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The Effect of Rapport Building in Police Interrogations: Can Rapport Improve the Diagnosticity of Confession Evidence?

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

THE EFFECT OF RAPPORT BUILDING IN POLICE INTERROGATIONS:
CAN RAPPORT IMPROVE THE DIAGNOSTICITY OF CONFESSION EVIDENCE?

A dissertation submitted in partial fulfillment of

the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

PSYCHOLOGY

by

Daniella K. Villalba

2014

To: Interim Dean Michael R. Heithaus
College of Arts and Sciences

This dissertation, written by Daniella K. Villalba, and entitled The Effect of Rapport Building in Police Interrogations: Can Rapport Improve the Diagnosticity of Confessions? having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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Florida International University, 2014

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DEDICATION

I dedicate this dissertation to my parents, my sister, and my husband. Without their love and support the completion of this work would not have been possible.

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I would like to acknowledge all the people who made the completion of this dissertation possible. First, I would like to thank my major advisor, Lindsay Malloy for her critical insight throughout this process and her patience and guidance throughout the later years of my graduate career. Special thanks to Nadja Schreiber Compo not only for her invaluable comments and suggestions regarding this project, but also for her constant support and encouragement throughout the years. Many thanks to my other committee members, Jacqueline Evans and Jamie Flexon. Their critical feedback proved vital to the timely completion of this project. I feel very fortunate and honored to have such a talented group of women as my mentors. I hope I can follow your lead.

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ABSTRACT OF THE DISSERTATION

THE EFFECT OF RAPPORT BUILDING IN POLICE INTERROGATIONS:
CAN RAPPORT IMPROVE THE DIAGNOSTICITY OF CONFESSIONS?

by

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Florida International University, 2014

Miami, Florida

Professor Lindsay C. Malloy, Major Professor

Police investigators rely heavily on eliciting confessions from suspects to solve crimes and prosecute offenders. Therefore, it is essential to develop evidence-based interrogation techniques that will motivate guilty suspects to confess but minimize false confessions from the innocent. Currently, there is little scientific support for specific interrogation techniques that may increase true confessions and decrease false confessions. Rapport building is a promising possibility. Despite its recommendation in police interrogation guidelines, there is no scientific evidence showing the effect of rapport building in police interrogations. The current study examined, experimentally, whether using rapport as an interrogation technique would influence participants' decisions to confess to a wrongdoing. It was hypothesized that building rapport with participants would lead to more true confessions and fewer false confessions than not building rapport. One hundred and sixty nine undergraduates participated in the study. Participants worked on logic problems together and individually, with a study confederate. The confederate asked half of the participants for help in one of the individual problems – effectively breaking the rules of the study. After working on these

problems, a research assistant playing the role of interviewer came into the room, built rapport or not with participants, accused all participants of cheating by sharing answers on the individual problems, and asked them to sign a statement admitting their guilt. Results indicated that guilty participants were more likely to sign the confession statement than innocent participants. However, there were no significant differences on participants' confession decisions based on the level of rapport they experienced. Results do not provide support for the hypothesis that building rapport increases the likelihood of obtaining true confessions and decreases the likelihood of obtaining false confessions. These findings suggest that, despite the overwhelming recommendation for the use of rapport with suspects, its actual implementation may not have a direct impact on the outcome of interrogations.

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I. INTRODUCTION

When investigating and prosecuting crimes, law enforcement and legal professionals rely heavily on eliciting confessions from suspects (Moston, Stephenson, & Williamson, 1992; Softley, 1980). Obtaining confessions is imperative to the timely and effective functioning of the criminal justice system. Confessions are often regarded as the strongest and most incriminating form of evidence (Kassin & Neumann, 1997). In fact, confessions have the power to corrupt investigators' perceptions of other crime-related evidence (e.g., DNA and eyewitness identifications; Hasel & Kassin, 2009; Kassin, Bogart, & Kerner, 2011) and make other aspects of the case seem "superfluous" (McCormick, 1972, p. 316). Once a confession is obtained a case is more likely to be solved and a defendant is more likely to be convicted (Kassin, 1997). Furthermore, beyond the basic "I did it" admission, crime-related details obtained during interrogations may be critical to investigators, potentially leading to inculpatory evidence (e.g., finding physical evidence such as weapons, locating accomplices, establishing motive, etc.). Therefore, it is imperative for police investigators to employ interrogation methods that increase the reliability of confession evidence.

The present research examined, experimentally, whether building rapport (i.e., developing a harmonious, sympathetic connection to another; Newberry & Stubbs, 1990) with suspects affects their decision to confess during an interrogation. Specifically, the primary goal of the study was to examine whether rapport increases the diagnosticity of confessions by increasing the likelihood of obtaining true confessions and decreasing the likelihood of obtaining false confessions. First, I will review the significance of confession evidence and the importance of obtaining true confessions in criminal

investigations. Second, I will describe the process of a typical American interrogation. Third, I will discuss the prevalence of false confessions and the need for research to examine interrogation techniques that increase true confessions and safeguard against false confessions. Fourth, I will argue that rapport building may improve the diagnosticity of confession evidence and review empirical evidence showing the effect of rapport building in other investigative contexts.

Background and Significance

Confessions are such a powerful form of evidence partly because most people believe that innocent individuals would never confess to a crime they did not commit. The belief that “only the guilty confess” makes confessions extremely convincing and damning evidence (Leo & Liu, 2009). For instance, if a confession is obtained, police may ignore or overlook potential exculpatory evidence and may terminate investigations prematurely under the belief that, with the confession, the case is as good as solved (Kassin, 2012).

Research has shown that confessions impact verdicts more than any other type of evidence and that suspects are more likely to be convicted when a confession is present than when other types of evidence are present (e.g., eyewitness identification; Kassin & Neumann, 1997). In addition, research shows that knowing a suspect confessed has the power to corrupt the evaluation of evidence that is gathered *after* the confession is obtained (Kassin, 2012). For instance, polygraph results that were initially deemed inconclusive were later determined to indicate deception when the polygraph analyst was told the person confessed to the crime (Elaad, Ginton & Ben-Shakhar, 1994). Similar damaging results have been found for other forms of forensic evidence (e.g., fingerprints,

bite marks, and ballistic analysis) where initially inconclusive results were determined to indicate guilt once the analyst was made aware of the confession (Dror & Charlton, 2006; Dror & Cole, 2010). By conducting archival research on wrongful conviction cases, researchers determined that when confessions were obtained early in the investigation, cases were more likely to include multiple types of errors (e.g., forensic evidence evaluation errors; mistaken eyewitness identifications, etc.) than in cases where confessions were obtained later in the investigation (Kassin, 2012). These studies shed light on the impact of confession evidence on law enforcement's ability to evaluate information that follows the confession. Once a confession is obtained, it is difficult to ignore such evidence.

Obtaining confessions from suspects has always been a key goal of police investigations (Thomas & Leo, 2012). However, the way interrogations are conducted has changed throughout history. During the 19th and 20th centuries, police investigators commonly employed interrogation techniques that inflicted physical or extreme psychological pain on suspects. These “third degree” techniques ranged from isolating suspects for extended periods of time, depriving them of basic needs (e.g., food, water, sleep), to beating and kicking them until they confessed (Leo, 2004). Modern police interrogations have shifted away from physical and psychological abuse to more humane interrogation methods. Nevertheless, these modern interrogation techniques are designed to psychologically manipulate or pressure suspects into confessing by making them believe that it is in their best interest to confess (Kassin et al., 2010; Ofshe & Leo, 1997).

According to the Reid Technique, the most widely used interrogation method in the U.S., interrogations generally proceed in two stages (Inbau, Reid, Buckley, & Jayne,

2013). First, police investigators conduct a non-accusatory interview referred as the Behavior Analysis Interview (BAI). During this interview, police investigators attempt to (1) build rapport, and (2) determine, by observing nonverbal and verbal behavior, whether the interviewee is being deceptive (Inbau et al., 2013). If the interviewee is classified as an innocent truth teller, police investigators will not move on to the interrogation phase. In contrast, if the interviewee is classified as deceptive, police investigators will likely assume guilt and proceed with the interrogation. The BAI presumes that police investigators can accurately distinguish between liars and truth tellers. However, research shows that lay people and trained investigators are poor at detecting deception – performing only slightly above chance when asked to discriminate between liars and truth tellers (Bond & DePaulo, 2006; Vrij, 2008). In fact, research indicates that training individuals to detect deception using the cues suggested by the Reid manual (e.g., gaze aversion, grooming behaviors, frozen posture, etc.) *decreases* their ability to discriminate accurately between liars and truth tellers and instead leads to overconfidence in their abilities to detect deception (Kassin & Fong, 1999; Kassin, Meissner, & Norwick, 2005). Other research shows that police investigators are unable to distinguish between true and false confessions. For example, one study showed that police investigators accurately classified confessions as true or false about 48% of the time (i.e., at chance) while college students accurately classified confessions as true or false about 59% of the time (Kassin et al., 2005).

Once police investigators classify a suspect as deceptive, they will proceed with the actual interrogation. This shift between the BAI and the actual interrogation can be very subtle; some people may not even realize that they have become suspects (Leo,

2008). Reid interrogations can be separated into three components: custody and isolation, confrontation or maximization, and minimization (Kassin & Gudjonsson, 2004). These components are designed to work together to create an environment that the suspect wishes to escape. For instance, during custody and isolation, the suspect is left alone in a small room. This is supposed to create anxiety, uncertainty, and increase the suspect's desire to flee the situation. Once the interrogation begins, the police investigator directly accuses the suspect of committing the crime and rejects any pleas of innocence. The police investigator may present real (or fabricated) incriminating evidence, or may exaggerate the gravity of the offense and the likelihood of receiving a harsh sentence if found guilty (e.g., the death penalty). These types of tactics fall under the broad umbrella of maximization (Kassin & McNall, 1991). In contrast, when employing minimization, the police investigator acts in a more sympathetic and understanding way toward the suspect. The investigator minimizes the crime by offering face saving excuses and moral justifications (e.g., I'm sure you did not mean to do it; I may have acted in a similar way had I been in your situation, etc.), and downplays the consequences of confessing. At the end of the interrogation, the police investigator asks the suspect for a confession, and a detailed account of what happened (Kassin & Gudjonsson, 2004; Meissner, Russano, & Narchet, 2010). Research demonstrates that this confrontational and accusatorial approach to interrogations may successfully elicit confessions from the guilty but also puts innocent suspects at risk of confessing to a crime they did not commit (see Kassin et al., 2010; Meissner, Redlich, Bhatt, & Brandon, 2012).

False Confessions

Data on the prevalence of confessions shows that confessions are a fundamental part of the criminal justice system. A study examined a random sample of over 1,000 criminal cases in nine police departments in the U.K. and found that police investigators obtained confessions from suspects approximately 42% of the time (Moston et al., 1992). Similarly, Kassin and colleagues (2007) found that police investigators estimate that approximately 68% of suspects either confess or make incriminating statements during interrogations. Critically, these estimates fail to consider the veracity of confessions in criminal investigations: It remains unknown what percentage of confessions are true and false.

Over the past 30 years, a number of high profile cases and psycho-legal studies have brought attention to the issue of false confessions (Kassin & Gudjonsson, 2004). Cases involving post-conviction DNA evidence provide irrefutable proof that innocent people have been wrongfully convicted of crimes and that a substantial proportion of these wrongful convictions involved false confessions. The U.S. Innocence Project (n.d.) cites false confessions as one of the leading causes of the over 300 wrongful convictions to date and estimates that approximately 25% of these DNA exonerees falsely admitted guilt. The data gathered by the Innocence Project is specific to cases involving DNA evidence, and this type of evidence is typically present in certain types of cases only (e.g., rape, murder). In addition, a study examined 125 cases false confessions and found that in 65% of these false confessions, the suspect was exonerated before the case made it to trial (Drizin & Leo, 2004). Thus, the actual prevalence of false confessions is impossible to determine because, unless DNA evidence is present, appropriately tested, or

exculpating evidence is found prior to the trial (e.g., no crime was committed, the actual perpetrator confessed to the crime, etc.), ground truth cannot be established. Therefore, researchers have claimed that the current data represent the tip of the iceberg in terms of the prevalence of false confessions in the criminal justice system (Kassin et al., 2010; Russano, Meissner, Narchet, & Kassin, 2005).

Self-report studies have also shed light on the prevalence of false confessions. Survey studies with a combined sample size of over 55,000 continuing education young adults (15 to 24 years old) from Iceland and other European countries found that claims of false confessions ranged between 1.2% to 13.5% (Gudjonsson, 2010). Overall, these studies show that (1) younger students are more likely to report having falsely confessed than their older, more educated counterparts (Gudjonsson, Sigurdsson, Sigfusdottir, 2009; Steingrimsdottir, Hreinsdottir, Gudjonsson, Sigurdsson, Nielsen, 2007), (2) multiple interrogations are associated with an increase in false confessions (Gudjonsson, Sigurdsson, Asgeirdottir, & Sigfusdottir, 2006; Steingrimsdottir et al., 2007), and (3) false confession rates ranged from 12% to 24% for Icelandic prisoners and incarcerated adults with mental illness (Gudjonsson & Sigurdsson, 1994; Redlich, 2007; Sigurdsson & Gudjonsson, 1996; Sigurdsson, Gudjonsson, Einarsson, & Gudjonsson, 2006). Similarly, recent research found that 17% of incarcerated youth (14 to 17 year olds) in the U.S. claimed to have falsely confessed to police (Malloy, Shulman, & Cauffman, 2013). Lastly, based on their experience, American police investigators estimated that approximately 4.8% of interrogations resulted in false confessions (Kassin et al., 2007). While these studies are limited by various biases, they are important in providing us with

data concerning the estimated prevalence of false confessions in cases where exculpatory evidence may not be available.

Situational Factors Associated with False Confessions

Since evidence confirmed the existence of false confessions, researchers have examined the factors that increase the likelihood of false confessions from innocent suspects. Empirical evidence shows that false confessions occur due to two major risk factors: the personal dispositions of suspects (e.g., age, intelligence; Clare & Gudjonsson, 1995; Everington & Fulero, 1999; Goldstein et al., 2003; Grisso et al., 2003; Redlich & Goodman, 2003) and the situational factors at work inside the interrogation room (i.e., the techniques investigators employ during interrogations; Horgan, Russano, Meissner, Evans, 2011; Kassin et al., 2010; Russano et al., 2005). The current research focuses on situational factors. While it is not permissible for police to use overtly coercive methods (e.g., make explicit deal offers, use physical force) to obtain confessions (White, 2003), modern interrogations include high-pressure techniques that are deceptive and psychologically manipulative (e.g., minimization). The goal of these techniques is to break suspects' mental strength in order to extract a confession (Kassin et al., 2010; Ofshe & Leo, 1997).

Several situational risk factors have received empirical attention. For example, false confessions are associated with lengthy interrogations. An archival study on proven false confession cases showed that these interrogations lasted an average of 16 hours with about 50% of the innocent suspects being interrogated for over 12 hours. In striking contrast, over 90% of routine American interrogations last less than 2 hours (Drizin & Leo, 2004). Research also shows that presenting innocent suspects with incriminating

false evidence (e.g., failed polygraph test, DNA found under the victim's fingernails) increases false confessions. In one laboratory study, Kassin and Kiechel (1996) accused participants of making a computer crash by hitting a forbidden key. Participants who were presented with false evidence (i.e., a witness who saw them hit the forbidden key) were more likely to confess than participants who were not presented with false evidence. Recent research shows that false incriminating evidence need not actually be presented to influence confessions: Presenting participants with a *bluff* that evidence exists and may prove to be incriminating (e.g., DNA found at the crime scene is currently being tested) increases false confessions (Perillo & Kassin, 2011).

Both minimization and maximization have been linked to false confessions (see Horgan et al., 2012). Kassin and McNall (1991) showed that the use of maximization and minimization changes participants' perceptions of the consequences of a suspect confessing. Specifically, minimization makes participants assume that if the suspect confesses s/he will receive lenient treatment while maximization makes participants assume that a harsh sentence will follow if the suspect chooses not to confess. Interestingly, this assumption occurs even though police investigators do not make explicit promises of leniency when using minimization. Instead, they offer suspects face saving excuses, minimize the gravity of the offense, and provide sympathy and understanding. However, these minimization strategies may be interpreted as signs of lenient treatment following a confession. Explicit offers of leniency in exchange for a confession are illegal and would likely result in a confession being inadmissible in court (White, 2003).

Russano and colleagues (2005) examined both minimization and explicit promises of leniency (i.e., deal offers) on confession rates using a paradigm that was adopted for the current research. Participants worked on individual problems and group problems with a research confederate. The pair was told to work together on the group problems but to work independently on the individual ones. At one point during the activity, the confederate asked half of the participants (i.e., those assigned to the “guilty” condition) for help with one of the individual problems. All participants, guilty and innocent, were later accused of cheating based on the similarity of their answers to the confederates’ answers. The interrogators used either the legal interrogation technique of minimization, the illegal technique of making explicit promises of leniency, or both techniques in combination. Results showed that both minimization and the deal technique decreased the diagnosticity of confession evidence by increasing both true and false confessions. Interestingly, when minimization and the explicit deal techniques were used in combination, the diagnosticity of confession evidence was lower than when the techniques were used in isolation. The results of the study demonstrate that even seemingly innocuous and non-confrontational techniques like minimization can have detrimental effects on the diagnosticity of confession evidence. That is, using these techniques increased the number of innocent people who confessed to cheating on the individual problems.

