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A Lesson On Interrogations From Detainees: Predicting Self-Reported Confessions and

Cooperation

Abstract

The ability to predict confessions and cooperation from the elements of an interrogation was examined. Incarcerated men ($N = 100$) completed a 50-item questionnaire about their most recent police interrogation, and regression analyses were performed on self-reported decisions to confess and cooperate. Results showed that the likelihood of an interrogation resulting in a confession was greatest when evidence strength and score on a humanitarian interviewing scale were high, and when the detainee had few previous convictions or did not seek legal advice. We also found that the level of cooperation was greatest when the humanitarian interviewing score was high, and when previous convictions were low. The implications of the findings for interrogation practices are discussed.

A Lesson On Interrogations From Detainees: Predicting Self-Reported Confessions and

Cooperation

There are, in broad terms, two schools of thought about how police officers should interrogate detainees (but see Kelly, Miller, Redlich, & Kleinman, 2013 regarding the likely artificiality of this dichotomy). One school advocates for police officers to follow an accusatorial, or get tough, interrogation approach where the primary objective is to elicit a confession (e.g., The Reid Model of Interrogation; see Inbau, Reid, Buckley, & Jayne, 2013). The other school advocates for police officers to follow an information gathering, or humane, interviewing approach where the primary objective is to collect as much checkable and verifiable information as possible (e.g., The PEACE Model of Investigative Interviewing; see Milne & Bull, 2003). The data from divergent streams of research are converging to show that an information-gathering approach is superior to an accusatorial approach (see Bull, 2014). Granted the converging data, replication and expansion of research on this consequential topic is essential for ensuring that any reforms to interrogation policies and practices is supported by a reliable body of scientific knowledge.

Accusatorial Interrogations

An historical review of American interrogations by Leo (2008) revealed that third degree tactics were used routinely when interrogating detainees from at least the middle of the 19th century to the mid-1930s. The third degree tactics included different types of physical force and abuse, isolation, and deprivation of basic necessities. It is thought that interrogators *got tough* on criminals because they perceived themselves to be at war with crime and that harsh tactics were their most effective weapon in securing confessions – which can be a very powerful piece of probative evidence. Leo argued that police organizations rationalized the use of aggressive

tactics by convincing themselves that they only interrogated guilty individuals. Third degree

tactics were seen as a necessary evil to seeking the truth because it would make otherwise

uncooperative criminals talk, and it was much more expedient and less skillful to get the guilty

person to confess than having to prove guilt through the painstaking collection of evidence (also

see Williamson, 1993). Interestingly, such a bellicose approach was seemingly unchallenged by

the judiciary at that time. According to Leo, the release of "The Report on Lawlessness in Law

Enforcement" served as the catalyst for the demise of third degree tactics.[1] Police organizations

eventually came to realize that physical and psychological torture produced unreliable

information, elicited confessions that were inadmissible in court, lowered public confidence in

policing, and impeded the desire to professionalize policing. Some police organizations became

concerned that innocent people were sometimes being exposed to abusive practices.

In some countries, physically abusive practices have been replaced gradually by

seemingly softer psychological tactics – for all intents and purposes, the use of physical abuse as

an interrogation approach in America was obsolete in many places by the mid-1960s (Leo,

2008).[2] Despite this shift in practice, contemporary interrogations still follow an accusatorial, or

get tough philosophy that is based largely on the experiences of Chicago polygraphist John Reid.

The Reid Technique was first described in-depth in 1962 in the book *Criminal Interrogation and*

Confessions (Inbau et al., 2013). The method has been taught to hundreds of thousands of

investigators around the world (see www.reid.com), and the tactics that characterize this

approach continue to be used widely in many jurisdictions (e.g., Alison, Sarangi, & Wright,

2008; Feld, 2006; Kassin et al., 2007; King & Snook, 2009; Leo, 1996). The guiding philosophy

of this protocol can be summed up by the following quote: "investigators must deal with criminal

suspects on a somewhat lower moral plane than that upon which ethical law abiding citizens are expected to conduct their everyday affairs" (Inbau et al., 2013, p. 15).

