with the participants to ensure the participants did not know what the study was about, we did not conduct a check with the experimenter who conducted the interrogation to make sure he or she did not know whether the participant was guilty or innocent.

Lastly, the question used within the paradigm, "do you cheat all the time, or was this a one-time thing?" was meant to have a more reprehensible option and a face-saving option. In creating the question, it was the intention that the participants would perceive the second alternative (i.e., a one-time thing) to be more face-saving, as it indicates the participant does not cheat on academic exams or in true academic settings. It is conceivable, though, that participants may have felt that neither alternative was more morally acceptable or dignified, influencing the results of the study and potentially influencing the lack of false confessions obtained. A more fitting alternative question for the situation, which includes a very obvious face-saving alternative may be, "do you cheat all the time, or were you just trying to help out your partner on the task?" This question has a more attractive option that a student may be apt to select if considering admitting to cheating.

Future Directions

Study 2 could be improved in various ways. Namely, it is critical to develop a paradigm in which the participant does not rely on the confederate to corroborate his or her innocence, or lie about cheating behaviours if the participant is guilty. By developing a paradigm in which the participant partakes in the study on his or her own, the response to the interrogation will be more similar to what the participant might do in a criminal

interrogation. For example, rather than a confederate asking for help, the researcher could leave the answer key on the desk in the room with the participant, then come back to retrieve it mentioning they accidentally forgot the answer key. During this time, the participant would have the opportunity to look at the answers on the answer key while the researcher is gone from the room. Although conducting the study in this manner would remove some control from the study (i.e., manipulation of guilt condition), the behaviours would be completely controlled by the participant and the participant would have no one else to blame for their behaviours and no one else who would be a witness or alibi.

If a community sample could be used, the generalizability would be greater. Participants would vary in education levels, and perhaps more male participants would be collected. Additionally, a more intimidating or authoritative figure could help with the interrogations, as there would be a lower risk of conflict of interest with a community sample (e.g., the interrogator would likely not become the participant's professor). As shown by the means of the pressure to confess scale (see Table 7) and the follow-up questionnaire (see Table 14), the stress levels of participants were average and the pressure to confess was not very high, so more intimidating interrogators would likely reflect true interrogations more effectively, and results may be more similar to true interrogations.

Study 2 did not examine participants' self-esteem or shyness, both variables which have been shown to influence decisions to confess or feelings of pressure to confess in previous literature (Gudjonsson et al., 2004; Vrij et al., 2006b). In future studies similar to the current study, examining the role of shyness and self-esteem in

conjunction with responses to tactics such as alternative questions and confessions is an important future direction for research.

Finally, the paradigm used for Study 2 is easily adaptable to other Reid techniques. The paradigm has only been used to examine minimization, maximization, and deals in the original study conducted by Russano et al. (2005). Techniques used in the Reid model, such as isolation, creating a theme, interrupting and discouraging denials, or simply using various non-verbal behaviours such as sitting close to the participant could be implemented using this paradigm to understand each aspect of the Reid model more comprehensively and in a controlled setting. In the future, once different techniques have been examined in isolation, studies combining interrogation techniques and investigating the effects of the combinations can be conducted. In examining the techniques in combination, a better understanding of the Reid model will emerge. With further research on the Reid model, we will be better equipped to criticize or accept the Reid model, determine if it is effective and useful, or encourage a shift in ideologies and revert to conducting interrogations in an entirely different manner.

General Discussion

The two studies taken together provide evidence that alternative questions may not have the intended effect in interrogations. The Reid model of interrogations is extremely confession driven, and a successful interrogation is one that obtains a confession from the suspect (Inbau et al., 2011). Inbau and colleagues (2011) suggested that alternative questions are a key aspect in interrogations, and interrogations that do not use alternative questions likely will not elicit a confession. Both the field study and the lab study indicate that alternative questions may not be related to confessions, as suspects

in the interrogations frequently did not respond to alternative questions at all, and participants in the lab study frequently denied both alternatives in the interrogation condition.

Results of these studies must be interpreted with caution, as both had small sample sizes and neither were strongly generalizable, however, the results of the present studies are an important step towards understanding the Reid model of interrogations. Perhaps the authors of the Reid model should place less emphasis on the use of alternative questions and police officers should reconsider their use of alternative questions. Contrarily, alternative questions in Study 1 and 2 were used consistently throughout interrogations, when they may be more useful near the end of interrogations when the suspect is coming close to confessing and are looking for an easy way to begin. Inbau and colleagues (2011) suggest the alternative questions are similar to closing a deal as a car salesman and there is potential that using alternative questions in this way might encourage those who are considering confessing to do so, and assist suspects in beginning their stories using one of the alternatives presented. Alternative questions may not be completely useless, but they may provide better outcomes when used strategically. Strategic or tactful use of alternative questions in interrogation or lab contexts is an idea that must be explored in order to understand the utility and practicality of alternative questions.

Researchers should continue to investigate both individual steps of the Reid model, and later the Reid model in its entirety to provide some empirical backbone to the framework, or show officers in North America that it may be time to revise present interrogation techniques. Interrogations are an area of interest that is currently growing in

popular culture [e.g., *Confession Tapes* (Whalen, Robillard, & Bumgarner, 2017)*; When They See Us* (Skoll et al., 2019)], and hopefully the interest in reducing false confessions and investigating interrogations will be reflected in academia. It is imperative to continue research on interrogations, as it has many implications in society and in police forces. Implications include the reduction of wrongful convictions, and increase in admissible and voluntary confessions, and less controversial means of obtaining those confessions.