Awareness of false confessions and the techniques associated with them has drawn considerable research and public policy attention to police interrogations. However, much of the attention has been focused on identifying specific interrogation techniques that increase the likelihood of obtaining false confessions from innocent suspects. While it is

important to examine which interrogation techniques pose risk for false confessions, and thus which techniques should be avoided, it is crucial for police investigators to be provided with alternative, empirically-based techniques that they can substitute for the more risky techniques. That is, it is important for researchers to examine interrogation techniques that improve the ability to glean true confessions and accurate and complete details from suspects. Therefore, the purpose of the present study was to examine a promising interrogation technique - rapport building - and whether it can improve the diagnosticity of confession evidence.

Rapport Building

Rapport building is a technique that is endorsed by different interrogation styles (Inbau et al., 2013; Walsh & Milne, 2008) and it has been widely recommended by investigative interviewing guidelines as well. For example, the National Institute of Child Health and Human Development (NICHD) Investigative Protocol recommends that rapport be established with potential child victims (Lamb, Orbach, Warren, Esplin, & Hershkowitz, 2007) and the Cognitive Interview recommends establishing rapport with adult witnesses before asking them to recall the event (Fisher & Geiselman, 1992). Additionally, the PEACE (Planning and Preparation, Engage and Explain, Account, Closure and Evaluate) model in the U.K. has incorporated rapport building as part of their standard protocol for interviewing suspects and witnesses (Walsh & Milne, 2008). All of these guidelines recommend that rapport be established *prior* to discussing the target event(s).

Not only is rapport building widely recommended by both investigative interviewing and interrogation guidelines, but a survey of 631 police investigators reveals

that police often build rapport when questioning suspects (Kassin et al., 2007). Specifically, researchers found that 30% of investigators reported “always” building rapport with suspects while a very small minority (about 1%) reported “never” building rapport. Rapport building was the fourth most common interrogation technique reportedly used by police investigators. The survey also revealed that rapport building is often used in combination with other interrogation techniques such as offering suspects moral justifications and minimizing the moral seriousness of the offense (Kassin et al., 2007). A more recent survey of police investigators found that 81% of police investigators think that it is important to build rapport with witnesses and suspects, and about 70% claimed to make attempts to establish rapport with both groups. The survey also showed that police use rapport building to gain the person’s trust and thus increase the accuracy and completeness of information obtained (Vallano, Evans, Schreiber Compo, & Kieckhaefer, 2014).

Despite rapport building being widely recommended and used by law enforcement, there is little consensus regarding how to best operationally and conceptually define this construct. As a result, there is little agreement in the literature regarding *how* rapport should be built. The clinical literature generally defines rapport as a “harmonious, sympathetic connection to another” (Newberry & Stubbs, 1990, p.14). This definition has been used in studies focused on rapport building in investigative interviews (e.g., Vallano & Schreiber Compo, 2011; Kieckhaefer, Vallano, & Schreiber Compo, 2013). However, researchers studying uncooperative witnesses (i.e., people who are unwilling or hesitant to speak to police) define rapport as a goal oriented, working relationship (Kelly Miller, Redlich, & Kleinman, 2013; Walsh & Bull, 2012). This “working relationship” definition

appears to be more in line with how police investigators think of rapport building than the typical clinical definition. For example, in one police survey (Vallano et al., 2014), police investigators were asked to define rapport. They generally defined rapport as a trusting relationship that is established with the goal of obtaining more information and more accurate information about a crime.

Survey research has provided insight into the strategies police investigators report using to build rapport with both witnesses and suspects. Police investigators report that they attempt to build rapport by using both nonverbal and verbal strategies (Vallano et al., 2014). In terms of nonverbal strategies, police list smiling, making eye contact, meeting the person's basic needs (e.g., providing water, coffee), and conducting the interview/interrogation in a quiet room. Some of the verbal rapport building strategies include making small talk, asking about the person's background, asking about family and hobbies, talking about things they have in common, and being honest about the case and the situation (Vallano et al., 2014).

Kelly and colleagues (2013) developed a taxonomy of interrogation methods. The authors conducted a thorough search of the relevant literature on military and criminal interrogations and developed six broad interrogation techniques. Of particular relevance to the present study, the taxonomy provided a list of strategies for establishing rapport with suspects. For instance, the taxonomy suggests that rapport can be established by finding common ground with the suspect, meeting the suspect's basic needs (e.g., providing water, coffee), appearing similar to the suspect, using active listening, etc.

Even though rapport building is recommended by major interrogation and interviewing guidelines and is commonly used in police investigations when dealing with

both suspects and witnesses, there is little empirical evidence that speaks to the effects of rapport building in interrogations. Specifically, there is little scientific knowledge about whether rapport building is a useful interrogation technique that can lead to the acquisition of reliable information, including confessions.

In various non-interrogation settings numerous studies have demonstrated the beneficial effects of rapport building with both children and adults. For example, rapport building helps improve the therapist-client relationship in clinical settings by allowing people to talk more openly about their experiences (see Bedi, Davis, & Williams, 2005). Additionally, research confirms the benefits of interviewers building rapport with children in forensic interviews. Specifically, children provide more details about their experiences after rapport has been established (Goodman & Bottoms, 1993; Powell & Lancaster, 2005; Wood, McClure, & Birch, 1996). Also, children who are initially reluctant to disclose their experiences are more likely to do so if rapport is established than children who are asked to disclose their experiences without first establishing rapport (Orbach, Shiloach, & Lamb, 2007). Furthermore, rapport building increases the amount of accurate information children report and decreases their susceptibility to suggestive information (Cornah & Memon, 1996). Rapport building has also been shown to decrease anxiety in both children and adults (Quas & Lench, 2007; Villalba, Vallano, Schreiber Compo, & Kieckhafer, 2013).

In contrast to the myriad of findings regarding the beneficial effects of rapport building with children in eyewitness contexts, there is considerably less experimental research examining the beneficial effects of rapport building with adult witnesses. One of the early studies that manipulated rapport experimentally found that participants who

were randomly assigned to experience rapport with their interviewer provided more accurate, and fewer inaccurate, details about a short video than participants who were assigned to experience no rapport or abrupt rapport with their interviewer (Collins, Lincoln, & Frank, 2002). Similarly, Vallano and Schreiber Compo (2011) found that participants who were randomly assigned to experience rapport after viewing a mock-crime video reported more accurate information and fewer misinformation details than participants who did not experience rapport. However, it is important to note that recent research has failed to find a beneficial effect of rapport on eyewitness accuracy (Kieckhaefer, 2014; Kieckhaefer, et al., 2013; Villalba et al., 2013).

One of the main goals of rapport building is to help people (e.g., therapists and clients, police investigators and witnesses) overcome barriers that may hinder communication. For example, rapport building is important in clinical settings because patients may be unwilling to share their thoughts and emotions with the therapist. The therapist must then spend some time building rapport in order to ensure that the client feels comfortable talking about private matters (Morgan & Friedemann, 1988; Wood et al., 1996). Similarly, when dealing with sensitive issues such as sexual abuse, investigators must develop a comfortable relationship with suspected victims so that they feel at ease talking about potentially embarrassing or traumatic experiences with a stranger (Aldridge & Wood, 1998; Goodman & Bottoms, 1993; Hynan, 1999; McBride, 1996; Powell & Thomson, 1994; Ruddock, 2006). Building rapport may increase the chances that children will disclose abuse to interviewers (Hershkowitz, 2011). These scenarios illustrate the importance of creating an environment that fosters communication. Therapists and interviewers cannot be successful at their jobs if people are unwilling to

talk to them, especially in an honest manner. Similarly, an interrogation cannot be successful if the suspect refuses to talk to the investigator. Suspects who are guilty may have information that they wish to conceal and thus may be unwilling to talk to investigators. Therefore, it is crucial for law enforcement to spend some time establishing a relationship with the suspect in order to overcome communication barriers that may hinder their ability to gather crime-related information and obtain a confession (Kelly et al., 2013).

A recent taxonomy of interrogations has suggested that interrogations are more likely to be successful when rapport is established than interrogations where rapport is not established (Kelly et al., 2013). The authors of this taxonomy of interrogations argue that rapport building allows police investigators to move smoothly between other interrogation techniques (e.g., minimization, maximization) and without rapport building, police investigators would have difficulty transitioning to other interrogation techniques and thus would be less likely to have a successful interrogation (Kelly et al., 2013). The taxonomy also argues that relying solely on rapport to interrogate suspects may not yield successful interrogations. However, this taxonomy does not specify whether rapport building would lead to more confessions being elicited (true or false) or whether rapport building would have differential effects on true and false confessions. The main goal of the present study was to examine how rapport building affects guilty and innocent people's decisions to confess in an interrogation.

Although there is some scientific evidence that building rapport increases recall output and recall accuracy for witnesses and victims, little research has focused on examining, experimentally, the effects of rapport building in

interrogations. The proposed study will investigate whether rapport building can improve confession rates by increasing true confessions without increasing false confessions.

The Current Study

The primary goal of the current study was to examine, experimentally, guilty and innocent participants' decision-making processes in an interrogation setting. Specifically, the current study investigated whether building rapport influences participants' decisions to confess to a wrongdoing. The effect of rapport building on confession decisions merits empirical attention because (a) researchers and practitioners have long advocated its use during police interviews and interrogations (e.g., Fisher & Geiselman, 1992; Inbau et al., 2013; Kelly et al., 2013; National Institute of Justice Guidelines, 1999) and (b) to date, no research has examined whether using rapport as a sole interrogation technique has the power to influence the outcome of police investigations (Vallano & Schreiber Compo, *in press*). Results of the present study will shed light on the role rapport plays in police interrogations and whether building rapport with suspects is a technique that can be used to improve the diagnostic value of confessions.

Using a procedure based on the Russano et al. (2005) cheating paradigm, each participant worked on team and individual problems with a study confederate. The confederate coaxed half of the participants to break one of the rules of the study – not to share answers on the individual problems. After working on the team and individual problems, a research assistant playing the role of interviewer built rapport or did not build rapport with participants. After the

rapport manipulation, the interviewer accused participants of breaking the rules of the study and asked them to sign a statement admitting to having shared answers on the individual problems. The present study measured whether the rapport manipulation influenced participants' decisions to confess, participants' suggestibility, and participants' self-reported anxiety before and after the interrogation.

Hypotheses

I predicted that building rapport will influence participants' (a) perceptions of the interviewer, (b) decisions to confess, (c) the diagnosticity of confession evidence, and (d) perceived pressure to confess. Specifically, I predicted that:

Hypothesis 1. Participants whose interviewers build rapport will perceive interviewers more positively than participants whose interviewers do not build rapport.

Hypothesis 2. Establishing rapport will produce more true confessions and fewer false confessions than not establishing rapport. Therefore, diagnosticity of confessions will be higher for confessions elicited with the use of rapport than for confessions elicited without the use of rapport.

Hypothesis 3. Perceived pressure to confess will be lower for participants who experience rapport than for participants who do not experience rapport.

II. METHOD

Design

The current study conformed to a 2 (rapport building v. no rapport building) by 2 (guilt v. innocence) between subjects factorial design. Undergraduate participants were randomly assigned to one of four experimental conditions. Primary dependent measures included participants' perceptions of the interviewer, decisions to sign the confession statement, diagnosticity of confession evidence, and perceived pressure to confess. Secondary dependent measures included participants' self-reported anxiety and suggestibility scores.

Participants

Two hundred and thirty three college students participated in the study. Of these participants, 64 were excluded from the final sample: 12 because the video camera did not record the session, 19 because they expressed strong suspicion about the true purpose of the study, 2 because they became upset and the study had to be terminated prematurely, and 16 because they did not conform to their randomly assigned condition (i.e., 3 participants in the innocent condition cheated and 13 participants in the guilty condition refused to cheat). Lastly, an additional 14 participants were excluded for other reasons (e.g., experimenter error, the participant knew the interviewer, etc.).

The final sample for the present study included 169 participants. Based on previous research on interrogations (Perillo & Kassin, 2011; Russano et al., 2005) and on rapport (Collins et al., 2002; Vallano & Schreiber Compo, 2011), this final sample allows sufficient power to determine group differences in participants' (1)

decisions to sign the confession statement, (2) perceived pressure to confess, (3) perceptions of the interviewer, (4) self-reported anxiety, etc. The sample was primarily Hispanic ($n = 104$, 62%), followed by African American ($n = 31$, 18%), and Caucasian ($n = 16$, 10%) participants. Most participants were females ($n = 112$, 66%). The mean age was 21.91 years old ($SD = 5.2$). Approximately half of the participants were psychology majors (55%). Fortunately, most participants (83%) had not taken the legal psychology course offered at the university. It was important to know whether participants had taken legal psychology because the course covers topics that are relevant to the study. For example, students who took this course should have learned about how police interrogations are conducted, the types of techniques police use to elicit confessions, how these techniques may increase the likelihood of obtaining confessions from innocent suspects. Students may have also learned about the Russano et al. (2005) cheating paradigm. Therefore, participants who had taken the course may have become more suspicious about the true purpose of the study than participants who had not taken the course.

Materials and Measures

Team and individual problems. The team and individual problems used for the cheating episode were the same problems used by Russano et al. (2005). These consist of difficult logic problems that most people cannot solve accurately. Each pair of participants received three individual problems (Appendix A) and three team problems (Appendix B). When solving the problems, participants were instructed to alternate between the team and individual problems until they

completed all six problems. The last individual problem was the ‘target problem’— the problem in which confederates asked for help (guilty condition) or did not ask for help (innocent condition).

Anxiety questionnaire. Participants recorded their anxiety at three different intervals during the study: (1) at the beginning of the study, (2) after the team and individual problems, (3) and after the interrogation. Past research has shown that rapport reduces witnesses’ anxiety during investigative interviews (Kieckhafer, et al., 2013; Villalba et al., 2013). Thus, the present study measured participants’ anxiety in order to determine whether experiencing rapport in the context of an interrogation buffers participants against experiencing high levels of anxiety.

Anxiety was measured using the State-Trait Anxiety Scale form Y (STAI; Spielberg, Gorsuch, Lushene, Vagg, & Jacobs, 1983; Appendix C). The STAI consists of 20 items that ask participants to rate their current feelings (e.g., I feel calm; I feel upset; I am worried) on a 4-point Likert-type scale (*0 = not at all; 3 = very much so*). The STAI has been used in previous rapport studies to measure the effects of rapport on witness anxiety (Kieckhafer, et al., 2013; Villalba et al., 2013). The STAI contains 10 anxiety-present questions and 10 anxiety-absent questions. To calculate a total STAI score, all 10 anxiety-absent questions (e.g., I feel calm; I am at ease) were reverse scored. Then, anxiety-absent and anxiety-present items were combined to create an overall anxiety score for each of the three STAIs completed. High STAI scores indicate higher levels of state anxiety (Spielberg et al., 1983).

Social anxiety questionnaire. At the beginning of the study, participants completed the Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998). The SIAS is a valid and reliable scale that assesses social anxiety. The SIAS was included to examine whether individual differences in participants' levels of social anxiety influenced their decision to sign the confession statement and their perceived pressure to confess. The SIAS contains 20 questions that measure how much anxiety people experience in social interactions (e.g., I have difficulty making eye-contact with others; When mixing socially I am uncomfortable, etc.) using a 5-point Likert-type scale (*0 = not at all like me, 4 = very much like me*). Of the 20 items, 3 items were reversed scored. After the items were reversed scored, responses from all 20 items were combined to create a total SIAS score for each participant. High SIAS scores indicate higher levels of social anxiety.

Suggestibility questionnaire. The Gudjonsson Suggestibility Scale (GSS) was used to measure participants' suggestibility. The GSS is a valid and reliable measure of suggestibility in an interrogation setting (Redlich & Goodman, 2003; Appendix D). This measure was included to investigate whether participants' suggestibility interacted with the rapport manipulation to influence confession rates. The original version of the GSS was created in the United Kingdom and thus contains language that is inappropriate for an American sample. Therefore, the current study used the American version developed by Warren, Hulse-Trotter, & Tubbs (1991).

The GSS requires participants to listen to a fictitious story. After listening to the story, participants are asked 20 questions about the story. Fifteen questions

are suggestive and five questions are non-suggestive. All questions require participants to choose between two alternatives (e.g., yes or no, black or white). Participants are asked these questions immediately after hearing the story and after a delay of 60 minutes. After the delay, participants are asked to answer the same questions a second time. At the outset of the second questioning session, participants are provided with negative feedback on their performance: *“You made a number of mistakes. I’m going to ask you the questions again but this time try to be more accurate.”*

The scale produces two suggestibility scores – Yield and Shift. The Yield score ranges from 0 to 15 and represents the number of times participants agreed with the suggestive questions. The Shift score also ranges from 0 to 15, and it represents the number of times participants changed their answer to a question based on the negative feedback described above. Higher Shift and Yield scores indicate higher levels of suggestibility. A total suggestibility score is calculated by adding participants’ Yield and Shift scores (Warren et al., 1991).