Although the Reid manual contains hundreds of pages of advice for interrogators, a Reid-based interrogation consists primarily of two main phases: the behavioral analysis interview (BAI) and the nine-step interrogation. The BAI interview includes 15 non-accusatory questions that are meant to assess guilt. The broad underlying assumption of the BAI is that guilty individuals will provide answers to the non-accusatory questions that are quite distinct from the answers provided by innocent individuals; the BAI is used to help ensure that only guilty individuals are interrogated. The accusatorial interrogation is comprised of nine steps that were designed to elicit a confession from a detainee. The Reid technique, for example, starts with the conclusion that the detainee is guilty (by using the much-maligned BAI) and then proceeds to confirm this assumption through, for instance, the development of themes (which are essentially implicit promises of leniency, see Kassin & McNall, 1991), prevention of denials, using objections to reinforce themes, the use of deception (e.g., pretending to be the detainee's advocate), the use of an alternative question technique (i.e., where both options result in an admission of guilt), and the use of (implicit) false evidence ploys (see Forrest et al., 2012).

Empirical research has failed to support the use of either of the two main phases during criminal investigations. Research has shown, for instance, that the BAI matches commonsense notions of what works in deception detection (i.e., no special training is required; Masip, Barba, & Herrero, 2012; Masip, Herrero, Garrido, & Barbo, 2011), and the available empirical data suggest that innocent and guilty people do not react differently to BAI questions (Kassin & Fong, 1999; Vrij, Mann, & Fisher, 2006); this means that innocent individuals are sometimes exposed to an accusatorial interrogation. Similarly, numerous studies have shown some of the

fundamental psychological-based practices that comprise the nine stages run the risk of inducing

false confessions. For instance, in a classic experiment known as the ALT KEY study, it was

found that false confessions about pressing the 'alt' key on a computer keyboard – that

participants were told explicitly not to press (and did not press) – could be elicited easily by

exploiting vulnerabilities in memory and using false evidence (Kassin & Keichel, 1996).

Individuals who were made to distrust their memories were more apt to comply with the

suggestion that they were guilty of hitting the 'alt' key, and even believed they hit the button,

than their less vulnerable counterparts. The proportion of confessions was further increased when

individuals were presented with false evidence of their guilt (i.e., someone reported seeing them

hit the button).

Other researchers have replicated Kassin and Keichel's (1996) findings when using the

same design (see Horselenberg, Merckelbach, & Josephs, 2003; Horselenberg et al., 2006), and

when using more realistic and pressure-filled paradigms (Russano, Meissner, Narchet, & Kassin,

2005). Recent research has also shown that suggestive and coercive strategies can lead people to

create rich false memories of criminal events (Shaw & Porter, 2015). Beyond eliciting false

confessions and false memories, field observations of interviews with terrorists has revealed that

getting tough on detainees (e.g., using maladaptive interpersonal behaviors such as being

confrontational, sarcastic, overbearing) tends to impede interviewing success (i.e., obtaining

points of evidence or items of intelligence; Alison, Alison, Noone, Elntib, & Christiansen, 2013).

Information Gathering Interviews

In direct contrast to accusatorial interrogations are humane, information gathering

interviews that are designed to collect checkable and verifiable information that will help

determine the truth of the matter under investigation. Perhaps the most widely used humanitarian

approach is the PEACE model of investigative interviewing (see Milne & Bull, 2003 for a more detailed description of the model). The PEACE model demands, amongst other pro-social behaviors, that officers be ethical, honest, open-minded, fair, respectful, and empathetic. Beyond the extant empirical evidence that supports the individual components that comprise the PEACE model (e.g., building rapport; using open-ended invitations; see Milne & Bull, 2003; Shepherd & Griffiths, 2013), there is a growing body of research demonstrating the value of the complete model (i.e., the sum of its parts) when interacting with detainees (Bull, 2013; O'Connor & Carson, 2005). For example, Bull and Soukara (2010) found in real-life interviews that detainees' shift from denial to confession was associated with the police officers continuing to ask open questions and disclosing evidence at strategic points in the interview.

Controlled laboratory research has also demonstrated the diagnostic superiority of information gathering protocols (e.g., Russano et al., 2005). For instance, a meta-analysis of the available experiments that compared the information-gathering approaches to accusatorial approaches on their diagnostic ability found that both approaches produced a large percentage of true confessions but that an information-gathering approach produced substantially fewer false confessions (Meissner et al., 2014). In addition, a recent study that compared the two approaches in the intelligence context showed that information-gathering interviews yielded more critical details, resulted in a more talkative interviewee, and resulted in more admissions of guilt (Evans et al., 2013; also see Walsh & Bull 2010 for similar findings). Furthermore, Evans and colleagues found that individuals interviewed with an information gathering approach are perceived to be less nervous and under less pressure than those interviewed in an accusatorial manner (also see Alison et al., 2013).