References

Arterberry, B. J., Martens, M. P., Cadigan, J. M., & Rohrer, D. (2014). Application of generalizability theory to the Big Five Inventory. *Personality and Individual Differences, 69,* 98-103. doi: 10.1016/j.paid.2014.05.015

Baxter, J. S., Boon, J. C. W., & Marley, C. (2006). Interrogative pressure and responses to minimally leading questions. *Personality and Individual Differences, 40,* 87-98. doi: 10.1016/j.paid.2005.06.017

Blair, J. P. (2007). The roles of interrogation, perception, and individual differences in producing compliant false confessions. *Psychology, Crime, and Law, 13*(2), 173-186. doi: 10.1080/10683160600632801

Blair, J. P., & Kooi, B. (2004). The gap between training and research in the detection of deception. *International Journal of Police Science and Management, 6*(2), 77-83.

Bond, C. F. Jr., & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review, 10*(3), 214-234.

Bram v. United States, 168 U.S. 532 (1897). Retrieved from: https://supreme.justia.com/cases/federal/us/168/532/case.html

Brown v. Mississippi, 287 U.S. 278 (1936). Retrieved from: https://supreme.justia.com/cases/federal/us/297/278/case.html

Bull, R., & Soukara, S. (2010). Four studies of what really happens in police interviews. In G. D. Lassiter & C. A. Meissner (Eds.), *Police interrogations and false confessions* (pp. 81-95). New York, NY: American Psychological Association.

Canadian Charter of Rights and Freedoms, s 10(b), Part I of the Constitution Act, 1982, being Schedule B to the Canada Act 1982 (UK), 1982, c11.

CBC (Canadian Broadcasting Corporation) (2003). *Widely used police interrogation technique can result in false confession: Disclosure.* CBC News online: Toronto, ON. Retrieved 4 March 2018, from http://www.cbc.ca/news/canada/widely-used-police-interrogation-technique-can-result-in-false-confession-disclosure-1.389125

Chan, J. C. K., Manley, K. D., & Lang, K. (2017). Retrieval-enhanced suggestibility: A retrospective and a new investigation. *Journal of Applied Research in Memory and Cognition, 6*, 213-229. doi: 10.1016/j.jarmac.2017.07.003

College of Policing Authorized Professional Practice. (2016, January 11). *Investigation: Investigative interviewing.* Retrieved from: https://www.app.college.police.uk/app-content/investigations/investigative-interviewing/

Conway, M. A., & Loveday, C. (2015). Remembering, imagining, false memories & personal meanings. *Consciousness and Cognition, 33*(2015), 574-581. doi: 10.1016/j.concog.2014.12.002

Conway, M. A., Loveday, C., & Cole, S. N. (2016). The remembering-imagining system. *Memory Studies, 9*(3), 256-265. doi: 10.1177/1750698016645231

Criminal Code, R.S.C. 1985.

Cutler, B. L., Findley, K. A., & Moore, T. E. (2014). Interrogations and false confessions: A psychological perspective. *Canadian Criminal Law Review, 18*(2), 153-170.

DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., Cooper, H. (2003). Cues to deception. *Psychological Bulletin, 129*(1), 74-118. doi: 10.1037/0033-2909.129.1.74

de Vries, R. E. (2013). The 24-item Brief HEXACO Inventory (BHI). *Journal of Research in Personality, 47*(6), 871-880. doi: 10.1016/j.jrp.2013.09.003

Drizin, S. A., & Leo, R. A. (2004). The problem of false confessions in the post-DNA world. *North Carolina Law Review, 82*(3), 891-1008.

Dufraimont, L. (2011). The interrogation trilogy and the protections for interrogated suspects in Canadian law. *The Supreme Court Law Review: Osgoode's Annual Constitutional Cases Conference, 54*(1), 309-334.

Ekman, P., & O'Sullivan, M. (1991). Who can catch a liar? *American Psychologist, 46*(9), 913-920.

Engel and Associates. (2014, September 1). *Criminal statutes of limitation: Time never expires for serious charges.* Retrieved from: http://www.bruceengel.com/2014/09/criminal-statutes-of-limitation-time-never-expires-for-serious-charges/

Gohara, M. S. (2006). A lie for a lie: False confessions and the case for reconsidering the legality of deceptive interrogation techniques. *Fordham Urban Law Journal, 33*(3), 101-150.

Griffiths, A., & Milne, B. (2006). Will it all end in tiers? Police interviews with suspects in Britain. In T. Williamson (Ed.), *Investigative interviewing: Rights, research, regulation* (pp. 167-189). Cullompton: Willan Publishing.

Gudjonsson, G. H. (1984). A new scale of interrogative suggestibility. *Personality and Individual Differences, 5*(3), 303-314. doi: 10.1016/0191-8869(84)90069-2

Gudjonsson, G. H. (1989). Compliance in an interrogative situation: A new scale. *Personality and Individual Differences, 10*(5), 535-540.

Gudjonsson, G. H. (1991). The effects of intelligence and memory on group differences in suggestibility and compliance. *Personality and Individual Differences, 12*(5), 503-505.

Gudjonsson, G. H. (1997). *The Gudjonsson Suggestibility Scales manual.* Hove, UK: Psychology Press.