Rapport and interrogation scripts. The interviewer established rapport using one of two scripts (rapport or no rapport). These scripts provided the interviewer with detailed instructions on how s/he should interact with the participant – verbally and nonverbally – during the rapport and interrogation sessions. The rapport scripts were developed based on previous rapport studies (Vallano & Schreiber Compo, 2011; Villalba et al., 2013) and on rapport building techniques that have been recommended by researchers and reportedly used by police investigators (Fisher & Geiselman, 1992; Kelly et al., 2013; Vallano et al.,

2014). The interrogation scripts were developed based on the scripts used in previous interrogation studies (Horgan et al., 2012; Gyll et al., 2013; Russano et al., 2005).

Rapport condition. The rapport script (Appendix E) consisted of a friendly and attentive interviewer. The interviewer introduced him/herself to the participant, shook the participant's hand, made eye contact, smiled, and used active listening (e.g., nodded, said "yes," "uh huh," "okay," etc.). According to the script, the interviewer asked questions that allowed the participant and the interviewer to have a fluid conversation that showed the interviewer was genuinely interested in getting to know the participant (e.g., Where are you from? What do you like most about Miami?). In addition, the interviewer asked the participant to recall a pleasant past experience and to describe that experience in as much detail as possible. The purpose of including this question was to strengthen the rapport manipulation. Research shows that feelings of liking towards an individual increase when people disclose information to that individual (Collins & Miller, 1994).

During the interrogation, the interviewer in the rapport condition continued to have a nice and friendly demeanor towards the participant. The interviewer was respectful, allowed the participant the opportunity to speak, and used phrases that expressed empathy and concern (e.g., I understand what you are telling me; I am sorry this is happening to you). In addition, the interviewer told the participant that s/he was in a similar situation a few years ago and that s/he understands what it feels like to be accused of cheating. It was important for the

success of the rapport manipulation that the participant felt the interviewer empathized with and could relate emotionally to the situation s/he was in.

No rapport condition. The no rapport script (Appendix E) involved an unfriendly and uninterested interviewer. The interviewer walked in the room, did not introduce him/herself to the participant, did not smile, made little eye contact, did not use active listening, and made no attempt to befriend the participant. The interviewer asked a set of standard demographic questions (e.g., Can you spell your first name? What is your phone number?) that did not allow the participant and the interviewer to engage in a fluid conversation. In addition, the interviewer asked these questions in a staccato style that made it clear s/he was not interested in getting to know the participant. The no rapport script was modeled after interviews conducted by a local police department in the robbery division (Fisher, Geiselman, & Raymond, 1987) and have been used in previous rapport studies (Kieckhafer et al., 2013; Vallano & Schreiber Compo, 2011; Villalba et al., 2013). The question about a pleasant experience was absent from the no rapport script and instead participants spent a few minutes writing down everything they did the previous day from the moment they woke up until they went to bed. This writing activity was included so participants in both rapport conditions spent similar amounts of time in the room with the interviewer during the rapport phase.

During the no rapport interrogation, the interviewer continued to be distant and unfriendly, made no attempt to make the participant feel better about the situation, and did not express empathy or concern for the participant.

Interrogation script. The interrogation script conveyed the same information regardless of the participants' assigned rapport condition (Appendix F). After the rapport session, the interviewer explained that there was an issue with the answers to the team and individual problems. The interviewer explained that both participants got the same wrong answer on the triangle problem and that this had never happened before. The interviewer told the participant that s/he believed they had broken the rules of the study and shared answers during the individual problems. The interviewer then explained that s/he had contacted the professor in charge of the study and that he was very upset about the situation. The interviewer explained that s/he did not know what the professor was going to do but that s/he would not be surprised if the professor considered this situation a case of academic dishonesty. All participants were asked to sign a handwritten confession statement admitting to having shared answers on the individual problems. The interviewer asked for a confession up to three times. If the participant had not signed the confession by the third ask, the interviewer did not continue to ask participants to sign the confession. Maximization was used to emphasize the seriousness of the accusation (e.g., FIU considers cheating in a study the same as cheating in a classroom). Great care was taken to ensure a "clean" rapport manipulation. Therefore, interviewers were trained in avoiding minimization (e.g., I'm sure everything will be resolved more quickly if you just sign; I don't think this is going to be a big deal, etc.) during the interrogation.

Interrogation outcomes and diagnosticity. For each participant their confession decision was coded into four possible outcomes (i.e., true confession,

false confession, true denial, false denial). We calculated the percentage of people in each rapport condition that fell into each of the four confession categories. We used these confession percentages to calculate the likelihood of obtaining a true confession over a false confession (i.e., diagnosticity). Diagnosticity was calculated by dividing the percentage of true confessions over the percentage of false confessions for both rapport conditions. Higher diagnosticity means a given technique is more likely to elicit true than false confessions. Diagnosticity was also calculated for denials – that is, the likelihood that a denial is indicative of innocence or guilt. Similarly, higher denial diagnosticity indicates higher likelihood of eliciting denials from innocent people.

Rapport questionnaire. Two rapport questionnaires were used to ensure that rapport was experienced (or not) as intended. The first questionnaire is the Interaction Questionnaire and it has been used in previous rapport studies (Appendix G; Kieckhafer, et al., 2013; Vallano & Schreiber Compo, 2011; Villalba et al., 2013). It measures characteristics that have been empirically tested to be important when building rapport in a therapeutic setting (Bernieri, 1998; Elvins & Green, 2008). The questionnaire consists of 30 items that ask participants to rate their perceptions of the interviewer (interviewer subscale; e.g., rude, smooth, bored, etc.) and their interaction with the interviewer (interaction subscale; e.g., awkward, well coordinated, etc.) using a 7-point Likert-type scale (*1 = low amount of characteristic, 7 = high amount of characteristic*). The interviewer and interaction subscales included duplicate items that asked participants to rate the interviewer and the interaction on the same construct. For

example, participants rated whether the interviewer was *bored* and whether the interaction with the interviewer was *boring*. Therefore, a correlation analysis was conducted on the items that appeared twice on the Interaction Questionnaire. Four of the duplicate items were excluded (cold, awkward, active, positive) because they were highly correlated with their respective repeated pairs $rs = .62 - .85$, $p < .001$. After deleting the duplicate items, the Interaction Questionnaire included 26 of the original 30 items.

To calculate the total sum score for the Interaction Questionnaire we reversed scored all the items that had a negative valence (e.g., distracted, awkward, rude, antagonistic, etc.) After reverse scoring the relevant items, all items were summed to create an Interaction Questionnaire total score. High scores on this questionnaire indicate higher levels of rapport.

The second questionnaire used to measure rapport consisted of a modified version of the Rapport Scales for Investigative Interviews and Interrogations (RS3i) recently developed specifically to measure rapport in the context of investigative interviews and interrogations (Appendix H; Duke, 2013). The questionnaire asks participants to agree or disagree with 24 statements about how the interviewer behaved towards them using a 5-point Likert-type scale ($1 = \text{strongly disagree}$, $5 = \text{strongly agree}$). For example, participants were asked to rate whether the interviewer treated them with respect, whether they perceived the interviewer as honest, whether they believed the interviewer had a good opinion of them, etc. To calculate the total sum score for the modified RS3i we reverse scored three items that had a negative valence. Once all items were in the correct

valence, all items were summed to create a modified RS3i total score. High numbers indicate higher levels of rapport.

Participants' ratings of the interviewer on the Interaction Questionnaire and the modified RS3i were examined in two different ways to determine how the rapport manipulation affected participants' perceptions of the interviewer. Specifically, we examined whether differences existed in the calculated total scores as well as participants' ratings of the interviewer on each individual item on both rapport questionnaires.

Demographics. Participants completed a demographic questionnaire (Appendix I) and reported their race, age, and gender. Participants also reported their major and whether they had taken or were currently taking the course "legal psychology."

Debriefing. During debriefing (Appendix J), the experimenter (i.e., the person participants worked with at the beginning of the study) asked them to describe in their own words what they thought the study was about and whether they believed they were being tricked or deceived in any way. After participants answered these questions, the experimenter explained the true purpose of the study. The experimenter explained that the other person they worked with was a confederate and that no professor was upset about the team and individual problems. The experimenter explained the need for deception in the study. The experimenter told participants it was vital to the success of the study that they remained unaware of the true purpose of the study until the end. Participants were asked to explain why they chose to sign or not the confession statement and to

report how much pressure they felt to sign the confession statement using an 11-point Likert-type scale (*0 = no pressure at all; 10 = the most amount of pressure you can imagine*).

Procedure

All sessions were video and audio recorded using a hidden camera. Three research assistants were needed to run each participant (experimenter, confederate, interviewer). All research assistants were kept blind to certain experimental conditions. Specifically, the interviewer was unaware of the participant's guilt or innocence; the confederate was unaware of the rapport condition; and the experimenter was unaware of both guilt/innocence and rapport conditions.

Participants arrived at the lab under the impression that they were participating in a trivia challenge study. Once in the lab, the experimenter greeted participants and told them they were going to participate in the study with another person – in reality a study confederate (from now on, the participant and confederate will be referred to together as 'participants'). The experimenter explained that the purpose of the study was to examine how people solve problems and how anxiety influences their performance. After participants signed the consent form, they completed the first state anxiety measure (STAI 1) and the Social Interaction Anxiety Scale (SIAS). Then the experimenter asked the confederate to leave the room for a couple of minutes. During this time, the experimenter administered the first part of the Gudjonsson Suggestibility Scale (GSS).

After administering the GSS, the experimenter instructed the confederate to come back in the room. The experimenter explained that the first part of the study involved solving logic problems as a team and individually. The experimenter explained that most of the time, when people solve problems, they do so with someone they know, either a friend or a co-worker, and that their current situation was somewhat artificial since the participants did not know each other. The experimenter told participants that s/he was going to leave the room and allow let them get acquainted with each other for a few minutes. The goal of this, they were told, was to make their interaction more realistic. In reality, its purpose was to increase participants' willingness to share their answer to the triangle problem with the confederate in the guilty condition (Guyll, et al., 2013; Russano et al., 2005). The experimenter left the participants alone in the room for three minutes. Confederates had memorized a set of questions they could use to start a conversation with the participant (e.g., What class are you doing this study for? What's your major?) and were told to make conversation with the participant even if the person seemed shy or not very talkative.

Cheating phase. After three minutes, the experimenter came back in the room and gave participants the instructions for completing the logic problems. The experimenter explained that it was important for them to take this task seriously and to only work together on the team problems and individually on the individual problems. The experimenter explained that they needed to start on the individual problems and then alternate between team and individual problems until they completed all six problems. Participants completed the logic problems

always in the same order. The experimenter informed participants they had 15 minutes to complete the logic problems. After explaining the rules and asking if they had any questions, the experimenter exited the room.

Culpability manipulation: Guilty. In the guilty condition, the confederate asked the participant for help on the last individual problem (the triangle problem). After it was clear the participant had finished the triangle problem, the confederate said “*I’m having a hard time with this one – what did you get?*” If the participant gave the confederate the answer, the confederate replied, “*Umm that may be it*” and continued to work on the problem for a few more seconds. Once the confederate answered the triangle problem, they worked on the final team problem.

If the participant did not give the confederate the answer, the confederate was instructed not to ask a second time; the confederate simply kept working on the triangle problem for a few more seconds. Regardless of whether the participant provided the confederate with an answer, the confederate was instructed to make sure that the participant did not see his/her response to the triangle problem.

Culpability manipulation: Innocent. In the innocent condition, the confederate did not ask the participant for help. Participants worked individually on all of the individual problems. If the participant asked the confederate for help on any of the individual problems, the confederate was instructed to not give participants answers to the individual problems even after they had completed all problems.

Rapport-building phase. After 15 minutes, the experimenter came back into the room. In the event that participants were still working on the problems, the experimenter gave the pair an extra 5 minutes to finish. After the problems were collected, the experimenter administered the second state anxiety measure (STAI 2). Then, the experimenter explained that for the second part of the study, participants were going to work separately. The experimenter explained that the confederate was going to work with him/her in another room and that another experimenter was coming in to work with the participant. The experimenter handed participants a filler task (word completion task) and then exited the room with the confederate. After 5-7 minutes, the third research assistant (from now on ‘the interviewer’) came into the room.

The rapport manipulation began the moment the interviewer walked into the room. The interviewer explained that there was a problem with the logic problems and that the other experimenter was double-checking their answers. The interviewer stated that they could not move on to the next part of the study until the issue with the logic problems was resolved. This “issue” with the logic problems provided a delay in the study that allowed the interviewer to build rapport without arousing participants’ suspicions. After explaining the reason for the delay, the interviewer began the rapport manipulation (rapport or no rapport) based on the participant’s randomly assigned condition. After building rapport with the participant for a few minutes, the interviewer told the participant s/he was going to check on the other experimenter so they could move on with the study. Throughout the rapport building phase, the interviewer was very casual

about the “issue” with the logic problems. It was important not to worry the participant prior to the interrogation because this could have affected the interviewer’s ability to build rapport with the participant.

Interrogation phase. The interviewer left the room and came back approximately 1 minute later. The interviewer then confirmed with the participant that they did have a problem. The interviewer explained that s/he believed that the participants shared answers on the individual problems because both had the same wrong answer on the triangle problem. The interviewer told the participant that the professor was very upset and that he may consider this situation a case of academic dishonesty. The interviewer told the participant the professor had instructed him/her to document what happened and that s/he needed the participant to sign a statement admitting to having shared answers on the triangle problem. The interviewer took out a piece of paper with a handwritten statement that read: “I, _____, *admit to sharing answers on the triangle (individual) problem.*” The participant was asked to sign the statement up to three times. The interrogation ended the moment the participant signed the statement or after the participant refused to sign the statement for a third time.

After the interrogation, the interviewer asked the participant to write down on a blank piece of paper everything that happened between him/her and the other participant. After this, the interviewer told the participant s/he was going to speak to the professor and left the room.

Post-interrogation phase. After the interrogation phase, the experimenter returned to the room and asked the participant to complete a set of questionnaires.

The participant completed the third state anxiety measure (STAI 3), then the Interaction Questionnaire, the modified version of the Rapport Scales for Investigative Interviewing and Interrogations (RS3i), and the demographics questionnaire. Lastly, the experimenter administered the second part of the GSS approximately 60 minutes after the first GSS. After completing all questionnaires, the participant was probed for suspicion and was fully debriefed. The participant was thanked for his/her participation, asked not to disclose the true purpose of the study to anyone who may participate in the study (Appendix K ; Confidentiality Agreement), and asked to sign a video consent form allowing us to view the video recording of their participation (Appendix L).

Figure 1.

Diagram of the study procedure

III. RESULTS

The results are divided into three sections: The first section describes the preliminary analyses conducted to determine the potential presence of interviewer effects on the main variables (i.e., confession decisions, denial decisions, perceived pressure to confess, and experience of rapport). The second section describes the primary analyses conducted to examine whether building rapport influenced perceptions of the interviewer, confession decisions, denial decisions, the diagnosticity of confessions and denials, and perceived pressure to confess. The third section describes exploratory analyses conducted to investigate whether individual differences such as self-reported anxiety and suggestibility interacted with the rapport manipulation to influence confession decisions, denial decisions, and perceived pressure to confess.

Preliminary Analyses

Interviewer effects. The study used six research assistants (three male, three female) to play the role of interviewer ($M_{age} = 29.80$, $SD_{age} = 10.76$). It was important to examine whether interviewers' unique personalities and potential differences in their degrees of likability influenced participants' behavior. It was of particular interest to examine interviewer effects on participants' (1) decision to confess or deny, (2) perceived pressure to confess, and (3) experience of rapport.

Table 1.

Number and Percentage of Confessions and Denials by Interviewer Identity

Interviewer Name	<i>N</i>	Confessions	Denials
Leslie	40	19 (48%)	21 (53%)
Julia	7	4 (57%)	3 (43%)
Analay	19	7 (63%)	12 (63%)
Robert	40	20 (50%)	20 (50%)
Alfredo	34	19 (56%)	15 (44%)
Erlan	29	20 (69%)	9 (31%)

Interrogation outcomes. A chi-square analysis was conducted to investigate the presence of systematic differences in participants' decision to confess or deny having shared answers on the individual problems based on interviewer identity. If the outcome of the interrogation changed depending on the identity of the interviewer, then it would be difficult to determine whether the rapport manipulation influenced participants' decision-making processes. Results indicated that interviewer identity did not influence participants' decision to confess having shared answers on the individual problems, $X^2(1, N = 89) = 8.56$, $p > .05$ or deny having shared answers on the individual problems $X^2(1, N = 80) = 8.11$, $p > .05$.

Perceived pressure to confess. Participants used an 11-point Likert-type scale (0 to 10) to rate how much pressure they felt to sign the confession statement. A one-way Analysis of Variance (ANOVA) was conducted to compare participants' ratings of perceived pressure to confess across all six interviewers. Results revealed that interviewer identity did not influence participants' perceived pressure to sign the confession statement, $F(5, 158) = 2.05, p = .075$, partial $\eta^2 = .06$ (see Table 2).

Table 2.