Another growing body of evidence in support of the humanitarian-based interviews comes from the detainee's perspective. Gudjonsson and Petursson (1991) were perhaps the first researchers to ask offenders about the reasons underpinning their confessions to the police. They found that the decision to confess was driven by internal pressures (a personal desire to confess, often to decrease feelings of guilt), external pressures (pressures attributed to the police officer and the police environment), and proof of guilt (the perception of evidence against the detainees). They also found that the desire to avoid personal and social consequences of confessing their wrongdoings played a role in the decision-making process. Of particular importance was the discovery that the most common reason for confessing was a perception of evidence/proof that they had committed the crime. Gudjonsson and Petursson also found that younger offenders confessed more than older offenders because of police pressure, and offenders who committed property crimes confessed in response to external pressures (whereas sexual offenders confessed because of internal pressures). They also discovered that offenders were much more dissatisfied with confessing if they attributed the confession to external pressure from police officers, but were much more favorable towards confessions that emerged from internal pressures and proof of guilt.

Replications of Gudjonsson and Petursson's work have generally supported the notion that information-gathering interviews are superior to its accusatorial counterpart. For instance, Holmberg and Christianson (2002) found that inmates who perceived the interviewer to be demonstrating a humanitarian approach were nearly four times more likely to have confessed than those who reported being interviewed in a dominant manner. Similarly, inmates who felt respected during the interview were nearly six times more likely to report confessing than those were made to feel anxious. Kebbell, Alison, and Hurren (2008) also found that the likelihood of

the interviewer obtaining a confession from a sex offender was higher when using a humanitarian style than when using other approaches (i.e., dominating, empathetic, or neutral); dominating/aggressive interviews were perceived to be the least likely to result in a confession. The inmates also rated the humanitarian interview as the fairest and best conducted. More recently, Kebbell, Alison, Hurren, and Mazerolle (2010) found that sex offenders thought that interviewers should conduct an ethical interview (e.g., be neutral, seek the truth), use proof of guilt, and follow a humanitarian approach. The idea that interviewers follow a humane and ethical approach was advocated more by sex offenders than violent offenders. In comparison to deniers, confessors were more likely to perceive their interviewers as ethical and humane.

In the only North American study on this topic, Deslauriers-Varin, Lussier, and St-Yves (2011) attempted to predict confession decisions of 221 inmates housed in a Quebec penitentiary. They found that confessors (nearly 45% of the sample) were more likely than non-confessors to have committed a more serious crime, were more likely to have committed a drug offense, perceived evidence to be stronger, were less likely to use a lawyer, and were more likely to report feeling guilty of their crimes. They also found that the likelihood of the offender confessing increased with increasing crime seriousness, number of convictions, strength of evidence, and feelings of guilt. In addition, interrogations where detainees invoked the services of a lawyer were associated with a decrease in the likelihood of obtaining a confession. It is worth noting that the offender's self-report data corresponded well to the information contained in official correctional files.

The Current Study

The goal of the current study was to conduct a conceptual replication of the above self-report studies pertaining to offenders' perceptions of interrogation approaches. In addition to

confession decisions, we examine the factors that predict self-reported level of cooperation. We also expand on this area of research by studying only the second sample of North American offenders, and by examining how an interviewee's attitude towards the police might influence confession and cooperation decisions – an unexplored variable in this research area. Based on the research reviewed above, we predict that both confessions and cooperation are more likely to be more forthcoming when the interrogator was perceived to have taken a humanitarian style of interviewing. We also predict that the greatest likelihood of obtaining a confession and cooperation will be associated with: offenders who did not seek legal advice, lengthy interrogations, offenders who perceived the evidence against them to be strong, younger offenders, less experienced detainees, more serious offenses, and offenders who generally have a positive attitude towards police officers.