Gudjonsson, G. H., & Lister, S. (1984). Interrogative suggestibility and its relationship with self-esteem and control. *Journal of the Forensic Science Society, 24*, 99-110.

Gudjonsson, G. H., & Pearse, J. (2011). Suspect interviews and false confessions. *Current Directions in Psychological Science, 20*(1), 33-37. doi: 10.1177/0963721410396824.

Gudjonsson, G. H., Sigurdsson, J. F., Asgeirsdottir, B. B., & Sigfusdottir, I. D. (2006). Custodial interrogation, false confession and individual differences: A national study among Icelandic youth. *Personality and Individual Differences, 41*, 49-59. doi: 10.1016/j.paid.2005.12.012

Gudjonsson, G. H., Sigurdsson, J. F., Bragason, O. O., Einarsson, E., & Vladimarsdottir, E. B. (2004). Confessions and denials and the relationship with personality. *Legal and Criminological Psychology, 9*, 121-133.

Gudjonsson, G. H., Sigurdsson, J. F., & Einarsson, E. (2004). The role of personality in relation to confessions and denials. *Psychology, Crime, and Law, 10*(2), 125-135. doi: 10.1080/10683160310001634296

Gudjonsson, G. H., Sigurdsson, J. F., Sigurdardottir, A. S., Steinthorsson, H., & Sigurdardottir, V. M. (2014). The role of memory distrust in cases of internalized

false confession. *Applied Cognitive Psychology*, *28*, 336-348. doi: 10.1002/acp.3002

Ibram v. The King. (1914). Retrieved from: https://www.casemine.com/judgement/in/56b49612607dba348f0166fb

Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2004). *Criminal interrogation and confessions* (4th ed). Chicago, IL: Jones and Bartlett Learning.

Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2011). *Criminal interrogation and confessions* (5th ed). Chicago, IL: Jones and Bartlett Learning.

Innocence Project. (2017). *False confessions or admissions.* Retrieved from: https://www.innocenceproject.org/causes/false-confessions-admissions/

Ives, D. E. (2007). Preventing false confessions: Is *Oikle* up to the task? *San Diego Law Review*, 1-26.

Kassin, S. M. (2005). On the psychology of confessions: Does innocence put innocents at risk? *American Psychologist, 60*(3), 215-228. doi: 10.1037/0003-066X.60.3.215

Kassin, S. M. (2008a). Confession evidence: Commonsense myths and misconceptions. *Criminal Justice and Behavior, 35*(10), 1309-1322. doi: 10.1177/0093854808321557

Kassin, S. M. (2008b). False confessions: Causes, consequences, and implications for reform. *Current Directions in Psychological Science, 17*(4), 249-253.

Kassin, S. M., Drizin, S. A., Grisso, T., Gudjonsson, G. H., Leo, R. A., & Redilch, A. D. (2010). Police-induced confessions: Risk factors and recommendations. *Law and Human Behavior, 34*(1), 3-38. doi: 10.1007/s10979-009-9188-6

Kassin, S. M., Goldstein, C. C., & Savitsky, K. (2003). Behavioral confirmation in the interrogation room: On the dangers of presuming guilt. *Law and Human Behavior, 27*(2), 187-203.

Kassin, S. M., & Gudjonsson, G. H. (2004). The psychology of confessions: A review of the literature and issues. *Psychological Science in the Public Interest, 5*(2), 33-67. doi: 10.1111/j.1529-1006.2004.00016.x

Kassin, S. M., & Kiechel, K. L. (1996). The social psychology of false confessions: Compliance, internalization, and confabulation. *Psychological Science, 7*(3), 125-128.

Kassin, S. M., & Norwick, R. J. (2004). Why people waive their "Miranda" rights: The power of innocence. *Law and Human Behavior, 28*(2), 211-221.

Kassin, S. M., Redlich, A. D., Alceste, F., & Luke, T. J. (2018). On the general acceptance of confessions research: Opinions of the scientific community. *American Psychologist, 73*(1), 63-80. doi: 10.1037/amp0000141

Kassin, S. M., & Wrightsman, L. S. (1985). Confession evidence. In S. Kassin & L. Wrightsman (Eds.), *The psychology of evidence and trial procedure* (pp. 67-94). Beverly Hills, CA: Sage.

Klaver, J. R., Lee, Z., & Rose, V. G. (2008). Effects of personality, interrogation techniques and plausibility in an experimental false confession paradigm. *Legal and Criminological Psychology, 13*, 71-88. doi: 10.1348/135532507X193051

King, L., & Snook, B. (2009). Peering inside a Canadian interrogation room: An examination of the Reid Model of Interrogation, influence tactics, and coercive

strategies. *Criminal Justice and Behavior, 36*(7), 674-694. doi: 10.1177/0093854809335142

Kouyoumdjian, F., Schuler, A., Matheson, F. I., & Hwang, S. W. (2016). Health status of prisoners in Canada: Narrative review. *Canadian Family Physician, 62*(3), 215-222.

Kruyen, P. M., Emons, W. H. M., & Sijtsma, K. (2013). On the shortcomings of shortened tests: A literature review. *International Journal of Testing, 13*(3), 223-248. doi: 10.1080/15305058.2012.703734

Leo, R. A. (1992). From coercion to deception: The changing nature of police interrogation in America. *Crime, Law, and Social Change, 18*, 35-59.