Mean and Standard Deviation for Perceived Pressure to Confess by Interviewer Identity

Interviewer Name	<i>M</i>	<i>SD</i>	<i>N</i>
Leslie	3.47	3.55	38
Julia	6.43	4.12	7
Analay	3.95	3.66	19
Robert	4.69	3.24	37
Alfredo	5.56	2.63	34
Erlan	5.00	3.64	29

NOTE: Data for 5 participants was missing.

Rapport experience. Two rapport questionnaires were used to measure participants' experience of rapport: (1) the Interaction Questionnaire (Kieckhaefer et al., 2013; Vallano & Schreiber Compo, 2011; Villalba et al., 2013) and (2) a modified version of the Rapport Scales for Investigative Interviewing and Interrogations (RS3i; Duke, 2013). Analyses were conducted to determine

whether participants had different experiences of rapport based on the identity of the interviewer.

Interaction questionnaire. A one-way ANOVA was conducted to examine whether total scores on the Interaction Questionnaire were influenced by interviewer identity. Results indicated that participants' experience of rapport was not influenced by interviewer identity, $F(5, 158) = 1.26, p = .29$, partial $\eta^2 = .04$ (see Table 3).

To take a closer look at participants' experience of rapport, a multivariate analysis of variance (MANOVA) was conducted to examine participants' ratings of the interviewer on all individual items on the Interaction Questionnaire. Results indicated that participants' ratings of the interviewer did not differ by interviewer identity, $F(130, 685) = 1.23, p = .056$, Pillai's Trace = .95, partial $\eta^2 = .19$.

Modified RS3i. A one-way ANOVA was conducted to examine whether total scores on the modified RS3i were influenced by interviewer identity. Results indicated that participants' ratings of the interviewer did not differ by interviewer identity, $F(5, 161) = 1.65, p = .15$, partial $\eta^2 = .05$ (see Table 3).

A MANOVA was conducted to examine participants' ratings of the interviewer on all individual items in the modified RS3i. Results indicated that interviewer identity did not influence participants' experience of rapport, $F(120, 710) = 1.02, p = .43$, Pillai's Trace = .74, partial $\eta^2 = .15$.

Table 3.

Mean and Standard Deviation for the Total Scores in the Interaction Questionnaire and the Modified RS3i by Interviewer Identity

Interviewer Name	Interaction Questionnaire			Modified RS3i		
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>
Leslie	117.51	19.60	39	86.35	21.22	40
Julia	123.86	26.52	7	89.00	26.81	7
Analay	121.26	18.55	19	91.79	18.35	19
Robert	124.70	22.37	39	94.02	22.64	40
Alfredo	113.30	20.28	33	80.30	20.56	34
Erlian	117.33	21.64	27	87.82	22.95	27

NOTE: Total scores for 7 participants could not be calculated because some items were missing

Results from both rapport questionnaires (Interaction Questionnaire and modified RS3i) suggest that individual differences in interviewers' ability to build rapport did not influence participants' experience of rapport. Therefore, any differences found in the primary analyses cannot be explained by individual differences among interviewers.

Interaction length. The lengths of the rapport and interrogation sessions were examined to determine whether interviewers spent more time with

participants depending on the rapport condition. First, a one-way ANOVA was conducted to examine differences in length (in minutes) between the rapport and no rapport sessions. Previous rapport studies have found that interviewers who built rapport spent more time with participants than interviewers who did not build rapport (see Vallano & Schreiber Compo, 2011; Villalba et al., 2013). Based on this past research, it was expected that rapport-building sessions would be longer than no rapport-building sessions. Consistent with previous research, results showed a significant difference in the length of the rapport-building sessions based on the rapport manipulation, $F(1, 165) = 94.90, p < .001$, partial $\eta^2 = .37$. Interviewers spent longer interacting with participants in the rapport condition ($M = 9.61, SD = 3.62$) than in the no rapport condition ($M = 5.70, SD = .73$).

A 2 (rapport v. no rapport) by 2 (guilt v. innocence) between subjects ANOVA was conducted to examine whether the length of the interrogation was influenced by the rapport and guilt manipulations. Results indicated no main effect of rapport, $F(1, 163) = 3.21, p = .075$, partial $\eta^2 = .019$, on the length of the interrogation. Rapport interviewers interrogated participants for a similar amount of time ($M = 8.36, SD = 3.77$) than no rapport interviewers ($M = 7.39, SD = 3.37$). Results also indicated no main effect of guilt $F(1, 163) = .16, p = .70$, partial $\eta^2 = .001$ on the length of the interrogation. Guilty ($M = 7.78, SD = 3.37$) and innocent ($M = 7.96, SD = 3.63$) participants were interrogated for a similar amount of time.

Rapport manipulation checks. Our ability to find differences in confession decisions hinged on participants experiencing different levels of rapport based on the rapport manipulation (rapport v. no rapport). The success of the rapport manipulation was determined by conducting two ANOVAs examining the total scores on the Interaction Questionnaire and the modified RS3i and two MANOVAs examining participants' responses to the individual items within each questionnaire.

Interaction questionnaire. A one-way (rapport v. no rapport) ANOVA was conducted on the Interaction Questionnaire total scores. Results indicated that participants perceived interviewers more positively in the rapport condition ($M = 133.09$, $SD = 12.84$) than in the no rapport condition ($M = 104.30$, $SD = 17.60$), $F(1, 162) = 144.28$, $p < .001$, partial $\eta^2 = .47$. In addition, a one-way MANOVA was conducted on participants' ratings of the interviewer on the individual items on the Interaction Questionnaire (e.g., bored, arrogant, satisfied, positive, etc.) and the rapport manipulation. Results revealed that participants perceived the interviewer differently based on their randomly assigned rapport condition, $F(26, 137) = 10.17$, $p < .001$, Pillai's Trace = .66, partial $\eta^2 = .66$. Univariate tests showed that across most items in the Interaction Questionnaire participants rated the interviewer more positively when they experienced rapport than when they did not experience rapport (see Table 4).

Table 4.

Rapport Manipulation Check – Interaction Questionnaire

	Rapport		No Rapport		<i>p</i>	partial η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Smooth	5.11	1.35	3.40	1.87	<.001	.22
Distracted	1.51	.10	1.78	1.40	.154	.01
Bored	1.42	.86	2.21	1.61	<.001	.08
Arrogant	1.22	.75	2.76	2.12	<.001	.19
Satisfied	4.71	1.41	2.95	1.65	<.001	.25
Awkward	1.40	.81	2.48	1.84	<.001	.13
Involved	5.75	1.21	4.55	1.68	<.001	.15
Cold	1.33	.81	3.90	2.14	<.001	.40
Friendly	6.24	1.00	2.70	1.70	<.001	.62
Active	5.55	1.13	4.18	1.71	<.001	.19
Positive	5.67	1.35	2.94	1.80	<.001	.43
Rude	1.14	.58	2.88	2.08	<.001	.24
Antagonistic	1.55	1.06	3.30	2.14	<.001	.21
Well Coordinated	5.40	1.24	4.33	1.58	<.001	.13
Boring	1.35	.65	2.54	.17	<.001	.18
Cooperative	5.36	1.17	3.40	1.66	<.001	.32
Harmonious	4.75	1.70	2.20	1.47	<.001	.40

	Rapport		No Rapport		<i>p</i>	partial η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Satisfying	3.96	1.97	2.58	1.53	<.001	.14
Focused	4.22	2.17	4.29	1.81	.600	.002
Intense	2.92	1.68	4.55	1.85	<.001	.18
Unfriendly	4.52	2.23	3.42	1.91	<.001	.06
Dull	1.65	1.13	3.18	2.00	<.001	.19
Involving	5.45	1.25	4.36	1.46	<.001	.13
Worthwhile	4.22	1.60	2.78	1.60	<.001	.17
Slow	1.67	1.07	2.20	1.31	.005	.05
Comfortably Paced	4.81	1.80	3.63	1.84	<.001	.10

Modified RS3i. A one-way ANOVA was conducted on the modified RS3i total scores and the rapport manipulation (rapport vs. no rapport). Results revealed that interviewers in the rapport condition were rated more positively ($M = 101.60$, $SD = 14.63$) than interviewers in the no rapport condition ($M = 73.54$, $SD = 18.79$), $F(1, 165) = 116.45$, $p < .001$, partial $\eta^2 = .41$. A subsequent MANOVA was conducted to examine participants' perceptions of the interviewer across all items in the modified RS3i. Results indicated that participants perceived interviewers differently based on the rapport manipulation, $F(24, 142) = 10.20$, $p < .001$, Pillai's Trace = .63, partial $\eta^2 = .63$. Univariate tests showed that across most items in the modified RS3i, interviewers in the rapport condition were rated more favorably than interviewers in the no rapport condition (see Table 6). Results from both rapport questionnaires showed that, as desired, participants

experienced higher levels of rapport in the rapport condition and lower levels of rapport in the no rapport condition.

Table 5.

Rapport Manipulation Check – Modified RS3i

	Rapport		No Rapport		<i>p</i>	partial η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
The interviewer seems like a good-natured person	4.51	.72	3.30	1.20	<.001	.28
The interviewer seems to have a compassionate attitude towards people	4.35	.74	2.77	1.20	<.001	.39
The interviewer was friendly towards me	4.56	.59	2.54	1.23	<.001	.53
The interviewer treated me with respect	4.58	.71	3.48	1.21	<.001	.24
The interviewer paid careful attention to what I had to say	4.52	.73	3.40	1.34	<.001	.21
The interviewer was attentive to my feelings	4.32	.82	2.55	1.34	<.001	.39
The interviewer thinks that I am a good person	4.00	.95	2.40	.99	<.001	.41
The interviewer values my opinion	3.94	.96	2.62	1.15	<.001	.28
The interviewer respects my intelligence	3.90	.96	2.72	1.03	<.001	.26
The interviewer was honest with me	3.80	1.31	3.17	1.48	.004	.05

The interviewer had good intentions towards me	4.06	1.02	2.85	1.26	<.001	.22
The interviewer doesn't care about what happens to me	1.99	1.00	3.05	1.19	<.001	.19
I can't trust the interviewer to tell me the truth	2.56	1.31	3.12	1.31	.007	.04
During the interview I felt like the interviewer and I understood each other well	3.81	.97	2.44	1.25	<.001	.28
I would be willing to do another interview with the interviewer	4.01	1.05	2.83	1.55	<.001	.17
The interviewer helped me to feel comfortable enough to share information during the interview	4.27	.91	2.72	1.32	<.001	.32
The interviewer and I got along well during the interview	4.29	.86	2.52	1.10	<.001	.45
Communication went smoothly between the interviewer and me	4.33	.76	2.91	1.32	<.001	.32
I connected with the interviewer in a positive way	4.07	.99	2.32	1.26	<.001	.38
I was motivated to help the interviewer	4.01	1.04	2.91	1.37	<.001	.17
I was cooperative during the interview	4.26	1.07	4.15	1.10	.504	.003

I was honest with the interview	4.73	.70	4.78	.67	.629	.001
The interviewer showed empathy towards me	3.84	1.05	2.32	1.15	<.001	.33
The interviewer seemed distant and uninterested in me	1.24	.48	2.67	1.35	<.001	.34

Primary Analyses

Interrogation outcomes. The primary goal of the present study was to isolate the effect of rapport on interrogation outcomes to determine whether rapport influences the decision to sign a confession statement. Table 6 shows the number and percentage of interrogation outcomes by the rapport conditions.

Table 6.

Number and Percentage of Interrogation Outcomes by Rapport Condition

		<i>n</i>	<i>%</i>			<i>n</i>	<i>%</i>
Rapport	True Confession	38	86	False Confession	7	17	
	False Denial	6	14	True Denial	35	83	
No Rapport	True Confession	34	87	False Confession	10	23	
	False Denial	5	13	True Denial	34	77	

A hierarchical loglinear analysis was conducted to examine the effects of rapport (no rapport = 0, rapport = 1) and guilt (innocent = 0, guilty = 1) on participants' decisions to confess (true confession = 1, true denial = 2, false confession = 3, false denial = 4). Results revealed a significant interaction between guilt and interrogation outcome, $X^2(1, N = 169) = 234.23, p < .001$, such that guilty participants (86%) were 4.3 times more likely to truthfully confess than innocent participants (20%) were to falsely confess (see Table 7). However, these results failed to show a significant effect of the rapport manipulation on participants' decisions to confess, $X^2(1, N = 169) = .69, p = .88$. Interviewer rapport did not significantly influence participant's decisions to confess to a wrongdoing.

Table 7.

Number and Percentage of Confessions by Guilt Condition

	False Confessions	True Confessions
Innocent	20% (17/86)	
Guilty		86% (72/84)

Diagnosticity. In addition to examining the effect of rapport on participants' decisions to confess, it was important to examine whether building rapport improved the diagnosticity of both confessions and denials when compared to not building rapport. Diagnosticity is the percentage of true confessions divided by the percentage of false confessions and of true denials divided by false denials. The higher the diagnosticity, the better a technique is at eliciting true confessions and true denials while minimizing false confessions and false denials. As Table 8 indicates, diagnosticity was higher (5.06) when interviewers built rapport with suspects prior to the interrogation than when interviewers did not build rapport (3.78). These results indicate that diagnosticity was reduced by 25% when interviewers did not build rapport with participants. However, based on the hierarchical loglinear analysis showing no effect of rapport on people's decisions to confess, this 25% in reduction of diagnosticity was not significant. Table 9 shows the diagnosticity for denials. Diagnosticity did not differ for denials elicited with the rapport or no rapport conditions.

Table 8.

Diagnosticity of Confessions

	True Confessions	False Confessions	Diagnosticity
Rapport	86%	17%	5.06
No Rapport	87%	23%	3.78

Table 9.

Diagnosticity of Denials

	True Denials	False Denials	Diagnosticity
Rapport	83%	14%	5.93
No Rapport	77%	13%	5.92

Interrogation outcomes by rapport experience. Even though participants were randomly assigned to experience rapport or no rapport, it is possible that some participants did not experience rapport or no rapport as intended. For this reason, a second hierarchical loglinear analysis was conducted to examine the effects of experienced rapport (low rapport = 0, high rapport = 1) and guilt (innocent = 0, guilt = 1) on participants' decisions to confess (true confession = 1, true denial = 2, false confession = 3, false denial = 4). We used participants' total scores on the Interaction Questionnaire, calculated the median (122) and excluded all participants in the rapport condition whose scores were below the median (participants who experienced low levels of rapport) and excluded all participants in the no rapport manipulation whose scores were above the median (participants who experienced high levels of rapport). The purpose of

this analysis was to determine whether rapport influenced confession decisions for participants who conformed to the rapport manipulation and experienced rapport or did not experience rapport as intended. Fifteen participants in the rapport condition and 17 participants in the no rapport condition were excluded from this analysis. Results revealed no effect of rapport on participants' decision to confess, $\chi^2(1, N = 132) = 2.84, p = .42$ (see Table 9). Similar results were found when we calculated the median (89) for the modified RS3i and conducted the hierarchical loglinear analysis only including participants who experienced rapport as intended (see Table 10).

Table 10.

Number and Percentage of Interrogation Outcomes by Experience of Rapport in the Interaction Questionnaire

		<i>n</i>	%			<i>n</i>	%
High Rapport	True Confession	31	94	False Confession	4	11	
	False Denial	2	6	True Denial	30	42	
Low Rapport	True Confession	22	85	False Confession	7	19	
	False Denial	4	15	True Denial	30	81	

Table 11.

Number and Percentage of Interrogation Outcomes by Experience of Rapport in the Modified RS3i

		<i>n</i>	%			<i>n</i>	%
High Rapport	True Confession	33	97	False Confession	5	14	
	False Denial	1	3	True Denial	31	86	
Low Rapport	True Confession	27	87	False Confession	6	17	
	False Denial	4	13	True Denial	30	83	

This last set of analyses investigated the relations between experience of rapport and confession outcomes. Two one-way ANOVAs were conducted to examine the outcome of the interrogation (true confession v. false confessions v. true denial v. false denial) in relation to participants' total scores on the rapport questionnaires (Interaction Questionnaire, modified RS3i). For these analyses we only included participants who experienced rapport and no rapport as intended.

Results revealed no significant main effect of the Interaction Questionnaire total scores on interrogation outcomes, $F(3,128) = 1.17, p = .32$, partial $\eta^2 = .027$. Similarly, there was no significant main effect of the modified RS3i total scores on interrogation outcomes, $F(3,133) = 1.93, p = .13$, partial $\eta^2 = .042$ (see Table 12).

Table 12.

Mean and Standard Deviation for Rapport Total Scores by Confession Decision

	Interaction Questionnaire			Modified RS3i		
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>
True Confession	122.51	22.17	53	91.18	21.69	60
True Denial	116.60	23.92	62	85.18	23.86	61
False Confession	113.64	20.77	11	86.73	22.53	11
False Denial	109.33	20.54	6	68.00	27.31	5

Perceived pressure to confess. A 2 (rapport v. no rapport) by 2 (guilt v. innocence) between subjects ANOVA was conducted on participants' perceived pressure to confess. Results revealed a main effect of guilt, $F(1, 160) = 4.31, p = .04$, partial $\eta^2 = .026$, such that guilty participants experienced more pressure

to confess ($M = 5.19$, $SD = 3.25$) than innocent participants ($M = 4.09$, $SD = 3.50$).