Method

Participants

Participants were 100 adult males who were incarcerated in a Canadian provincial correctional and remand facility. Nearly half of participants ($n = 49$) were serving a provincial sentence, 25 were serving a federal sentence, 13 were on remand (i.e., either awaiting the commencement of a trial, a verdict, or sentencing) and expecting a federal sentence, 11 participants reported that the charges had been dropped or dismissed in court, and two were on remand but expecting a provincial sentence.

The mean age of participants at the time of the interrogation was 30.73 ($SD = 10.72$). The mean age of participants at the time of the study was 32.88 ($SD = 10.87$). On average, the length of time between the interrogation and the recalling of the interrogation details was 2.15 years ($SD = 3.52$). The vast majority of participants were Caucasian ($n = 91$), six were aboriginal, and

three self-identified as being a member of another ethnic group. The majority of participants ($n =$ 87) had a criminal history. Just over half of the participants who had a criminal history (56.32%) indicated that they had more than 10 convictions, 29.89% had between one and five convictions, and 16.09% had between six and 10 convictions. Participants were questioned about the type of offense that had been the subject of their most recent interrogation. Offenses for the sample included break and enter (18%), armed robbery (16%), drug related offense (13%), sexual offenses (11%), assault (11%; these include simple, aggravated, and with a weapon), theft under $5,000 (7%), fraud (5%), murder (4%), impaired driving (4%), and other (11%; this included 8 different types of crimes).

Fifty-eight percent of participants were interviewed by members from one police organization, 38% were interviewed by a second organization, 3% by members of both the first and second organizations, and 1% by a third organization. Thirty-eight participants indicated that they sought legal advice prior to their interrogation. Forty-one percent of participants reported that their most recent interrogation lasted for less than an hour, 34% indicated that the questioning lasted between one and two hours, 17% indicated that the questioning lasted between two and three hours, 2% indicated that the interrogation lasted between three and four hours, and 6% indicated the questioning lasted for more than four hours. In terms of perceived evidence, 46% indicated that they agreed (i.e., they chose one of the agree options on the 7-point scale; somewhat agree, agree, strongly agree) that the evidence against them was strong ($M = 3.99$, $SD = 2.13$).

Recruitment

Approval for the study was obtained from the university's ethics review board and government officials who were responsible for the correctional institution. One non-uniformed

staff member, accompanied by two correctional officers, assisted with participant recruitment by distributing a one-page Willingness to Participate form (which documented the purpose of the study) to each inmate housed in the nine units comprising the correctional facility. Each unit housed approximately 20 inmates. Because research has shown that literacy levels of inmates tend to be deficient (Caddick & Webster, 1998; Davies, Lewis, Byatt, Purvis, & Cole, 2004; Jovanić, 2011), the staff member also read the recruitment form aloud to the groups of inmates housed in the various units and provided an opportunity for them to ask questions. Inmates were informed that the provision of a signature on the recruitment form indicated that they were interested in participating in the study. A total of 130 of the 160 inmates indicated that they were willing to participate in the study. Because release or transfer dates of the inmates who were willing to participant varied dramatically, the schedule of interviews was determined by those dates; inmates whose release or transfer dates were most imminent were interviewed first.

Materials

Interview Protocol. A 50-item structured interview protocol, with seven sections, was created. Section 1 (free recall) contained instructions for participants to provide a free recall of their most recent interrogation.[3] The instructions contained the option for participants closing their eyes or divert their gaze, a mental reinstatement of context script, and a prompt for additional details (i.e., what else do you remember?; see Vredeveldt & Penrod, 2013). Section 2 (dependent measures) contained a closed yes/no question pertaining to the confession decision (1 = *no confession*; 2 = *confession*), a probing question about the reason for their confession decision, and a question that asked them to indicate, on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*), the extent to which they agreed that they *cooperated* with the interrogator. Section 3 (interrogator style) contained 30 questions that asked participants to rate, on 7-point

scales (1 = *strongly disagree* to 7 = *strongly agree*), the behavior of the interrogator (e.g.,

respect, talked in calm voice; see Appendix). Section 4 (legal advice) contained a closed yes/no

question about seeking legal advice (1 = *No*, 2 = *Yes*), a probing question about their seeking or

ignoring legal advice, a closed yes/no question about their satisfaction with the legal advice (1 =