Leo, R. A. (1996). Criminal law: Inside the interrogation room. *The Journal of Criminal Law and Criminology, 86*(2), 266-303.

Leo, R. A. (2004). The third degree. In G. D. Lassiter (Ed.), *Interrogations, confessions, and entrapment* (pp. 37-84). New York: Kluwer Academic.

Leo, R. A. (2013). Why interrogation contamination occurs. *Ohio State Journal of Criminal Law, 11*(1), 193-215.

Liebman, J. I., McKinley-Pace, M. J., Leonard, A. M., Sheesley, L. A., Gallant, C. L., … Lehman, E. B. (2002). Cognitive and psychosocial correlates of adults' eyewitness accuracy and suggestibility. *Personality and Individual Differences, 33*, 49-66.

Masip, J., Herrero, C., Garrido, E., & Barba, A. (2011). Is the Behaviour Analysis Interview just common sense? *Applied Cognitive Psychology,* [online version]. doi: 10.1002/acp.1728

Merckelback, H., Muris, P., Wessel, I., & Van Koppen, P. J. (1998). The Gudjonsson Suggestibility Scale (GSS): Further data on its reliability, validity, and metacognition correlates. *Social Behavior and Personality, 26*(2), 203-210. doi: 10.2224/sbp.1998.26.2.203

Mukaka, M. M. (2012). Statistics corner: A guide to appropriate use of correlation coefficient in medical research. *Malawi Medical Journal, 24*(3), 69-71.

Nurmoja, M., & Bachmann, T. (2008). On the role of trait-related characteristics in interrogative suggestibility: An example from Estonia. *Trames, 12*(4), 371-381. doi: 10.3176/tr.2008.4.01

Ofshe, R. J., & Leo, R. A. (1997). The social psychology of police interrogation: The theory and classification of true and false confessions. *Studies in Law, Politics, and Societ, 16*(1997), 1-99.

O'Sullivan, M. (2003). The fundamental attribution error in detecting deception: The boy-who-cried-wolf effect. *Personality and Social Psychology Bulletin, 29*(10), 1316-1327. doi: 10.1177/0146167203254610

O'Sullivan, M., & Ekman, P. (2004). The wizards of deception detection. In P. A. Granhag & L. A. Strömwall (Eds.), *The detection of deception in forensic contexts* (pp. 269-286). Cambridge, EN: Cambridge University Press.

Otgaar, H., Alberts, H., & Cuppens, L. (2012). How cognitive resources alter our perception of the past: Ego depletion enhances the susceptibility to suggestion. *Applied Cognitive Psychology, 26,* 159-163. doi: 10.1002/acp.1810

People v. Wise, Richardson, McCray, Salaam, & Santana, 752 N.Y.S.2d 837 (S. Ct. N.Y. 2002). Retrieved from: http://law2.wlu.edu/lawcenter/falseconfessions/31%20-%20People%20v%20Wise%20(Santana).pdf

Porter, S., Birt, A. R., Yuille, J. C., & Lehman, D. R. (2000). Negotiating false memories: Interviewer and rememberer characteristics relate to memory distortion. *Psychological Science, 11*(6), 507-510.

Porter, S., Juodis, M., ten Brinke, L. M., Klein, R., & Wilson, K. (2010). Evaluation of the effectiveness of a brief deception detection training program. *The Journal of Forensic Psychiatry and Psychology, 21*(1), 66-76. doi: 10.1080/14789940903174246

Redlich, A. D. (2007). Military versus police interrogations: Similarities and differences. *Peace and Conflict: Journal of Peace Psychology, 13*(4), 423-428.

Russano, M. B., Meissner, C. A., Narchet, F. M., & Kassin, S. M. (2005). Investigating true and false confessions within a novel experimental paradigm. *Psychological Science, 16*(6), 481-486.

Rothman v. The Queen, Supreme Court of Canada. (1981). Retrieved from: https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/2514/index.do

R. v. Chapple, Supreme Court of Canada. (2012). Retrieved from: https://www.canlii.org/en/ab/abpc/doc/2012/2012abpc229/2012abpc229.html

R. v. Hodgson, Supreme Court of Canada. (1998). Retrieved from: https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/1648/index.do

R. v. Oikle, Supreme Court of Canada. (2000). Retrieved from: https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/1801/index.do

Schacter, D. L., Guerin, S. A., & St. Jacques, P. L. (2011). Memory distortion: An adaptive perspective. *Trends in Cognitive Sciences, 15*(10), 467-474. doi: 10.1016/j.tics.2011.08.004

Sharman, S. J., & Powell, M. B. (2012). A comparison of adult witnesses' suggestibility across various types of leading questions. *Applied Cognitive Psychology, 26*, 48-53. doi: 10.1002/acp.1793

Sigurdsson, J. F., & Gudjonsson, G. H. (1996). The psychological characteristics of 'false confessors'. A study among Icelandic prison inmates and juvenile offenders. *Personality and Individual Differences, 20*(3), 321-329.

Skoll, J., King, J., Rosenthal, J., De Niro, R., Welsh, B., Winfrey, O., & DuVernay, A. (Producers). (2019). *When they see us* [Netflix series]. United States: Netflix.