The rapport manipulation did not influence participants' perceived pressure to sign the confession statement $F(1, 160) = .52$, $p = .47$, partial $\eta^2 = .003$.

A one-way ANOVA was conducted on participants' perceived pressure to confess and their confession decisions (true confession v. true denial v. false confession v. false denial). Results indicated a significant difference in participants' perceived pressure to confess based on interrogation outcomes, $F(3, 160) = 5.76$, $p = .001$, partial $\eta^2 = .097$. Specifically, Bonferroni post hoc tests revealed that true deniers experienced less pressure to confess than true and false confessors (see Table 13).

Table 13.

Mean and Standard Deviation for Perceived Pressure to Confess by Confession Decision

	<i>M</i>	<i>SD</i>	<i>N</i>
True Confession	5.26 ^a	3.33	70
True Denial	3.45 ^{a,b}	3.37	66
False Confession	6.59 ^b	2.92	17
False Denial	4.73	2.76	11

Note: Means sharing the same superscript are significantly different at the .05 level.

Correlational analyses were conducted to examine the relations between rapport scores (on both rapport questionnaires) and participants' perceived pressure to confess. No significant correlations emerged between perceived pressure to confess and participants' experience of rapport as measured by the Interaction Questionnaire, $r(132) = -.085$, $p = .28$. Interestingly, a significant

negative correlation emerged between perceived pressure to confess and participants' experience of rapport as measured by the modified RS3i, $r(137) = -.157, p = .047$. The more rapport participants experienced, the less pressure to confess they reported.

Exploratory Analyses

Self-reported social anxiety. A one-way ANOVA was conducted to examine the relationship between social anxiety and confession decisions. Results showed a significant effect of social anxiety on confession decisions, $F(3, 153) = 4.39, p = .005$, partial $\eta^2 = .08$. Bonferroni post hoc tests revealed that true deniers were significantly less socially anxious than false and true confessors (see Table 14).

Table 14.

Mean and Standard Deviation for Social Anxiety by Interrogation Outcomes

	<i>M</i>	<i>SD</i>
True Confessions	21.40 ^a	14.32
True Denials	15.40 ^{a,b}	11.48
False Confessions	26.67 ^b	8.80
False Denials	21.00	13.08

A linear regression was conducted to examine whether participants' self-reported social anxiety (SIAS) predicted their perceived pressure to sign the confession statement. Social anxiety predicted perceived pressure to confess, $\beta = .298, t(151) = 3.83, p < .001$, and explained a significant proportion of the variance in perceived pressure to confess, $R^2 = 0.089, F(1, 150) = 14.66, p < 0.001$.

Self-reported state anxiety. A two-way (guilt v. innocent) by (rapport v. no rapport) repeated measures ANOVA was conducted on participants' self-reported state anxiety using the STAI at time 2 and time 3. Participants' baseline self-reported anxiety (STAI 1) was used as a covariate in order to account for individual differences in state anxiety at the beginning of the study. Results revealed that all participants (guilty and innocent) experience a significant increase in anxiety between STAI 2 and STAI 3, $F(1,155) = 6.55, p = .011$, partial $\eta^2 = .04$. Table 14 shows the mean and standard deviation for guilty and innocent participants' self-reported anxiety for STAI 2 and STAI 3. There was no significant effect of rapport on participant's self-reported state anxiety $F(1, 155) = .57, p = .45$, partial $\eta^2 = .004$.

A one-way ANOVA was conducted on participants' guilt to determine whether guilty participants reported experiencing higher anxiety than innocent participants in the STAI 3. Results revealed that guilty participants ($M = 27.53$, $SD = 15.04$) reported more anxiety than innocent participants ($M = 22.86$, $SD = 15.24$), $F(1, 158) = 7.62, p = .006$, partial $\eta^2 = .046$ in the STAI 3.

Table 15.

Mean and Standard Deviation for STAI 2 and STAI 3 by Guilt Condition

	Guilty		Innocent	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
STAI 2	10.35	9.25	10.94	8.35
STAI 3	27.53	15.04	22.86	15.24

Lastly, a correlational analysis examined the relationship between anxiety at time 3 and participants' perceived pressure to confess. Results indicated a significant positive relationship between self-reported anxiety at time 3 (STAI 3) and participants perceived pressure to confess, $r(164) = .44, p < .001$.

Participant suggestibility. A one-way ANOVA was conducted to determine whether participants' levels of suggestibility influenced their decision to confess. Unlike previous studies, we found no relationship between participants' suggestibility and participants' decisions to confess, $F(3, 155) = .75, p > .05$. There was also no relationship between participants' suggestibility and participants' perceived pressure to sign the confession statement.

IV. DISCUSSION

The purpose of the present study was to broaden our understanding of the role rapport plays in police interrogations by examining whether building rapport could influence individuals' decisions to confess to a wrongdoing. Three predictions were made based on previous research on rapport and suspect interrogations: (1) Experiencing rapport will lead to more positive ratings of the interviewer than not experiencing rapport, (2) Building rapport with suspects will increase the likelihood of obtaining true confessions and decrease the likelihood of obtaining false confessions and thus improve diagnosticity of confession evidence, and (3) The use of rapport will decrease participants' perceived pressure to sign the confession statement compared to the use of no rapport.

The present study did not provide support for the hypothesis that rapport will increase true and decrease false confessions and improve the diagnosticity of confession evidence. While we found that guilty participants were more likely to confess than innocent participants, the rapport manipulation was not successful at influencing the interrogation outcomes. Participants who experienced rapport were as likely to confess or deny having shared answers on the individual problems as participants who did not experience rapport.

As predicted and consistent with previous research on rapport in investigative interviews, the present study found the rapport manipulation successfully influenced participants' experience of rapport, such that participants in the rapport condition perceived the interviewer more positively than participants in the no rapport condition. Additionally, results indicated a significant effect of guilt on participants' perceived pressure to confess – guilty participants perceived more pressure to confess than innocent

participants. True deniers perceived the least amount of pressure to confess compared to true and false confessors. However, and contrary to the hypothesis, rapport did not influence participants' perceived pressure to confess.

Although rapport is recommended by both interrogation and investigative interviewing guidelines (e.g., The Army Field Manual, The Reid Technique, The Cognitive Interview) and investigators claim to build rapport with both witnesses and suspects in intelligence and criminal settings (Kassin et al., 2007; Redlich, Kelly, & Miller, 2014; Semel, 2013; Vallano et al., 2014), no previous research has examined whether rapport building is sufficiently strong, when used in isolation from other interrogation techniques, to influence the outcome of interrogations. The studies that have examined rapport in interrogations have done so by comparing the effectiveness of different interrogation approaches (e.g., informational-gathering v. accusatorial). These studies have examined how clusters of techniques influence investigative outcomes (Bull & Soukara, 2010; Meissner et al., 2012; Narchet, Meissner, & Russano; 2011; Walsh & Bull, 2012). For example, a recent meta analysis found that the information-gathering approach, generally characterized by a non-confrontational interviewer who builds rapport, asks open-ended questions, and engages in active listening elicits more true confessions and fewer false confessions than the accusatorial approach, which is characterized by a confrontational interviewer who makes accusations of guilt and uses psychologically manipulative techniques such as minimization and maximization (Meissner et al., 2012). While these studies shed light on what interrogation approaches work best, they do not permit researchers to investigate how individual techniques influence investigative outcomes. Dissecting interrogation approaches in search for the

techniques that work best can lead to the development of more effective and streamlined interrogation guidelines that increase the likelihood of obtaining true over false confessions. Isolating the effect of rapport in interrogations was of particular importance since this technique has been advocated as crucial for the success of interrogations (Kelly et al., 2013). Because rapport is argued to be such an important technique, it was important to examine the possibility that rapport may be sufficiently strong to influence confession decisions without reliance on additional interrogation techniques.

Even though interrogation researchers have not isolated the effect of rapport in police investigations, eyewitness memory researchers have examined how rapport affects memory for both adult and child witnesses. Studies that examined the effect of rapport on children have consistently found that building rapport increases the amount of accurate information children provide and decreases their suggestibility to misinformation (Goodman & Bottoms, 1993; Powell & Lancaster, 2003; Wood et al., 1996). On the contrary, research on adult witness accuracy has painted a less clear picture of how rapport affects recall accuracy. Earlier studies showed that rapport improved accuracy (Collins, et al., 2002) and decreased susceptibility to misinformation (Vallano & Schreiber Compo, 2011). However, recent studies have failed to replicate these findings and instead have found that rapport may sometimes have a detrimental effect on recall accuracy by increasing the number of incorrect details reported (Kieckhaefer et al., 2013) or may exert no effect on recall accuracy and witness suggestibility (Kieckhaefer, 2014; Villalba et al., 2013).

Although past research has suggested that rapport is a critical component of interrogations, the present study failed to find an effect of rapport on participants'

confession decisions and on the diagnosticity of confessions and denials. While these results may seem to contradict the argument that rapport is vital to the success of interrogations, the lack of significant effects are not completely surprising. This is because (1) results are consistent with recent work showing that rapport does not improve recall accuracy in investigative interviews (Kieckhaefer, 2014; Kieckhaefer et al., 2013; Villalba et al., 2013), and (2) rapport may not be strong enough to be effective when used in isolation during interrogations (Abbe & Brandon, 2013; Kelly et al., 2013)

Researchers who have argued about the important role rapport plays in interrogations have described rapport as the technique that makes all other techniques (e.g., minimization, maximization, etc.) more effective and thus more likely to influence people's willingness to cooperate (Kelly et al., 2013). Researchers have not described rapport as a technique that could be used on its own to influence interrogation outcomes. Instead, rapport has been described as a "necessary but insufficient" technique in investigations that may not be as effective if used on its own (Abbe & Brandon, 2013 p.8). This argument is supported by the results of the present study that failed to find that rapport influenced people's decisions to confess to a wrongdoing, and recent research on rapport and recall accuracy showing that rapport does not improve recall accuracy (Kieckhaefer, 2014; Kieckhaefer et al., 2013; Villalba et al., 2013). Therefore, the power of rapport may be best observed when rapport is used in combination with other techniques and not as a lone technique. Thus, rapport may exert an indirect effect on people's behavior by (a) increasing the impact of other interrogation techniques (i.e., minimization), (b) increasing people's motivation to help the interviewer, and (c) increasing people's willingness to talk to the interviewer – the more people talk, the more

likely they are to provide incriminating information. Findings demonstrating that the information-gathering approach is superior to the accusatorial approach may be interpreted as providing indirect evidence of the beneficial effect of rapport when it is used in combination with other techniques (Evans et al., 2013).

Another explanation that can account for the lack of significant differences in confession decisions as a result of the rapport manipulation is that rapport building sessions may need to be longer and participants may need to experience stronger rapport in order for rapport to influence interrogation outcomes. In the present study, the rapport building session lasted an average of nine minutes. Perhaps this is not enough time to develop a relationship that is sufficiently strong, realistic, and positive to influence individuals' willingness to confess to an act of wrongdoing. Currently, there is no evidence in the adult literature that speaks to whether there is an optimal length of time for rapport sessions. The only existing evidence comes from research on suspected victims of child sexual abuse. For example, one study showed that rapport building sessions lasting longer than eight minutes were related to children reporting fewer details in the substantive portion of the interview than children who experienced rapport building sessions lasting less than eight minutes (Davies, Westcott, & Horan, 2000). However, the underlying mechanisms that may be driving this effect are poorly understood. It is possible that interviewers spent more time building rapport with children who appeared reluctant. Thus, the length of the rapport session may reflect the interviewer's attempt to establish rapport with uncooperative children and not a negative effect of rapport on children's reports. Even though research with child witnesses suggests that longer rapport sessions may be detrimental, it is possible that adults respond differently to

rapport building attempts. Unlike children, adults may need longer rapport sessions in order to better gauge whether the interviewer is genuine and sincere. In other words, adults may be less persuaded to feel rapport with a stranger on the basis of a brief but pleasant interaction. For example, when questioning individuals in intelligence gathering settings, interviewers often question individuals over long periods of time. This process allows interviewers to slowly gain the person's trust and cooperation (Kleinman, 2011). Longer rapport sessions may increase the likelihood of individuals experiencing rapport with the interviewer. The individual may have more information available to make judgments regarding the trustworthiness of the interviewer. Future research should examine the effect rapport has on investigative outcomes when rapport is established over multiple sessions lasting longer than 10 minutes.

Another possible reason rapport did not influence people's decisions to confess may be due to participants being highly motivated to deny if innocent and confess if guilty, regardless of the rapport condition they experienced. Building rapport may not have increased participants' motivation to truthfully confess or deny because they were already highly motivated to do so. On the one hand, building rapport may work best in persuading those who are motivated to deny and not cooperate and be less beneficial for those who are ready and willing to confess. On the other hand, creating animosity with someone who is motivated to confess and cooperate may decrease the person's willingness to do so. Arguably, creating an antagonistic relationship would make participants dislike the interviewer and thus feel less motivated to help the interviewer and thus increasing the number of false denials. Therefore, rapport may work by shifting people's motivation – rapport may shift a false denier towards a confession while an

antagonistic relationship (negative rapport) may shift true confessors towards false denials.

Rapport Manipulation

The present study was successful at building rapport with participants. Participants who experienced rapport building rated the interviewer more positively on a host of different characteristics than participants who did not experience rapport. This finding is consistent with previous research (Kieckhafer et al., 2013; Vallano & Schreiber Compo; Villalba et al., 2013) showing that (a) rapport can be established in a laboratory setting, and that (b) the Interaction Questionnaire is successful at detecting differences between participants who experience rapport and those who do not experience rapport. The present study also showed that the modified version of the RS3i (Duke, 2013) successfully detects differences between rapport conditions.

The interaction between participants and interviewers was strategically divided into two sessions (rapport and interrogation) so that rapport was established before participants were accused of cheating. Building rapport before discussing the event in question is a procedure advocated by both interviewing and interrogation guidelines (Inbau et al., 2013; Fisher & Geiselman, 1992; Lamb et al., 2007). Regarding interrogations, it makes practical sense to establish rapport before the person becomes aware that s/he is a person of interest. Presumably, it would be more challenging for interviewers to build rapport with someone while simultaneously accusing the person of a transgression. It is also likely that attempts to build rapport would be less effective if the interviewee was concerned about being a suspect. Future research should examine

whether it is possible to establish rapport *after* an individual has been accused of a wrongdoing.

Importantly, building rapport with participants prior to the interrogation allowed us to interrogate participants in a manner that was consistent with the rapport manipulation. That is, the interviewer used nonverbal behaviors that matched the rapport manipulation while conveying the same information during the interrogation. For example, in the rapport interrogation, the interviewer continued to use active listening, allowed participants to speak, and expressed empathy towards the participants' situation.

The goal was to create a rapport manipulation that was strong enough to survive the interrogation. The present study was successful at finding significant differences between the rapport groups even after participants were accused of cheating and threatened with academic misconduct. While the current study was not specifically designed to test interviewers' ability to maintain rapport during an interrogation (we did not ask participants to rate the interviewer once after the rapport manipulation and again after the interrogation), the success of the rapport manipulation suggests that rapport survived a negative interaction between the participant and the interviewer. That is, rapport did not disappear the moment participants were accused of cheating. In addition, it is possible that the way interviewers treated participants during the interrogation helped strengthen participants' positive feelings towards the interviewer. These findings are important because they provide support for the idea that rapport can be successfully established and maintained in an accusatorial interrogation setting.

Perceived Pressure to Confess

The present study found that guilty participants perceived more pressure to confess than innocent participants and that true and false confessors perceived more pressure to confess than true deniers. These results are consistent with previous research showing that people who confess tend to perceive more pressure than people who do not confess (Perillo & Kassin, 2011; Russano et al., 2005). This finding may be the result of participants describing how much pressure they felt to confess after they had been debriefed. Participants who confessed may have felt the need to justify their decision to sign and thus described feeling a lot of pressure to do so. Alternatively, it is possible that guilty participants experienced more pressure to sign because they knew they had done something wrong. The present study failed to find a significant effect of rapport on perceived pressure to confess. These results are not surprising in light of the finding that rapport did not influence people's decisions to confess and the fact that neither rapport condition was meant to be coercive.

Limitations

The present study, like many experimental studies, relied on college students as participants. College students are not a representative sample of the population of individuals who are often questioned by the police. The characteristics of the individuals who come in contact with the criminal justice system may play a role in people's receptiveness to building and experiencing rapport. For example, people's negative attitudes towards police may dictate whether they are receptive to interviewers' attempts to build rapport. If people are generally distrustful of the police, then it may be more

challenging for police to establish rapport than it was for college student research assistants to do so with college student participants in the current study. Another potential issue is that people who encounter the police may be familiar with the process of police interrogations and may be aware that building rapport is a technique commonly used to manipulate suspects. Thus, they may be less inclined to allow themselves to experience rapport with the investigator. A recent study showed that police investigators report rapport is less useful when dealing with seasoned criminals who know the inner workings of the police investigations (Vallano et al., 2014).