No, 2 = *Yes*, if applicable), and a probing question about the reason for their satisfaction or

dissatisfaction with the legal advice they received (if applicable). Section 5 (interrogation

characteristics) contained questions about the length of the interrogation (1 = *< 1 hour*, 2 = *1-2*

hours, 3 = *2-3 hours*, 4 = *3-4 hours*, 4 = *> 4 hours*), a question about the extent to which they

agreed that the evidence against them was strong (1 = *strongly disagree* to 7 = *strongly agree*),

which police organization conducted the interrogation (1 = *Organization A*, 2 = *Organization B*,

3 = *Other Organization*), an open-ended question regarding the offense for which they were

interrogated, and the type of sentence received (1 = *provincial*, 2 = *federal*; 3 = *other*). Section 6

(attitude toward police) contained three questions that asked participants to rate (1 = *strongly*

disagree to 7 = *strongly agree*) the extent to which they have trust in the police, confidence in

the ability of police to do their job, and satisfaction with the overall quality of policing. Section 7

(demographic characteristics) asked participants to provide their current age and their age at the

time of their most recent interrogation, their ethnicity (1 = *Caucasian*, 2 = *Canadian American*, 3

= *Aboriginal*, 4 = *Asian*, and 5 = *Other*), whether or not they had a criminal record (1 = *No*, 2 =

Yes), and number of past convictions (if applicable).

Procedure

The second author (henceforth referred to as 'the interviewer') conducted all interviews

in a room that was used primarily for institutional programming. The room was located in an

area of the prison to which inmates did not normally have access, and contained a table, panic

button, and security camera without audio capabilities. The interviewer started each interview session by calling one of the correctional officers and requesting that the participant be escorted to the interview room. Once a participant was secured and escorted to the interview room, he was greeted by the interviewer, and seated.

Given that the success of an interview depends partially on the establishment of a working alliance between interviewer and interviewee (e.g., Milne & Bull, 2003; Vanderhallen & Vervaeke, 2014), the interviewer first personalised the interview (e.g., exchanged names, engaged in conversation) and then obtained informed consent. Participants were given a choice to either read the form themselves or have the interviewer read the form aloud. All participants who agreed to participate answered all questions, and no participant requested that their data be withdrawn from the study. For the nine participants who did not agree to have their interview audio recorded, detailed notes during the free recall portion of the interview were taken.

Upon receiving consent, participants were thanked for agreeing to participate, and reminded of the value of their contribution, and that the interviews were anonymous. Participants were then asked to tell the interviewer why they were participating to make sure any remaining misconceptions or confusions were clarified. Participants were informed again that they would be interviewed about on their most recent interrogation. If a participant reported being interrogated more than once in relation to their most recent criminal charge, they were asked to think about the most substantive interrogation. Participants were then reminded that it was important for them to report everything they could remember regarding the interrogation, that the interviewer would not express any opinions during the interview in order to remain unbiased, and that they would not be asked questions related to the details of the criminal charge. The interviewer then proceeded to administer the interview protocol.

Once the participant was informed that there were no further questions, they were thanked for their contribution and the audio recording was stopped. The interviewer then spent approximately five minutes conversing with the participant concerning a neutral topic before the correctional officer escorted him back to his unit. Each interview lasted approximately 45 minutes and participants' were reimbursed with $20 in their institutional bank account for their participation. The modest reimbursement was offered as a means of expressing gratitude for the participants' time and effort, and was not intended to be a sole motivator for research participation (Hanson, Letourneau, Olver, Wilson, & Miner, 2012).

Results

To maintain an appropriate predictor to case ratio when conducting regression analyses (i.e., 1:10; see Tabachnick & Fidell, 2012) the total number of predictors was limited to nine: humanitarian style, legal advice, interrogation length, perception of evidence, age, previous conviction, number of convictions, offense seriousness, and attitude toward police. The values for all but three of the predictors (see exceptions below) were mentioned above in the description of the interview protocol. The associated descriptive statistics can be seen in the *Participants'* section above.

Preliminary Analyses

Factor analysis. A principal components factor analysis without rotation was performed on the responses to the 30 questions pertaining to the interrogators' behaviors during the participants' interrogation of their most recent criminal charge (Section 3 of the interview protocol). Although nine factors were extracted, the first factor, which accounted for the 24.49% of the variance, was the only dimension that was interpretable. The variables that that loaded heavily on this factor were thanked the interviewee for providing information (.72), showed

respect (.69), made effort to make interviewee feel like an equal (.67), seemed sincere during the

interrogation (.65), ended the interrogation on a positive note (.62), used calm voice (.61),

seemed grateful for the information provided (.62), was impatient (-.64), tried to confuse the

interviewee (-.62), rushed the interviewee to provide answers (-.61), was threatening (-.58), and

was intimidating (-.58). The first factor was labelled *humanitarian style* and the associated factor

scores were calculated and used in the subsequent regression analyses.