Smith, S., Stinson, V., & Patry, M. (2012). Confession evidence in Canada: Psychological issues and legal landscapes. *Psychology, Crime, and Law, 18*(3), 317-333. doi: 10.1080/1068316X.2010.486380

Snook, B., Eastwood, J., & Barron, W. T. (2014). The next stage in the evolution of interrogations: The PEACE model. *Canadian Criminal Law Review, 18*(2), 219-239.

Snook, B., Eastwood, J., Stinson, M., Tedschini, J., & House, J. C. (2010). Reforming investigative interviewing in Canada. *Canadian Journal of Criminology and Criminal Justice, 52*(2), 203-217.

Stewart, L. A., Sapers, J., Cousineau, C., Wilton, G., August, D. (2014). *Prevalence, rates, profile, and outcomes for federally sentenced offenders with cognitive deficits.* (Research Report R-298). Ottawa ON: Correctional Service of Canada.

The Innocence Compensation Project. (2012). *Wrongful convictions: How many?* Retrieved from: http://uottawainnocenceproject.org/index.php/number-of-wrongful-convictions-ca/

Vrij, A., Mann, S., & Fisher, R. P. (2006a). An empirical test of the Behaviour Analysis Interview. *Law and Human Behavior, 30*(3), 329-345. doi: 10.1007/s10979-006-9014-3

Vrij, A., Mann, S., & Fisher, R. P. (2006b). Information-gathering vs accusatory interview style: Individual differences in respondents' experiences. *Personality and Individual Differences, 41*(2006), 589-599. doi: 10.1016/j.paid.2006.02.014

Whalen, S., Robillard, S., Bumgarner, J. (Producers). (2017). *The Confession Tapes* [Netflix series].United States: Netflix.

Appendix A

Coding Sheet

Case Facts

Coder: Click to enter text.

Research Code: Click to enter text.

Interview Start Date/Time: Click to enter text.

Interview End Date/Time: Click to enter text.

Length of Interview: Interview End Time minus Interview Start Time.

Break given at any point during interview? ☐ YES ☐ NO

1. Break Start Date/Time: Click to enter text.

   Break End Date/Time: Click to enter text.

   Detail: Click to enter details regarding the break (e.g., reason, location).

Main Crime Type: Click to enter text.

Individuals Present:

☐ Primary Interviewer ☐ Secondary Interviewer ☐ Lawyer ☐ Add Other

Primary Interviewer Facts

Name: Click here to enter text.

Gender: Choose an item.

Ethnicity: Click to enter text.

Attire: Choose an item.

Rank: Click to enter text.

Highest Level of Training: Click to enter text.

Years of Experience: Click to enter text.

Secondary Interviewer Facts

Name(s):

Click to enter text / Click + icon for additional secondary interviewers.

Gender(s):

Choose an item / Click + icon for additional secondary interviewers.

Ethnicity:

Click to enter text / Click + icon for additional secondary interviewers.

Attire(s):

Choose an item / Click + icon for additional secondary interviewers.

Rank(s):

Click to enter text / Click + icon for additional secondary interviewers.

Highest Level of Training:

Click to enter text / Click + icon for additional secondary interviewers.

Years of Experience:

Click to enter text / Click + icon for additional secondary interviewers.

Suspect Facts

Age: Click to enter text.

Gender: Choose an item.

Ethnicity: Click to enter text.

Prior record? Choose an item. Nature of Previous Crime: Choose an item.

Suspect Solely Involved? Choose an item.

Victim Facts

Age: Click to enter text.

Gender: Choose an item.

Relationship to suspect?

☐ Acquaintance ☐ Friend ☐ Family ☐ Stranger ☐ Romantic Partner ☐ Unknown ☐ Add Other

Interrogation Outcome

Interrogation outcome: Choose an item.

Confessions:

☐ Partial Admission

Timestamp(s)	What was the statement given?
Enter timestamp here. Hit "Return/Enter" key to add extra timestamps.	Enter statement here for each corresponding timestamp. Hit "Return/Enter" for each timestamp.

☐ Full Confession

Timestamp(s)	What was the statement given?
Enter timestamp here. Hit "Return/Enter" key to add extra timestamps.	Enter statement here for each corresponding timestamp. Hit "Return/Enter" for each timestamp.

Total Word Count of Suspect: Enter text.
Court Outcome

Plea: ☐ Guilty ☐ Not Guilty ☐ Unknown

Final Disposition:

☐ Conviction ☐ Acquittal ☐ Withdrawn ☐ Stayed ☐ Unknown ☐ Add Other.

Step 7 – Alternative Questions

Isolation Periods

1. Isolation Period

Isolation Number: Click here to enter number.

Isolation Start Time: Click here to enter time.

Isolation End Time: Click here to enter time.

Length of Isolation Period: End Time subtract Start Time.

Isolation Period Interrupted Before Interview Started: ☐ YES ☐ NO

Unique Alternative Questions

1. **Unique AQ**

** Click + icon at end of section to add additional unique alternative questions

Frequency: Click here to enter number.

Timestamp(s)	*What was the question?*	*Indicate whether alternative questions was: denied, accepted, no response, or other response.*
Enter timestamp here. Hit "Return/Enter" key to add extra timestamps.	Enter question here for each corresponding timestamp. Hit "Return/Enter" for each instance.	Enter response here for each corresponding timestamp. Hit "Return/Enter" for each instance.

What did the alternative question ask about?