Using the cheating paradigm to mimic real world interrogation has its limitations. The main problem is that while cheating violates the academic code of conduct, it is not a criminal act. Therefore, the consequences of being accused of cheating are less severe than the consequences of being accused of committing a crime. In addition, establishing rapport with a person in a school environment may be different from establishing rapport in a police station. It may be more challenging for police investigators to establish rapport than for college students to establish rapport with other college students in the safety of a university building.

The unique aspect of the current study is that it measured the effect of rapport in isolation — without the presence of any other interrogation techniques. This is both a strength and a weakness. Methodologically speaking, isolating rapport is a strength because it allowed for direct examination of whether rapport has the ability to influence confession decisions. The main problem with isolating rapport is that in the real world police investigators do not interrogate suspects using a single technique. Instead, police

investigators use clusters of techniques to interrogate suspects (Kassin et al., 2007; Kelly et al., 2013; Leo, 1996).

In terms of the rapport building manipulation, guidelines are yet to be developed regarding the techniques that are most effective for establishing rapport. Therefore, like previous research, the present study built rapport by gathering techniques that have been used in the past to build rapport by researchers (Kieckhaefer et al., 2013; Vallano & Schreiber Compo, 2011; Villalba et al., 2013) or are claimed to be used by police investigators when building rapport with witnesses and suspects (Vallano et al., 2014). This lack of empirical evidence regarding what techniques should and should not be used when building rapport is problematic because it prevents generalization across studies. This lack of a systematic approach to building rapport may negatively impact researchers' ability to establish rapport successfully with participants. It is possible that rapport is more beneficial than recent studies suggest and the inability to observe any effects may be due, in part, to how rapport building is operationalized. Perhaps the particular techniques that are currently used and recommended by researchers and used by police investigators as "good" rapport building techniques are not successful at helping investigators establish rapport.

Future Direction

Future research should investigate whether rapport can be successfully established when the interviewee has negative perceptions of the interviewer or interviewers as a whole and whether rapport can increase people's motivation to be cooperative. There is some evidence regarding the latter point. Research has shown that taking an information gathering approach to interviewing is more likely to increase cooperation (Evans et al.,

2013). However, no research has examined whether creating animosity between suspects and investigators decreases the number of true confessions and increases the number of false denials. In other words, building negative rapport may decrease people's natural motivation to be honest and cooperative. However, other studies have found that building negative rapport did not affect the amount and accuracy of information provided by cooperative witnesses (Collins et al., 2002; Villalba et al., 2013).

A second logical next step is to combine rapport with other interrogation techniques in experimental investigations. Police investigators have reported using rapport building in combination with other techniques such as being sympathetic towards the suspect, providing face saving excuses, and providing moral justifications for the offense (Kassin et al., 2007). Therefore, it is important to extend this research by examining the effects of rapport on confession evidence when it is used in conjunction with other interrogation techniques. For several reasons outlined next, it is important to investigate how rapport building would interact with minimization and their combined effects on the diagnosticity of confession evidence.

Rapport building and minimization are of particular interest because these two techniques are, at face value, relatively similar to each other. Both rapport building and minimization take a friendly approach to the interaction with the suspect and are non-confrontational. Both might be classified as the "good cop" in a good cop/bad cop scenario. However, while minimization is a non-confrontational technique, it is still relatively manipulative as it is designed to make suspects believe it is in their best interest to confess. In contrast, rapport building encourages communication between people and is established as a method to obtain more accurate and complete crime-related

information (Vallano et al., 2014). Because rapport building and minimization are friendly-type techniques, they are easily implemented together. Using rapport building with other non-coercive techniques may make this transition between different interrogation techniques a smooth and almost seamless one (Kelly et al., 2013).

Because minimization has been shown to be a manipulative technique that tends to increase false confessions, it is possible that rapport building would increase false confessions when used in conjunction with minimization. In other words, rapport building may exacerbate the effects of minimization on the diagnosticity of confession evidence by increasing compliance and thus leading to more false confessions than when minimization is used in isolation. By building rapport at the beginning of the interrogation, the suspect is likely to develop a positive view of the interviewer, as is evident in previous interviewing studies (Vallano & Schreiber Compo, 2011; Villalba et al., 2013). If the interviewer explains the situation, accuses the person of cheating, and provides face saving excuses and moral justifications for the behavior, the suspect may perceive this minimization as a sign that the interviewer has his/her best interests in mind. Thus, when investigators ask suspects for a confession, suspects may be more likely to comply. Rapport building may make minimization seem more genuine and sincere. With these perceptions in mind, suspects may be more inclined to trust the interviewer's suggestions that it is in their best interest to sign the confession.

Conclusion

To summarize, the present study tested whether building rapport with participants in the context of an interrogation would increase the likelihood of obtaining true over false confessions. The results did not support this proposition – confession decisions did

not differ by the rapport condition participants experienced. This lack of significant findings may be due to rapport being a technique that works best when it is used in combination with other interrogation techniques and not in isolation. It is also possible that rapport works best in situations where people are highly motivated to deny their involvement. However, these findings are consistent with research on the effect of rapport and eyewitness memory – that rapport does not significantly improve witness recall accuracy (Kieckhafer et al., 2013; Kiekhaefer, 2014; Villalba et al., 2013). Further research is needed in order to better understand the underlying mechanisms that are at play when people experience rapport. Specifically, future research should examine more closely the techniques that work best at establishing rapport, the length of the rapport building sessions, how participants' unique motivations and perceptions of the interviewer affect the interviewer's ability to successfully establish rapport, and whether rapport is effective when combined with other interrogation techniques.

REFERENCES

- Abbe, A. & Brandon, S. E. (2013). The role of rapport in investigative interviewing: A review. *Journal of Investigative Psychology and Offender Profiling*, 10, 237–249. doi: 10.1002/jip.1386
- Aldridge, M., & Wood, J. (1998). *Interviewing Children: A Guide for Child Care and Forensic Practitioners*. New York, USA: John Wiley & Sons Ltd.
- Bedi, R. P., Davis, M. D., & Williams, M. (2005). Critical incidents in the formation of the therapeutic alliance from the client's perspective. *Psychotherapy: Theory, Research, Practice, Training*, 42, 311–323. doi: 10.1037/0033-3204.42.3.311
- Bernieri, F. J. (1988). Coordinated movement and rapport in teacher student interactions. *Journal of Nonverbal Behavior*, 12, 120–138.
- Bond, C. F., & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review*, 10(3), 214–234. doi: 10.1207/s15327957pspr1003_2
- Bull, R., & Soukara, S. (2010). Four studies of what really happens in police interviews. (pp. 81–95) In D. G. Lassiter & C. A. Meissner (Eds.) *Police interrogations and false confessions: Current research, practice, and policy recommendations*. Washington, DC: American Psychological Association
- Clare, I., & Gudjonsson, G. H. (1995). The vulnerability of suspects with intellectual disabilities during police interviews: A review and experimental study of decision-making. *Mental Handicap Research*, 8, 110–128.
- Collins, R., Lincoln, R., & Frank, M. G. (2002). The effect of rapport in forensic interviewing. *Psychiatry, Psychology, and Law*, 9, 69–78. doi: 10.1375/132187102760196916
- Collins, N. L., & Miller, L. C. (1994). Self-disclosure and liking: A meta analytic review. *Psychological Bulletin*, 116(3), 457–475.
- Costanzo, M. (2004). *Psychology applied to law*. Belmont, CA: Thomson. Wadsworth Learning.
- Cornah, C. E., & Memon, A. (1996). *Improving children's testimony: The effects of social support*. Presented at the biennial meeting of the American Psychology-Law Society, Hilton Head, TX.

- Davies, G. M., Westcott, H. L., & Horan, N. (2000). The impact of questioning style on the content of investigative interviews with suspected child sexual abuse victims. *Psychology, Crime & Law*, 6, 81–97.
- Department of the Army. (2006). Human intelligence collector operations (Field Manual 2–22.3). Washington, DC: Headquarters, Department of the Army
- Drizin, S. A., & Leo, R. (2004). The problem of false confessions in the post-DNA world. *North Carolina Law Review*, 82, 891–1008.
- Dror, I. E., & Charlton, D. (2006). Why experts make errors. *Journal of Forensic Identification*, 56, 600–616.
- Dror, I. E., & Cole, S. A. (2010). The vision in “blind” justice: Expert perception, judgment, and visual cognition in forensic pattern recognition. *Psychonomic Bulletin & Review*, 17(2), 161–167. doi: 10.3758/PBR.17.2.161
- Duke, M. C. (2013). The development of rapport scales for investigative interviews and interrogations (Unpublished doctoral dissertation). *ETD Collection for University of Texas, El Paso*. Paper AAI3565906. Retrieved from <http://digitalcommons.utep.edu/dissertations/AAI3565906>
- Elaad, E., Ginton, A., & Ben-Shakhar, G. (1994). The effects of prior expectations and outcome knowledge on polygraph examiners' decisions. *Journal of Behavioral Decision Making*, 7, 279–292.
- Elvins, R., & Green, J. (2008). The conceptualization and measurement of therapeutic alliance: An empirical review. *Clinical Psychology Review*, 28, 1167–1187. doi: 10.1016/j.cpr.2008.04.002
- Evans, J.R., Meissner, C.A., Ross, A.B., Houston, K.A., Russano, M.B., & Horgan, A.J. (2013). Obtaining guilty knowledge in human intelligence interrogations: Comparing accusatorial and information-gathering approaches with a novel experimental paradigm. *Journal of Applied Research in Memory and Cognition*, 2, 83–88. doi: 10.1016/j.jarmac.2013.03.002
- Everington, C., & Fulero, S. (1999). Competence to confess: Measuring understanding and suggestibility of defendants with mental retardation. *Mental Retardation*, 37, 212–220.
- Fisher, R. P., & Geiselman, R. E. (1992). *Memory-enhancing techniques for investigative interviewing: The cognitive interview*. Springfield, IL: Charles C. Thomas.

- Fisher, R. P., Geiselman, R. E., & Raymond, D. S. (1987). Critical analysis of police interviewing techniques. *Journal of Police Science and Administration*, 15, 177–185.
- Goodman, G.S., & Bottoms, B.L. (1993). *Child Victims, Child Witnesses: Understanding and Improving Testimony*. New York, NY: Guilford Press
- Goldstein, N., Condie, L., Kalbeitzner, R., Osman, D., & Geier, J. (2003). Juvenile offenders' Miranda rights comprehension and self-reported likelihood of false confessions. *Assessment*, 10, 359–369.
- Grisso, T., Steinberg, L., Woolard, J., Cauffman, E., Scott, E., Graham, S., ... Schwartz, R. (2003). Juveniles' competence to stand trial: A comparison of adolescents' and adults' capacities as trial defendants. *Law and Human Behavior*, 27(4), 333–363.
- Gudjonsson, H. G. (2010). The psychology of false confessions: A review of the current evidence (pp. 31–47). In G. D. Lassiter & C. A. Meissner (Eds.) *Police interrogations and false confessions: Current research, practice and policy recommendations*. Washington, DC: American Psychological Association
- Gudjonsson, G. H., & Sigurdsson, J. F. (1994). How frequently do false confessions occur? An empirical study among prison inmates. *Psychology, Crime & Law*, 1(1), 21–26.
- 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., & Sigfusdottir, I. D. (2009). Interrogation and false confessions in seven European countries. What background and psychological variables best discriminate between false confessors and non-false confessors? *Psychology, Crime, & Law*, 15, 711–728. doi:10.1080/10683160802516257
- Guyll, M., Madon, S., Yang, Y., Scherr, K. C., Lannin, D., & Greathouse, S. (2013). Physiological reactions to interrogation stress: Differences between the guilty and the innocent. *Law and Human Behavior*, 37, 366–375.
- Hasel, L. E., & Kassin, S. M. (2009). On the presumption of evidentiary independence: Can confessions corrupt eyewitness identifications? *Psychological Science*, 20(1), 122–126. doi: 10.1111/j.1467-9280.2008.02262.x
- Hershkowitz, I. (2011). Rapport Building in Investigative Interviews of Children. In M.E. Lamb, D. La Rooy, L.C. Malloy, & C. Katz, *Children's testimony: A handbook of psychological research and forensic practice*. Wiley.

- Horgan, A. J., Russano, M. B., Meissner, C. A., & Evans, J. R. (2012). Minimization and maximization techniques: Assessing the perceived consequences of confessing and confession diagnosticity. *Psychology, Crime & Law*, 18, 65–78. doi:10.1080/1068316X.2011.561801
- Hynan, D. J. (1999). Interviewing: Forensic psychological interviews with children. *Forensic Examiner*, 8, 25–28.
- Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2013). *Criminal interrogation and confessions* (5th Ed.). Burlington, MA: Jones & Bartlett.
- Innocence Project. (n.d.). False confessions. Retrieved from <http://www.innocenceproject.org/understand/False-Confessions.php>
- Kassin, S. M. (1997). False memories turned against the self. *Psychological Inquiry: An International Journal for the Advancement of Psychological Theory*, 8(4), 300–302. doi: 10.1207/s15327965pli0804_4
- Kassin, S. M. (2012). Why confessions trump evidence. *American Psychologist*, 67(6), 431–445. doi: 10.1037/a0028212
- Kassin, S. M., Bogart, D., & Kerner, J. (2011). Confessions that corrupt: Evidence from the DNA exoneration case files. *Psychological Science*, 23(1), 41–45. doi: 10.1177/0956797611422918
- Kassin, S. M., Drizin, S. A., Grisso, T., Gudjonsson, G. H., Leo, R. A., & Redlich, A. D. (2010). Police-induced confessions: Risk factors and recommendations. *Law and Human Behavior*, 34(1), 3–38, doi: 10.1007/s10979-009-9188-6
- Kassin, S. M., & Fong, C. T. (1999). “I’m innocent!”: Effects of training on judgments of truth and deception in the interrogation room. *Law and Human Behavior*, 23, 499–516.
- 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), 35–69.
- Kassin, S. M., & Kiechel, K. L. (1996). The social psychology of false confessions: Compliance, internalization, and confabulation. *Psychological Science*, 7, 125–128.
- Kassin, S. M., Leo, R. A., Meissner, C. A., Richman, K. D., Colwell, L. H., Leach, A., & La Fon, D. (2007). Police interviewing and interrogation: A self-report survey of police practices and beliefs. *Law & Human Behavior*, 31, 381–400. doi:10.1007/s10979-006-9073-5

- Kassin, S. M., Meissner, C. A., & Norwick, R. J. (2005). "I'd know a false confession if I saw one": A comparative study of college students and police investigators. *Law and Human Behavior*, 29(2), 211–227. doi: 10.1007/s10979-005-2416-9
- Kassin, S. M., & McNall, K. (1991). Police interrogations and confessions: Communicating promises and threats by pragmatic implication. *Law and Human Behavior*, 15, 233–251.
- Kassin, S. M., & Neumann, K. (1997). On the power of confession evidence: An experimental test of the fundamental difference hypothesis. *Law and Human Behavior*, 21(5), 469–484.
- Kelly, C. E., Miller, J. C., Redlich, A. D., & Kleinman, S. M. (2013). A taxonomy of interrogation methods. *Psychology, Public Policy, and Law*, 19, 165–178. doi:10.1037/a0030310
- Kieckhaefer, J. M., Vallano, J. P., Compo, N. S. (2013). Examining the effects of rapport building: When and why does rapport benefit adult witnesses. *Memory*. doi: 10.1080/09658211.2013.864313
- Kieckhaefer, J. M. (2014). Understanding rapport-building in investigative interviews: Does rapport's effect on witness memory and suggestibility depend on the interviewer? (Unpublished doctoral dissertation). Florida International University Electronic Theses and Dissertations. Retrieved from <http://digitalcommons.fiu.edu/etd/1250>
- Kleinman, S. (2011). National security interrogations: Myth versus reality.
- Lamb, M. E., Orbach, Y., Warren, A. R., Esplin, P. W., & Hershkowitz, I. (2007). Enhancing performance: Factors affecting the informativeness of young witnesses. In M. P. Toglia, J. D. Read, D. F. Ross, & R. C. L. Lindsay (Eds.), *Handbook of eyewitness psychology. Vol. 1: Memory for events* (pp. 429–451). Mahwah, NJ: Erlbaum.
- Leo, R. A. (1996). Inside the interrogation room. *Journal of Criminal Law and Criminology*, 86, 266–303.
- Leo, R. A. (2004). The third degree and the origins of psychological police interrogation in the United States. In G. D. Lassiter (Ed.), *Interrogations, confessions, and entrapment* (pp. 37–84). New York: Kluwer Academic.
- Leo, R. A. (2008). *Police interrogation and American justice*. Cambridge, MA: Harvard University Press.