Attitude toward police. Given that the responses to the three questions comprising

Section 6 of the interview protocol were highly-correlated (M_r = .52, range: .43 - .57), a single

measure of attitude toward police was calculated by adding the scores together. The values of

this combined measure could range from 3 to 21. The mean rating of attitude toward police was

9.82 (SD = 4.56).

Offense seriousness. A binary variable called offense seriousness (1 = *property crime*, 2

= *crime against a person*) was created from the type of crime that the participant indicated was

the focus of their most recent interrogation. The crimes of break and enter, fraud, theft under

$5,000, drug offenses, operation (of vehicle) while disqualified, theft of a vehicle, possession of

a prohibited weapon, arson, and evading police were each reclassified as non-person crimes (n =

54). The crimes of murder, assault, sexual assault, armed robbery, disguise with intent (to

commit an indictable offense), home invasion, uttering threats, and impaired driving causing

bodily harm were reclassified as crimes against persons (n = 46).

Zero-order Correlations. The zero-order correlations between self-reported confession

and cooperation, and inter-cue correlations, are shown in Table 1. The correlation between

confession and cooperation was r = .41, p < 001. Only humanitarian style and perception of

evidence had a significant positive zero-order correlation with self-reported confession decisions

(all $ps < .01$). Age, humanitarian style, and attitude toward police had a significant ($p < .05$) positive zero-order correlation with self-reported cooperation. Significant positive correlations ($p < .05$) were found between humanitarian style and attitude toward police, interrogation length and offense seriousness, and age and attitude toward police. There were significant negative correlations between legal advice and previous convictions, and, unsurprisingly, between the two measures of previous criminal history. Overall, the predictors are orthogonal as the mean inter-cue correlation is $r = .02$.

Self-Reported Confession Decisions

Logistic regression. A logistic regression analysis was performed on self-reported confession decisions and the nine predictors: humanitarian style, legal advice, interrogation length, perception of evidence, age, previous conviction, number of convictions, offense seriousness, and attitude toward police. The full model with all nine predictors had a deviance value (- 2 log likelihood) of 71.18 compared to a value of 134.60 for a constant-only model (i.e., a base model with no predictors). This difference in deviance values was statistically significant, $\chi^2 (9, N = 100) = 63.43$, $p < .001$, indicating that the predictors together distinguished significantly between inmates who had confessed and those who had not confessed. A large amount of the variance in confession decision was accounted for as well (Nagelkerke's $R^2 = 0.64$). Classification was good, with 50 out of 60 (83.33%) of the non-confessions predicted correctly and 29 out of 40 (72.50%) of confessions predicted correctly, for an overall success rate of 79.00% (compared to an accuracy of only 60.00% for the base-rate model).

A summary of the influence of each of the nine predictors in the logistic regression analysis on confession decisions (1 = no confession, 2 = confession) is shown in Table 2. According to the Wald criterion, perception of evidence, humanitarian style, previous

convictions, number of convictions, and legal advice each made a unique contribution to predicting confession decisions. Specifically, the likelihood of an interrogation resulting in a confession was greatest when evidence strength and humanitarian score were high, and when the interviewee had few previous convictions and did not receive legal advice.

An examination of the odds ratios (Table 2) shows that, when holding all other variables constant, humanitarian style and perception of evidence had a medium effect on confession decision (see Borenstein, Hedges, Higgins, & Rothstein, 2009, for how to interpret the magnitude of odds ratios; also see Rosenthal, Rosnow, & Rubin, 2000). Each unit of increase on the scale of humanitarian style was associated with a fourfold increase in the odds of the interrogation resulting in confession. Each unit of increase on the scale of perception of evidence strength was associated with a 2.5 times increase in the odds of the interrogation resulting in a confession. Although non-significant, interrogations pertaining to crimes against a person were nearly 2.5 times as likely to elicit a confession than interrogations that pertained to non-person crimes. There was a medium effect of number of convictions, and a large effect of previous convictions and legal advice on confession decision. The odds of an interrogation resulting in a confession were reduced by a factor of 50 for persons with previous convictions, by a factor of 3 for each previous conviction, and by a factor of 7 for persons who had sought legal advice.