☐ Reason suspect committed the crime

☐ Detail oriented (e.g., weapons used, accomplices) Detail: _____

☐ Other (please specify): _____

Alternative question offers leniency ☐ YES ☐ NO

Alternative question threatens inevitable consequences ☐ YES ☐ NO

Alternative question mentions legal charges ☐ YES ☐ NO

Total Number of Unique Alternative Questions: Click here to enter number.

<u>One-Sided Alternative Questions:</u>

1. **One-Sided AQ**

** Click + icon at end of section to add additional unique one-sided alternative questions

Frequency: Click here to enter number.

Timestamp(s)	*What was the question?*	*Indicate whether alternative questions was: denied, accepted, no response, or other response.*
Enter timestamp here. Hit "Return/Enter" key to add extra timestamps.	Enter question here for each corresponding timestamp. Hit "Return/Enter" for each instance.	Enter response here for each corresponding timestamp. Hit "Return/Enter" for each instance.

What did the alternative question ask about?

☐ Reason suspect committed the crime

☐ Detail oriented (e.g., weapons used, accomplices)

Detail: Click or tap here to enter text.

☐ Other (please specify): Click or tap here to enter text.

Alternative question offers leniency ☐ YES ☐ NO

Alternative question threatens inevitable consequences ☐ YES ☐ NO

Alternative question mentions legal charges ☐ YES ☐ NO

Total Number of Unique One-Sided Alternative Questions: Click here to enter number.

Positive Supporting Statements:

1. **+ Supporting Statement**

** Click + icon at end of section to add additional unique positive supporting statements

Frequency: Click here to enter number.

Timestamp(s)	*What was the statement?*
Enter timestamp here. Hit "Return/Enter" key to add extra timestamps.	Enter statement here for each corresponding timestamp. Hit "Return/Enter" for each instance.

Total Number of Positive Supporting Statements: Click here to enter number.

Negative Supporting Statements:

1. **– Supporting Statement**

** Click + icon at end of section to add additional unique negative supporting statements

Frequency: Click here to enter number.

Timestamp(s)	*What was the statement?*
Enter timestamp here. Hit "Return/Enter" key to add extra timestamps.	Enter statement here for each corresponding timestamp. Hit "Return/Enter" for each instance.

Total Number of Negative Supporting Statements: Click here to enter number.

Statements of Reinforcement:

Primary Interviewer Timestamp(s): Enter frequency here.

Enter timestamp here. Hit "Return/Enter" key to add extra timestamps.

Secondary Interviewer Timestamp(s): Enter frequency here.

Enter timestamp here. Hit "Return/Enter" key to add extra timestamps.

Appendix B

Demographic Information

1. Age: [ ] (in years) Birth Date: Year [ ] Month [ ] Day [ ]
2. Gender: Male [ ] Female [ ] Other [ ]
3. Occupation: Student [ ] Year of Study: One [ ] Two [ ] Three [ ] Four [ ]

   Other _____(please specify)

4. Education Level

   Highest Grade Completed [ ]

   Trade School [ ]

   Community College [ ]

   University [ ]

   Other: _____ (please specify)

5. Marital Status:

   Single (never married) [ ]

   Married or cohabiting [ ]

   Separated/divorced/widowed [ ]

6. Annual Family Income (per year):

   Less than $15,000 [ ]

   $15-25,000 [ ]

   $25-35,000 [ ]

   $35-50,000 [ ]

$51-75,000 [ ]

$76-100,000 [ ]

More than $100,000 [ ]

7. With which racial/ethnic group do you primarily identify?

Native Canadian (e.g., First Nations, Metis, Inuit) [ ]

Black African Canadian [ ]

Euro-Canadian (e.g., Caucasian) [ ]

Asian Canadian [ ]

Hispanic Canadian [ ]

Other: _____ (please specify)

Appendix C

The HEXACO Personality Inventory (BHI)

Please indicate to what extent you agree with the following statements using the following answering categories.

1= Strongly Disagree	2=Disagree	3=Neutral	4=Agree	5= Strongly Agree

1.	I can look at a painting for a long time.	1	2	3	4	5
2.	I make sure that things are in the right spot.	1	2	3	4	5
3.	I remain unfriendly to someone who has been mean to me.	1	2	3	4	5
4.	Nobody likes talking with me.	1	2	3	4	5
5.	I am afraid of pain.	1	2	3	4	5
6.	I find it difficult to lie.	1	2	3	4	5
7.	I think science is boring.	1	2	3	4	5
8.	I postpone complicated tasks as long as possible.	1	2	3	4	5
9.	I often express criticism.	1	2	3	4	5
10.	I easily approach strangers.	1	2	3	4	5
11.	I worry less than others.	1	2	3	4	5
12.	I would like to know how to make lots of money in a dishonest manner.	1	2	3	4	5
13.	I have a lot of imagination.	1	2	3	4	5

14. I work very precisely	1	2	3	4	5
15. I tend to quickly agree with others.	1	2	3	4	5
16. I like to talk with others.	1	2	3	4	5
17. I can easily overcome difficulties on my own.	1	2	3	4	5
18. I want to be famous.	1	2	3	4	5
19. I like people with strange ideas.	1	2	3	4	5
20. I often do things without really thinking.	1	2	3	4	5
21. Even when I'm treated badly, I remain calm.	1	2	3	4	5
22. I am seldom cheerful.	1	2	3	4	5
23. I have to cry during sad or romantic movies.	1	2	3	4	5
24. I am entitled to special treatment.	1	2	3	4	5