- Leo, R. A., Liu, B. (2009). What do potential jurors know about police interrogation techniques and false confessions? *Behavioral Sciences and the Law*, 27, 381–399. doi: 10.1002/bsl.872
- Malloy, L. C., Shulman, E. P., & Cauffman, E. (2013). Interrogations, confessions, and guilty pleas among serious adolescent offenders. *Law and Human Behavior*, 38(2), 181–193. doi: 10.1037/lhb0000065
- Mattick, R. P., Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy*, 36(4), 455–470.
- McBride, K. L. (1996). Child sexual abuse investigations: A joint investigative approach combining the expertise of mental health and law enforcement professionals. Dissertation Abstracts International: Section B: The Sciences and Engineering, 56, 51–52.
- McCormick, C. T. (1972). *Handbook of the law of evidence* (2nd Ed.). St. Paul, MN: West.
- Meissner, C. A., Redlich, A. D., Bhatt, S., & Brandon, S. E. (2012). Interview and interrogation methods and their effects on true and false confessions. *Campbell Systematic Reviews*, 13. Retrieved from <http://www.campbellcollaboration.org/lib/download/2249>. doi:10.4073/csr.2012.13
- Meissner, C. A., Russano, M. B., & Narchet, F. M. (2010). The importance of a laboratory science for improving the diagnostic value of confession evidence (pp. 111–126). In G. D. Lassiter & C. A. Meissner (Eds.) *Police interrogations and false confessions: Current research, practice and policy recommendations*. Washington, DC: American Psychological Association
- Morgan, M. K., & Friedemann, V.M. (1988). Abuse and religion: When praying isn't enough. (pp. 145–155). In A. L. Horton, & J. A. Williamson (Eds.), *Interviewing Children about Sensitive Topics*. Lexington, MA: Lexington Books. D.C. Heath and Co.
- Moston, S., Stephenson, G. M., & Williamson, T. M. (1992). The effects of case characteristics on suspect behavior during police questioning. *British Journal of Criminology*, 32(1), 23–40
- Narchet, F. M., Meissner, C. A., & Russano, M. B. (2011). Modeling the influence of investigator bias on the elicitation of true and false confessions. *Law and Human Behavior*, 35, 452–65. doi: 10.1007/s10979-010-9257-x

- Newberry, J. J., & Stubbs, C. A. (1990). *Advanced interviewing techniques*. Bureau of Alcohol, Tobacco, and Firearms National Academy: Glynco, Georgia.
- 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 Society*, 16, 189–251.
- Orbach, Y., Shiloach, H., & Lamb, M. E. (2007). Reluctant disclosers of child sexual abuse. (pp. 115–134). In M. E. Pipe, M. E. Lamb, Y. Orbach, & A. C. Cederborg (Eds.), *Child sexual abuse: Disclosure, delay and denial*. Mahwah, NJ: Erlbaum.
- Perillo, J. T., & Kassin, S. M. (2011). Inside interrogation: The lie, the bluff, and false confessions. *Law and Human Behavior*, 35, 327–337. doi: 10.1007/s10979-010-9244-2
- Powell, M. B., & Lancaster, S. (2003). Guidelines for interviewing children during child custody evaluations. *Australian Psychologist*, 38, 46–54.
- Powell, M. B., & Thomson, D. M. (1994). Children's eyewitness-memory research: Implications for practice. *Families in Society*, 75, 204–216.
- Quas, J. A., & Lench, H. C. (2007). Arousal at encoding, arousal at retrieval, interviewer support, and children's memory for a mild stressor. *Applied Cognitive Psychology*, 21, 289–305.
- Redlich, A. D. (2007). Military versus police interrogations: Similarities and differences. *Peace and Conflict: Journal of Peace Psychology*, 13(4), 423–428. doi:<http://dx.doi.org/10.1080/10781910701665741>
- Redlich, A. D., & Goodman, G. S. (2003). Taking responsibility for an act not committed: The influence of age and suggestibility. *Law and Human Behavior*, 27, 141–156. doi: 10.1023/A:1022543012851
- Redlich, A. D., Kelly, C. E., & Miller, J. C. (in press). The who, what, and why of human intelligence gathering: Self-reported measures of interrogation methods. *Applied Cognitive Psychology*.
- Ruddock, A. C. (2006). The relationship of interviewer rapport behaviors to the amount and type of disclosure from children during child abuse investigations. Dissertation Abstracts International: Section B: The Sciences and Engineering, 67(4-B), 2241.
- 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.

- Semel, M. D. (2013). Military interrogations: Best practices and beliefs. *Perspectives on Terrorism*, 7, 39–62.
- 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, 321–329. doi:10.1016/0191-8869(95)00184-0
- Sigurdsson, J. F., Gudjonsson, G. H., Einarsson, E., & Gudjonsson, G. (2006). Differences in personality and mental state between suspects and witnesses immediately after being interviewed by the police. *Psychology, Crime and Law*, 12, 619–628.
- Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). Manual for the State trait anxiety inventory (Form Y). Palo Alto, CA: Consulting Psychologists Press.
- Softley, P. (1980). *Police interrogation: An observational study in four police stations* (Research Study No. 61). London, UK: United Kingdom Home Office.
- Steingrimsdottir, G., Hreinsdottir, H., Gudjonsson, G. H., Sigurdsson, J. F., & Nielsen, T. (2007). False confessions and the relationship with offending behaviour and personality among offending Danish adolescents. *Legal & Criminological Psychology*, 12, 287–296.
- Technical Working Group on Eyewitness Evidence. (1999). *Eyewitness Evidence: A Guide for Law Enforcement*. Washington, DC: U.S. Dept. of Justice, Off. Justice Programs.
- Thomas, G. C., III, & Leo, R. A. (2012). *Confessions of guilt: From torture to Miranda and beyond*. New York, NY: Oxford University Press. doi:10.1093/acprof:oso/9780195338935.001.0001
- Vallano, J. P., & Compo, N. S. (2011). A comfortable witness is a good witness: Rapport-building and susceptibility to misinformation in an investigative mock-crime interview. *Applied Cognitive Psychology*, 25, 960–970. doi: 10.1002/acp.1789
- Vallano, J. P., & Compo, N. S. (in press) Rapport-building with cooperative witnesses and criminal suspects: A theoretical and empirical review. *Psychology, Public Policy, and Law*.

- Vallano, J. P., Evans, J. R., Compo, N. S., & Kieckhafer, J. M. Rapport-building during witness and suspect interviews: A survey of law enforcement. Manuscript submitted for publication.
- Villalba, D. K., Vallano, J. P., Compo, N. S., & Kieckhafer, J. M. (2013, March). *I'm anxious about the interview" Does rapport-building decrease pre-interview anxiety and enhance the quality of eyewitness reports?* Paper presented at the annual conference for the American Psychology-Law Society, Portland, OR. Abstract retrieved from http://citation.allacademic.com/meta/p632769_index.html
- Vrij, A. (2008). *Detecting lies and deceit: Pitfalls and opportunities* (2nd Ed.) John Wiley & Sons Ltd, New York, NY.
- Walsh, D. & Bull, R. (2012). Examining rapport in investigative interviews with suspects: Does its building and maintenance work? *Journal of Police Criminal Psychology*, 27, 73–84. doi: 10.1007/s11896-011-9087-x
- Walsh, D. W., & Milne, R. (2008). Keeping the PEACE? A study of investigative interviewing practices in the public sector. *Legal and Criminological Psychology*, 13(1), 39–57. doi: 10.1348/135532506X157179
- Warren, A., Hulse-Trotter, K., & Tubbs, E. (1991). Inducing resistance to suggestibility in children. *Law and Human Behavior*, 15, 273–285.
- White, W. (2003). *Miranda's waning protections: Police interrogation practices after Dickerson*. Ann Arbor: University of Michigan Press.
- Wood, J. M., McClure, K. A., & Birch, R. A. (1996). Suggestions for improving interviews in child protection agencies. *Child Maltreatment*, 1, 223–230.

APPENDIX A

Individual Problems

Individual Problem # 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?

Individual Problem # 2

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?

Individual Problem # 3

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

APPENDIX B

Team Problems

Team Problem #1

Starting with the word “COOL”, change one letter at a time 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?

Team Problem # 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?

Team Problem #3

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

APPENDIX C

Your Thoughts & Emotions (STAI)

Directions: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to indicate how you feel RIGHT NOW, that is, AT THIS MOMENT. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	Not at all	Somewhat	Moderately	Very much so
1. I feel calm	0	1	2	3
2. I feel secure	0	1	2	3
3. I am tense	0	1	2	3
4. I am regretful	0	1	2	3
5. I feel at ease	0	1	2	3
6. I feel upset	0	1	2	3
7. I am presently worrying over possible misfortunes	0	1	2	3
8. I feel rested	0	1	2	3
9. I feel anxious	0	1	2	3
10. I feel comfortable	0	1	2	3
11. I feel self-confident	0	1	2	3
12. I feel nervous	0	1	2	3
13. I am jittery	0	1	2	3
14. I feel "high strung"	0	1	2	3
15. I am relaxed	0	1	2	3
16. I feel content	0	1	2	3
17. I am worried	0	1	2	3

APPENDIX C

18. I feel over-excited and “rattled”	0	1	2	3
19. I feel joyful	0	1	2	3
20. I feel pleasant	0	1	2	3

APPENDIX D

GSS

I'm going to read you a story now and afterwards I am going to ask you to remember everything you can about the story. Then I will ask you some questions about the story.

Anna Thompson of South Carolina was on vacation in Florida when she was held up outside her hotel and robbed of her handbag which contained \$150 worth of money and her driver's license. She screamed for help and attempted to put up a fight by kicking one of the robbers in the legs. A police car shortly arrived and the woman was taken to the nearest police station where she was interviewed by Detective Sergeant Hernandez. The woman reported that she had been attacked by three men one of whom she described as Asian 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 hospital. 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 found guilty and given prison sentences. Only one had had previous convictions for similar offenses. The lady returned to South Carolina with her husband Simon and two friends but remained frightened of being out on her own.

APPENDIX D

Participant ID _____

GSS Questions

(Write down verbatim what is said)

GSS1

GSS2

1. Did the woman have a husband named Simon?
2. Did the woman have one or two children?
3. Did the woman's glasses break in the struggle?
4. Was the woman's name Anne Wilkinson?
5. Was the woman interviewed by a detective sergeant?
6. Were the robbers black or white?
7. Was the woman taken to the central police station?
8. Did the woman's handbag get damaged in the struggle?
9. Was the woman on vacation in Florida?
10. Were the robbers found guilty 6 weeks after their arrest?
11. Did the woman's husband support her during the police interview?
12. Did the woman hit one of the robbers with her fist or handbag?
13. Was the woman from South Carolina?
14. Did one of the robbers shout at the woman?
15. Were the robbers tall or short?

APPENDIX D

16. Did the woman's screams frighten the robbers?
17. Was the police officer's name Hernandez?
18. Did the police give the woman a lift back to her hotel?
19. Were the robbers armed with knives or guns?
20. Did the woman's clothes get torn in the struggle?

You know what. It looks like you made a number of mistakes. I am going to ask you the questions again, and this time try to be more accurate (Read the questions again.)

APPENDIX E

Rapport Building Condition

Interviewer: *Hi (participant's name)! My name is _____. (shake hands) Nice to meet you. How are you doing today?*

Interviewer Response: *I'm glad [sorry] to hear that.*

Interviewer: *OK, so I'm going to be finishing the rest of the study with you. But before we move on to the Trivia Challenge, I want to let you know that the other RA (say name) and I found an issue with some of your responses to the logic problems. I called the professor I work for and he instructed us to double check your responses before moving on to the trivia questions. So the other RA (say name) is currently double checking your answers. I didn't want leave you here waiting by yourself so I'm going to wait with you while s/he checks the questionnaire.*

Rapport Building Script

Interviewer: *"So while we wait tell me a little about yourself - Where are you from?"*

Interviewer Response: *Oh that's nice. So how long have you lived in Miami? [If the participant grew up in Miami: How did you like growing up in Miami?]*

Interviewer: *And does your family also live in Miami?*

Interviewer Response: *It must be nice having your family around. [If family does not live in Miami: It must be hard not having your family around]*

Interviewer: *So what's your favorite thing about living in Miami? [If for some reason the person doesn't like anything about Miami say: Really? There must be something you like about Miami!]*

Interviewer Response: *I agree, one of my favorite things about Miami too!*

Interviewer: *And how about your least favorite thing about Miami?*

Interviewer Response: *You know, I agree with you! My least favorite thing about Miami is the traffic.*

Interviewer: *So, what year are you in school?*

Interviewer Response: *Oh so you haven't been here too long [if the participant is a 1st or 2nd year] [If the participant is a junior or senior: Oh you are close to graduating! That's so exciting!]*

APPENDIX E

Interviewer: So, *what's your major?*

Interviewer Response: [If the participant is a psychology major say: *Oh I'm a psych major too!*] [If the participant has a different major say: *Funny! I also considered that as my major*] [If the participant says they are undecided say: *I was like that too, you'll figure it out*]

Interviewer: So tell me, did you go on vacation last summer?

Interviewer Response: [If they say yes say: *Oh, where did you go? That's really cool! I've never been! What's it like there?*][If the participant says they didn't go anywhere say “*you didn't go anywhere? yeah me neither*” and ask them where would they like to go on vacation – so *what would be your dream vacation?*] [then you can tell them about what your dream vacation would be]

Interviewer: *Great! I'm glad we got to know each other better.*

Interviewer: *It looks like the other RA is still going over the questionnaire* [make sure you pause so it feels like you are thinking about what to do next] *I told her to come get me when she was done – Oh well since she's not here yet let's move to something else.*

Interviewer: *So this may sound a little odd but I wanted to ask you if you could share with me a pleasant/nice experience you have had in the past. We want to see how people describe past experiences so if you don't mind could you spend a few minutes telling me everything you remember about this pleasant experience? This can be a childhood memory or a something nice that happened during your adult life.* [If the participant says they don't remember much, you can say *that's ok, just tell me whatever you remember or if you want you can tell me about another nice thing that happened that you remember better*].

Interviewer: After the participant tells you about his/her pleasant experience you will always ask a follow up question “*What other specific details do you remember?*”

Interviewer: Once the participant is done telling you about their experience: *Alright (participant's name), thank you so much for sharing that with me. Now give me a second while I go get the questionnaire. I'll be right back!*

APPENDIX E

No Rapport Building Condition Protocol

Interviewer: *OK, so I'm going to be finishing the rest of the study with you. But before we move on to the Trivia Challenge, I want to let you know that the other RA and I found an issue with some of your responses to the logic problems. I called the professor I work for and he instructed us to double check your responses before moving on to the trivia questions. So the other RA is currently double checking your answers.*

Interviewer: *While the other RA is checking the answers let's continue with the study. I have a few questions I need to ask you. Make sure that you answer the questions to the best of your abilities.*

No Rapport Script – Ask the questions exactly the way they are worded below. Do not change the wording of any of the questions. Do not nod or head or say “OK” “uh huh” or engage in any active listening.

Interviewer: *Could you please state your full name?*

Interviewer: *Can you please spell your first name?*

Interviewer: *Can you spell your middle name?*

Interviewer: *Can you spell your last name?*

Interviewer: *In what city were you born?*

Interviewer: *What's your date of birth?*

Interviewer: *Where do you live?*

Interviewer: *What is your mailing address?*

Interviewer: *How long have you lived at this address?*

Interviewer: *What is your phone number?*

Interviewer: *Is that a cell phone or a house phone?*

Interviewer: *What is your FIU email address?*

Interviewer: *List the last two places of employment and how long you worked at each place.*

Interviewer: *Where do you currently work? [if the person is unemployed ask them why they are unemployed]*

Interviewer: *Do you know the phone number at work? [If the person does not work skip]*

Interviewer: *How many classes are you currently taking?*

Interviewer: *Have you been in this room before?*

Interviewer: *What's your major?*

Interviewer: *What's your expected graduation date?*

Interviewer: *Why are you participating in this study?*

Interviewer: *Is there any way I can reach you besides the information you have provided?*

Interviewer: *OK, it looks like the other RA is still going over the questionnaire [remember to pause like you are thinking] I told her to come get me when she was done – since she's not here yet, I need you to spend a few minutes writing down everything you did yesterday. From the time you woke up to the time you went to bed. Make sure you are as detailed as possible.*

Interviewer: After the 3 minutes collect the piece of paper and say: *“OK, I'm going to get the problems. I'll be right back.”*

APPENDIX F

Interrogation Script

Interviewer: OK, (participant's name), it looks like we do have a problem. So like I told you I scored your answers to the logic problems and based on what I saw, I became concerned that the two of you did not follow the rules of the study. That's why I called my professor. I told him I had strong reason to believe that the two of you shared answers during the individual problems because you have the same wrong answer on the triangle problem. **The statistical probability that you two would have come up with the SAME WRONG ANSWER just by chance is incredibly small. I've run this study almost 100 times, and this has NEVER happened before. That shows me you guys must have shared information on the triangle problem. If this happened, it is a MAJOR problem, because it would mean that not only did you break the rules of the study, but you may have also compromised the integrity of the study.**

Now, honestly, I wasn't sure what the right thing to do was. I didn't want to turn you in or anything based on a suspicion but I didn't feel like I could just look the other way either. My professor said that I should talk to both of you and see what I could find out before getting anyone else involved. So, first I'm going to talk to you and then I'm going to talk to the other participant. If I still feel like you guys are not being honest with me, I'll have to tell my professor. Just so you know, I could tell by talking to him that he's pretty upset that this is happening. I want to tell you upfront that I really don't know how he's going to handle this situation or how serious he's going to consider this or who else he might notify about this incident. **He is REALLY not happy about this so I would not be surprised if he considers this a case of academic dishonesty.**

Look, I am really sorry this is happening to you. I know this really sucks. I was in a similar situation a few years ago and it was a very difficult experience. You seem like a really nice person and I know no one wants to be accused of cheating or breaking the rules. I understand that and when I call my professor back I'll let him know that you came clean about what happened. He'll see you did the right thing and I'm sure he'll respect your honesty (this is only for the rapport condition).