Appendix D

Gudjonsson Suggestibility Scale (GSS)

Story:

Anna Thomson/ of South/ Croydon/ was on holiday/ in Spain/ when she was held up/ outside her hotel/ and robbed of her handbag/ which contained $50 worth/ of travellers cheques/ and her passport./ She screamed for help/ and attempted to put up a fight/ by kicking one of the assailants/ in the shins./ A police car shortly arrived/ and the woman was taken to the nearest police station/ where she was interviewed by Detective/ Sergeant/ Delgado./ The woman reported that she had been attacked by three men/ one of whom she described as oriental looking./ The men were said to be slim/ and in their early twenties./ The police officer was touched by the woman's story/ and advised her to contact the British Embassy./ Six days later/ the police recovered the lady's handbag/ but the contents were never found./ Three men were subsequently charged/ two of whom were convicted/ and given prison sentences./ Only one/ had had previous convictions/ for similar offences./ The lady returned to Britain/ with her husband Simon/ and two friends/ but remained frightened of being out on her own./

Questions:

Questions	"Yield" answers
1. Did the woman have a husband called Simon? (NS)	1. Not scored
2. Did the woman have one or two children? (S)	2. One/Two/Yes
3. Did the woman's glasses break in the struggle? (S)	3. Yes
4. Was the woman's name Anna Wilkinson? (S)	4. Yes

5. Was the woman interviewed by a detective sergeant? (NS)	5. Not scored
6. Were the assailants black or white? (S)	6. Black/White/Yes
7. Was the woman taken to the central police station? (S)	7. Yes
8. Did the woman's handbag get damaged in the struggle? (S)	8. Yes
9. Was the woman on holiday in Spain? (NS)	9. Not scored
10. Were the assailants convicted six weeks after their arrest? (S)	10. Yes
11. Did the woman's husband support her during the police interview? (S)	11. Yes
12. Did the woman hit one of the assailants with her fist or handbag? (S)	12. Fist/Handbag/Yes
13. Was the woman from South Croydon? (NS)	13. Not scored
14. Did one of the assailants shout at the woman? (S)	14. Yes
15. Were the assailants tall or short? (S)	15. Tall/Short/Yes
16. Did the woman's screams frighten the assailants? (S)	16. Yes
17. Was the police officer's name Delgado? (NS)	17. Not scored
18. Did the police give the woman a lift back to her hotel? (S)	18. Yes
19. Were the assailants armed with knives or guns? (S)	19. Knives/Guns/Yes

20. Did the woman's clothes get torn in the struggle? (S)	20. Yes

S = Suggestive questions

NS = Non-suggestive questions

Appendix E

Gudjonsson Compliance Scale (GCS)

1. I give in easily to people when I am pressured.
2. I find it very difficult to tell people when I disagree with them.
3. People in authority make me feel uncomfortable and uneasy.
4. I tend to give in to people who insist that they are right.
5. I tend to become easily alarmed and frightened when I am in the company of people in authority.
6. I try very hard not to offend people in authority.
7. I would describe myself as a very obedient person.
8. I tend to go along with what people tell me even when I know that they are wrong.
9. I believe in avoiding rather than facing demanding and frightening situations.
10. I try to please others.
11. Disagreeing with people often takes more time than it is worth.
12. I generally believe in doing as I am told.
13. When I am uncertain about things I tend to accept what people tell me.
14. I generally try to avoid confrontation with people.
15. As a child, I always did what my parents told me.
16. I try hard to do what is expected of me.
17. I am not too concerned about what people think of me.
18. I strongly resist being pressured to do things I don't want to do.
19. I would never go along with what people tell me in order to please them.
20. When I was a child I sometimes took the blame for things I had not done.

Appendix F

Logic Problem Tasks

Team Problems

1. Starting with the word “COOL”, change <u>one letter at a time</u> until you have the word “HEAT”. Each change **must result in a proper word,** and you can use any letters in the alphabet. Keeping in mind that you can only change one letter per step, what is the minimum number of steps required to achieve this change? What are the steps?

Answer (Give Steps, i.e., the words): _____

2. Right now Bethany is 12. You can find her older brother's age by switching the digits in Bethany's age. They'll be able to switch the digits in their ages again sometime in the future. How old will Bethany and her brother be when this happens?

How old will Bethany be? _____

How old will Bethany’s brother be? _____

3. A man is looking at a portrait and says "Brothers and sisters I have none, but that man's father is my father's son."

Who is the man looking at a portrait of?

Answer: _____

Individual Problems

1. Suppose you are a bus driver. On the first stop you pick up 6 men and 2 women. At the second stop 2 men leave and 1 woman boards the bus. At the third stop 1 man leaves and 2 women enter the bus. At the fourth stop 3 men get on and 3 women get off. At the fifth stop, 2 men get off, 3 men get on, 1 woman gets off, and 2 women get on. How many men are left on the bus, how many women are left on the bus, and what is the bus driver's name?

   How many men are left on the bus? _____

   How many women are left on the bus? _____

   What is the bus driver's name? _____

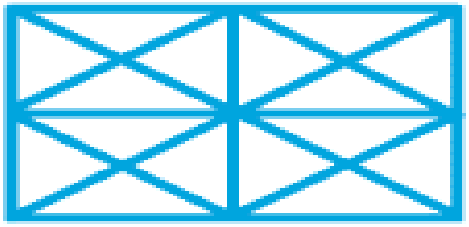
2. Janet, Barbara, and Elaine are a housewife, lawyer, and physicist, although not necessarily in that order. Janet lives next door to the housewife. Barbara is the physicist's best friend. Elaine once wanted to be a lawyer but decided against it. Janet has seen Barbara within the last two days, but has not seen the physicist.

   Janet, Barbara and Elaine are, in that order, the

   a. Housewife, physicist, lawyer
   b. Physicist, lawyer, housewife
   c. Physicist, housewife, lawyer
   d. Lawyer, housewife, physicist

Answer: _____

3.



How many triangles can you find in the figure above? Look carefully – there are more than 16!

Answer: _____

Appendix G

Follow-Up Questionnaire

The following questionnaire is a follow-up to the study you participated in this week. The study in question involves deception and has potential for negative affect following participation, so the researchers are contacting all participants to ensure their psychological well-being was not impacted in a negative way. Please answer the following questions truthfully in order to provide the researchers and ethics board with information on the positive or negative impacts of the study. By providing us with this feedback, we may be able to improve the study's ethical treatment of participants.

1. Please rate your overall experience in the study by circling the corresponding number.

   1 2 3 4 5 6 7 8 9 10

   Very negative Neutral Very positive

2. Please rate the stress you experienced during the study.

   1 2 3 4 5 6 7 8 9 10

   Extremely stressful Neutral Not stressful at all

3. Please rate the educational value of the study.

   1 2 3 4 5 6 7 8 9 10

   Not at all educational Neutral Very educational

4. Please rate the extent to which you believe deception was justified in the study.

   1 2 3 4 5 6 7 8 9 10

   Not justified at all Neutral Completely justified

5. Please rate the experiment's contribution to psychology.

   1 2 3 4 5 6 7 8 9 10

   Little contribution Neutral Large contribution

6. Please comment on the stress and positive or negative affect experienced during the study
7. Please provide any suggestions or concerns you have regarding the study.

Appendix H

Interrogation Scripts

Alternative Question Condition

It seems that both of you have the wrong answer to one of the individual logic problems. This is a very rare occurrence, and the professor supervising this lab is upset about it. This indicates that the two of you likely cheated. I'm going to have to question you both separately to get to the bottom of this.

Could you please tell me everything that happened in the lab during the individual task? Would you like to add anything else?

If participant is in the Alternative Question condition, continue with script. If not, stop here.

As I said, you both had the wrong answer. This is very rare and my supervisor is upset. It is clear that the two of you cheated, so I need a signed confession. Are you always a cheater, or was this a one-time thing?

(If both alternatives are denied, continue with script)

Two people both getting the wrong answer on a logic task does not happen. I know you cheated, I just need a signed confession for the purposes of the study. I would be shocked if you told me you cheat all the time, it just doesn't seem like something a student here would do. Now tell me, are you always a cheater or was this a one-time thing?

(Again, if both alternatives are denied, continue)

I know you cheated, please just come clean. I'm sure you were just trying to help the other participant out which is an admirable thing to do. So you cheated, but it was a one-time thing wasn't it? Are you a cheater, or was it a one-time thing?

(Again, if both alternatives are denied, continue)

This is your last chance to come clean. You have to confess now, and I know you only cheated this one time to help out your partner. So, tell me, are you a cheater, or was this a one-time thing?

Appendix I

Your Rights when being Interviewed by the Police

Disclaimer: This is **not** a substitute for legal advice, the aim of this document is only to make you aware of what your rights are and how you may wish to exercise them. This information may not pertain to events in which you are speaking with the police when pulled over while driving.

While being interviewed by police, two of the most important rights that exist to protect you are:

1. **You have the right to remain silent under the constitution.**
2. **The police are required to give you rights to counsel (i.e., a lawyer). If they do not explicitly provide this opportunity, ask the police to speak to a lawyer.**

The following provides information to answer any questions you may have about being interviewed.

Am I being detained?

- If you are unsure if the police have reasonable grounds to force you to remain, tell the police officer you do not wish to speak to him or her, and **ask if you are free to leave.** If the officer says you are **not** free to leave, this means you are **detained** – you must stay until you are given permission to leave.

I am detained – what do I do? Can I contact a lawyer?

- If you are detained, **ask why**. Under section 10(a) of the *Charter* the police must explain why you are being detained.
- If you are detained, under section 10(b) of the *Charter*, the police **must allow you the opportunity to speak to a lawyer in private** as soon as possible.
- Once you express you would like to speak with a lawyer, the police must stop questioning you. The police must give you more than one phone call to reach a lawyer. You have the right to legal aide and free legal services.
- Once you speak on the phone with a lawyer, the police can continue questioning you. **You cannot re-contact your lawyer** unless your situation has changed (e.g., different charge, different interrogation method such as use of a lie detector).
- You do **not** have the right to have a lawyer **present.**

Do I have to say anything?

- If you are detained, **you are not obligated to say anything to the police or answer any questions,** even if they are simply asking your name and address.
- The police may make you feel like you have to answer, and will likely continue questioning you after you assert your right to silence. You do not have to answer.

- If you choose to speak to the police, you must speak the truth to avoid being criminally charged.

For further information on your legal rights, please visit www.cba.org or www.legalinfo.org.