He said that the first thing I need to do is document what happened. I'm not sure yet what's going to happen after that. What I'm going to do is to ask you to sign a piece of paper saying that you admit to sharing information during the individual problems. I'm just going to write that statement out here on this piece of paper. **Again, if I were you, I would just sign it and be totally honest about what happened.**

If you don't admit to sharing answers, I'm afraid this is going to take a while to straighten out. I'll have to call my professor back, and he'll probably have to come down here to deal with the situation himself, and my guess is that that will make your situation a lot worse. He told me that if he comes down here, he's going to bring the paperwork that he has to fill out for violations of the academic code of conduct and trust me - you don't want to deal with him.

Hand participants the piece of paper with the hand written confession statement: **I, _____ admit to sharing answers on the individual (triangle) problem.**

****If participant hesitates to sign the confession (2nd ask)****

So you are saying that you did not share your answers with the other participant?

So the other participant told you her/his answer to the triangle problem? If the participant continues to deny sharing s/her answers say **“See, what you’re telling me isn’t matching up with what I have here.”**

Like I said, it is statistically impossible for the two of you to get the same wrong answer on the triangle problem so I know that you guys must have shared answers with each other. **There is no other explanation for why this is happening.**

I’m really sorry this is happening to you. I can only imagine how stressful this is for you. But the best thing you can do is come clean and be honest about what happened. I don’t know what my professor is going to do about this situation or who he may notify about it. But I know that things will get more complicated if he comes down here to deal with the situation himself. If I were you I would just sign the statement.

****If the participant still refuses to sign the confession (3rd ask)****

Are you sure you don’t want to sign it? I still have to go talk to the other participant and I don’t know what s/he is going to say. Like I said, there is no way the two of you got the same wrong answer by chance.

Once I leave this room, this will be out of my hands and my professor will likely come down here to deal with the situation. If he has to come down he is going to bring the paperwork for academic misconduct.

I wish there was something I could do but I need to follow my professor’s orders. I am so sorry you are caught in all of this! Honestly, if I were you I would just sign it.

APPENDIX G

Interaction Questionnaire

Part I: Open-Ended Questions about Interaction with Interviewer

Did you like /dislike the interviewer? Why or why not?

Briefly discuss whether you experienced rapport with the interviewer.

What did the interviewer do that affected whether you experienced rapport?

Did you experience anxiety during the interaction with the interviewer? If so, why did you experience anxiety?

APPENDIX G

Part II: Interaction Rating Scale

Directions: Rate the **interviewer** on the following characteristics.

Smooth	1	2	3	4	5	6	7
	Not smooth		Somewhat smooth			Extremely smooth	

Distracted

	1	2	3	4	5	6	7
	Not distracted		Somewhat distracted			Extremely distracted	

Bored	1	2	3	4	5	6	7
	Not bored		Somewhat bored			Extremely bored	

Arrogant	1	2	3	4	5	6	7
	Not arrogant		Somewhat arrogant			Extremely arrogant	

Satisfied	1	2	3	4	5	6	7
	Not satisfied		Somewhat satisfied			Extremely satisfied	

Awkward	1	2	3	4	5	6	7
	Not awkward		Somewhat awkward			Extremely awkward	

Involved	1	2	3	4	5	6	7
	Not involved		Somewhat involved			Extremely involved	

Cold	1	2	3	4	5	6	7
	Not cold		Somewhat cold			Extremely cold	

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Friendly	1	2	3	4	5	6	7
	Not friendly		Somewhat friendly			Extremely friendly	

Active	1	2	3	4	5	6	7
	Passive		Somewhat active			Extremely active	

Positive	1	2	3	4	5	6	7
	Not positive		Somewhat positive			Extremely positive	

Rude	1	2	3	4	5	6	7
	Not rude		Somewhat rude			Extremely rude	

Antagonistic	1	2	3	4	5	6	7
	Not antagonistic		Somewhat antagonistic			Extremely antagonistic	

Directions: Rate the **interaction as a whole with the interviewer** on the following characteristics.

Well-coordinated

1	2	3	4	5	6	7
Not coordinated		Somewhat coordinated			Extremely coordinated	

Boring	1	2	3	4	5	6	7
	Not boring		Somewhat boring			Extremely boring	

Cooperative	1	2	3	4	5	6	7
	Not cooperative		Somewhat cooperative			Extremely cooperative	

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Harmonious	1	2	3	4	5	6	7
	Not harmonious		Somewhat harmonious			Extremely harmonious	
Unsatisfying	1	2	3	4	5	6	7
	Unsatisfying		Satisfying			Extremely satisfying	
Cold	1	2	3	4	5	6	7
	Not cold		Somewhat cold			Extremely cold	
Awkward	1	2	3	4	5	6	7
	Not awkward		Somewhat awkward			Extremely awkward	
Unfocused	1	2	3	4	5	6	7
	Not focused		Focused			Extremely	
focused							
Involving	1	2	3	4	5	6	7
	Not involving		Somewhat involving			Extremely involving	
Intense	1	2	3	4	5	6	7
	Not intense		Somewhat intense			Extremely intense	
Unfriendly	1	2	3	4	5	6	7
	Unfriendly		Friendly			Extremely	
friendly							
Active	1	2	3	4	5	6	7
	Not active		Somewhat active			Extremely active	

APPENDIX G

Positive	1	2	3	4	5	6	7
positive	Not positive		Somewhat positive			Extremely	
Dull	1	2	3	4	5	6	7
	Not dull		Somewhat dull			Extremely dull	
Worthwhile	1	2	3	4	5	6	7
	Not worthwhile		Somewhat worthwhile			Extremely worthwhile	
Slow	1	2	3	4	5	6	7
	Not slow		Somewhat slow			Extremely slow	
Uncomfortably Paced							
	1	2	3	4	5	6	7
	Uncomfortably paced					Comfortably paced	

APPENDIX H

Read the following statements and circle the appropriate response. Only circle one of the numbers.

1. The interviewer seems like a good-natured person.

1 2 3 4 5
Strongly Disagree Strongly Agree

2. The interviewer seems to have a compassionate attitude towards people.

1 2 3 4 5
Strongly Disagree Strongly Agree

3. The interviewer seems to be generally sincere.

1 2 3 4 5
Strongly Disagree Strongly Agree

4. The interviewer was friendly towards me.

1 2 3 4 5
Strongly Disagree Strongly Agree

5. The interviewer treated me with respect.

1 2 3 4 5
Strongly Disagree Strongly Agree

6. The interviewer paid careful attention to what I had to say.

1 2 3 4 5
Strongly Disagree Strongly Agree

7. The interviewer was attentive to me.

1 2 3 4 5
Strongly Disagree Strongly Agree

8. The interviewer thinks highly of me.

1 2 3 4 5
Strongly Disagree Strongly Agree

APPENDIX H

9. The interviewer thinks that I am a good person.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

10. The interviewer values my opinion.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

11. The interviewer respects my intelligence.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

12. The interviewer was honest with me.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

13. The interviewer had good intentions towards me.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

14. The interviewer doesn't care about what happens to me.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

15. I can't trust the interviewer to tell me the truth.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

16. During the interview I felt like the interviewer and I understood each other well.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

APPENDIX H

17. I would be willing to do another interview with the interviewer.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

18. The interviewer helped me to feel comfortable enough to share information during the interview.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

19. The interviewer and I got along well during the interview.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

20. Communication went smoothly between the interviewer and me.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

21. I connected with the interviewer in a positive way.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

22. I was motivated to help the interviewer.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

23. I was cooperative during the interview.

1	2	3	4	5
Strongly Disagree			Strongly Agree	

24. I was honest with the interviewer

1	2	3	4	5
Strongly Disagree			Strongly Agree	

APPENDIX I

Demographics Questionnaire

What is your age? _____ What is your gender? Female _____ Male _____

Which of the following categories best reflects your ethnic/racial identity? (check one)

_____ African American

_____ Asian/Pacific Island

_____ Hispanic

_____ Caucasian: Non-Hispanic

_____ Native American

_____ Other

What is the highest education level you have completed?

_____ High School Graduate

_____ Freshman year in college

_____ Sophomore year in college

_____ Junior year in college

_____ Senior year in college

_____ Graduate school or other

What personality type applies to you the most?

Introvert _____ Extrovert _____

What is the most important quality you value in yourself and others? (**Choose only one**)

Honesty _____ Loyalty _____ Tolerance _____ Kindness _____ Openness _____

How important it is for you to be liked and accepted by others?

1 2 3 4 5 6 7 8 9

Not important at all

Extremely important

What is your major? _____

Have you taken or are you currently taking Legal Psychology (SOP 4842)

_____ Yes _____ No

APPENDIX J

Debriefing Form

Instructions: Please read the following questions to the participant and record his/her responses fully in the space provided. If you need more space, use the back of this sheet.

1. What do you think the study was about? Can you make any more specific guesses? (*Record the participant's response*).

2. Do you think we were tricking you or deceiving you in any way today?
*If YES, then ask the participant. **"How so?"** and record their response.*

3. Did anyone talk to you about the study before you came here today? (*circle one*)
If YES move to questions a & b. If NO skip questions a & b.

Yes

No

- a. How much did you and your friends or classmates discuss the study before you came here today? (*circle one*)

Barely at all

A little bit

A lot

- b. What did you and your friend/classmate discuss about the study?

APPENDIX J

1. Sometimes psychology researchers are not able to tell participants about the true purpose of an experiment, because it would ***drastically*** affect the study's results. In fact, there was another purpose to today's study. The person who worked with you during the group and individual problems was not a 'real' participant, but an actor who is part of our research team. This study had nothing to do with a trivia challenge. Instead, we wanted to examine whether a new interrogation technique would influence people's decision to confess to a wrongdoing. Some participants were in a situation where the other participant asked for help (the guilty condition) and other participants were in a situation where the other participant did not ask for help (the innocent condition). You were in the [guilty/innocent] condition. We also had the interviewer build rapport or not with you right before the interrogation. We wanted to examine whether liking the interviewer would affect people's decision to confess. It is very important for researchers to study what kinds of things may lead someone to confess and whether certain interrogation techniques can make innocent people confess to someone else's wrongdoing. This study will allow us to better understand and help prevent wrongful convictions.
2. The professor we told you about was not really going to get involved, and there are ***no negative consequences*** for you. We apologize for the deception and we hope you are not upset about being deceived. Keeping the true purpose of the experiment a secret was necessary because *it is the only way we can conduct this kind of research*. Our data is only useful if the participants are unaware that it is all part of the experiment – sort of like those old TV shows "Candid Camera," for example.
3. What influenced your decision to sign (or not sign) the statement?
4. "On a scale from 0 to 10, 0 being no pressure at all and 10 being the most amount of pressure you can imagine, how much pressure did you feel to sign the confession statement?"

APPENDIX J

5. Do you have any questions at this point? (*record a YES or NO response and record the participant's questions if they have any*)
6. How do you feel about your participation in this study? On a scale from 1-10 (1 = extremely bad to 10 = extremely good) _____
7. It is very important for us to talk to you about **CONFIDENTIALITY!!** It is *extremely* important that other people don't find out what this study is *truly* about. If other people find out, then we won't be able to run this study anymore. It is critical that all participants come in here without **ANY** idea of what is about to happen. People will behave in a different way if they come to the study already knowing what to expect.
8. Next, we would like for you to sign this '**Confidentiality Agreement**' saying that you agree to not tell any of your friends or classmates about the true purpose of this study. (After they sign the confidentiality agreement, move on to the video consent)
9. For research purposes, we videotaped this study. In order for us to use the videotapes and your data *for research purposes only*, we would like to ask you to sign the permission to use Videotaped Data. As you will see on the form, we will only use your data **for research purposes** and this means that your name will never appear on anything – only a participant number. Please let me know if you would like to speak to the primary investigator and we will give you her contact information. If you feel the need to speak with a counselor as a result of this experience or any of your responses, let me know and I will give you the contact information for the University Counseling Center.

APPENDIX K

Confidentiality Agreement

I agree not to discuss or share any information about the details or purpose of this experiment with anyone. I understand that by discussing this experiment with anyone who may potentially participate, I will compromise the integrity of the experiment and break this confidentiality agreement. The above stated has been explained to me and by signing this form, I agree to keep all details of this experiment confidential.

Name of Participant

Date

Signature of Participant

Name of Research Assistant

Date

Signature of Research Assistant

APPENDIX L

CONSENT FOR THE USE OF VIDEO RECORDINGS

Trivia Challenge

I acknowledge that the Development, Context, and Communication Lab from Florida International University has requested my consent to use the videotaped records obtained in this project for research purposes. The videos will be de-identified and will only be viewed by trained research assistants who will transcribe the videos and my Dr. Nadja Schreiber Compo and Daniella K. Villalba. I understand that my name or any identifying information will be linked to the videotapes.

I hereby consent to the use of videotaped records obtained in my participation in the study "Trivia Challenge" for research purposes.

Signature of Participant

Date

Printed Name of Participant

Signature of Person Obtaining Consent

Date

VITA

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PUBLICATIONS AND PRESENTATIONS

Carlucci, M. E., Kieckhaefer, J. M., Schwartz, S. L., Villalba, D.K., & Wright, D. B. (March, 2010). *The south beach study: Bystanders' memories are more malleable*. Paper presented at the American Psychology-Law Society annual conference, Vancouver, British Columbia, Canada.

Carlucci, M. E., Kieckhaefer, J. M., Schwartz, S. L., Villalba, D. K., & Wright, D. B. (2011). The south beach study: Bystanders' memories are more malleable. *Applied Cognitive Psychology*, 25(4), 562–566.

Charman S. D., Carbone, J., Kekissee, S., & Villalba D. K. (March, 2012). *Coherence in legal decision-making: The moderating effect of evidence order*. Paper presented at the American Psychology-Law Society annual conference, San Juan, PR.

Schreiber Compo, N., Carol, R. N., Pimentel, P., Evans, J. R., Molina, J., Tetor, F., Lee, A., Byrne, A., Garcia, B., Villalba, D. K., Padron, M., Campell, I. A., Mikaiel, C., Vega, M., Rosen, A., Veilleux, C., Jerome, A. S., Sunny, J., Pena, M. (March, 2013). *Interviewing intoxicated witnesses: The effects of state-dependent retrieval on cued recall*. Paper presented at the American Psychology-Law Society annual conference, Portland, OR.

Schreiber Compo, N., Evans, J. R., Carol, R. N., Kemp, D., Villalba, D., Ham, L. S., & Rose, S. (2011). Alcohol intoxication and memory for events: A snapshot of alcohol myopia in a real-world drinking scenario. *Memory*, 19(2), 202–210.

- Schreiber Compo, N., Evans, J. R., Carol, R., Villalba, D. K., (March, 2012). *Interviewing intoxicated witnesses: The effects of state-dependent retrieval*. Paper presented at the American Psychology-Law Society annual conference, San Juan, PR.
- Schreiber Compo, N., Evans, J. R., Carol, R. N., Villalba, D., Ham, L. S., Garcia, T., & Rose, S. (2012). Intoxicated eyewitnesses: Better than their reputation? *Law and Human Behavior*, 36(2), 77–86.
- Villalba, D. K., Charman, S. D., Hart, N., Varela, G., Acosta, M., Gonzalez, I., Miranda, K., & Araya, A. *The effect of introspection and verbalization on the confidence-accuracy correlation*. (March, 2012). Paper presented at the American Psychology-Law Society annual conference, San Juan, PR.
- Villalba, D. K., Malloy, L. C., Lamb, M. E. (March, 2013). *Rapport building in investigative interviews with children*. Paper presented at the American Psychology-Law Society annual conference, Portland, OR.
- Villalba, D. K., Vallano, J. P., Schreiber Compo, N., Kieckhaefer, J., Altamiro, D., Altman, C., Ancarola, J., Becirevic, A., Cedenio, M., DiBello, M., Durmis, J., Madison, M., Mannella, L., Reyes, J., Rojas, A., & Ruiz, M. (March, 2013). *“I’m anxious about the interview:” Does rapport building decrease pre-interview anxiety and enhance the quality of witness reports?* Paper presented at the American Psychology-Law Society annual conference, Portland, OR.
- Villalba, D. K., Wright, D. B. (March, 2010). *Informational influences on co-witness memory*. Paper presented at the American Psychology-Law Society annual conference, Vancouver, British Columbia, Canada.
- Wright, D. B., Villalba, D. K. (March, 2010). *Modeling the informational influences of memory conformity*. Paper presented at the American Psychology-Law Society annual conference, Vancouver, British Columbia, Canada.
- Wright, D. B., & Villalba, D. K. (2012). Memory conformity affects inaccurate memories more than accurate memories. *Memory*, 20(3), 254–265.
- Wright, D.B., Villalba D. K. (2012). Exploratory factor analysis. In G. Breakwell, J. A. Smith, & D. B. Wright (Eds.), *Research methods in psychology*. London: Sage Publications.