Self-Reported Level of Cooperation

Standard least squares regression. A summary of a standard regression, using the same nine-predictors, on self-reported level of cooperation is shown in Table 3. The model with all nine predictors accounted for a significant portion of the variance, $F(9, 90) = 5.40$, $p < .001$, with R^2 at 0.35 (95% $CI = 0.21$, 0.49). The adjusted R^2 value of 0.29 indicates that the nine predictors account for nearly 30% of the variability in self-reported level of cooperation. Humanitarian

style, previous convictions, and number of convictions were the only statistically significant predictors ($p < .05$) of level of cooperation. The direction of the relationships suggests that an increase in the humanitarian style score was associated with an increase in cooperation; the confidence intervals around the regression coefficient for humanitarian style were 0.39 to 1.26. Conversely, cooperation tended to be lower when the interviewee had a previous conviction (95% *CI* for B = -3.86, -0.98) and cooperation decreased as number of convictions increased (95% *CI* for B = -1.45, -0.49).

The generalizability, or predictive power, of the regression equation (i.e., cross validation; determining the R^2 value when the original multiple regression model is applied to a new set of data) was assessed using an analytical method. We used an analytical formula suggested by Rozeboom (1978):

$$\text{Rozeboom's } R^2 = 1 - [(1- R^2)(N +K)/N-K]$$

In this equation, R^2 is the sample multiple squared correlation coefficient, N is the number of cases, and K is the number of predictors. The more predictors there are in the model, relative to the number of cases, the more unreliable the model and the smaller the value of Rozeboom's R^2 (to be interpreted like an R^2 values from a standard least squares multiple regression; see Snook, Grant, & Button, 2009). In the present study, Rozeboom's R^2 was .15, which suggests that the ability of the original regression model to predict cooperation for a new set of data would shrink substantially (by 50%).

Discussion

We examined the ability to predict decisions to confession and cooperate with the factors that comprise an interrogation. We found that there was a greater likelihood that a detainee confessed when perceptions of evidence strength and the score on the humanitarian interviewing

scale were high, and when the detainee had few previous convictions and did not seek legal advice. The length of the interrogation, age of the detainee, offence seriousness, or the detainees' attitude toward the police was unrelated to confession decisions. Similarly, we found the inmates' self-reported level of cooperation was greatest when the score on the humanitarian interviewing scale was high and when detainees has limited experience with the justice system. Perceptions of evidence strength, the invoking the services of a lawyer, the length of the interrogation, age of the detainee, offence seriousness, or the detainees' attitude toward the police were unrelated to cooperation. Our findings add to a growing body of research that is informing the debate on how interrogators might interact effectively with detainees.

The finding that higher scores on the humanitarian interviewing scale (e.g., being respectful, sincere) is associated with a four-fold increase in the likelihood of an interview ending in a confession is consistent with the limited amount of past research on this topic (Gudjonsson & Petursson, 1991; Holmberg & Christianson, 2002; Kebbell et al, 2008, 2010). The relatively wide nature of the confidence intervals around the odds ratios, however, suggests that there is lack of precision around the estimated relationship between the humanitarian interviewing score and confessions. When we consider the lower limit of the confidence interval, we see that there is a good chance that there is at least a two-fold increase in the likelihood of an interview resulting in a confession if the interviewer employs a humanitarian interviewing style. When considering the upper limit, it is likely that the humanitarian style is associated with an eight-fold increase in the likelihood of an interview resulting in a confession. Similarly, we found a strong relationship between the score on the humanitarian interviewing scale and participants' self-reported level of cooperation.

Although we are unable to conclude that humanitarian interviewing leads to confessions and cooperation, our findings are consistent with the arguments made in other fields that humanitarian-based interpersonal interactions (e.g., those that involve respect, trust, rapport) lead to desired outcomes. Undeniably, data from the related fields of correctional psychology, (Cook & Roesch, 2012; Gendreau, Cullen, & Goggin, 1999; MacKenzie, Wilson, & Kider, 2001), crisis negotiation (Giebels & Taylor, 2009; Taylor, 2002; Vecchi, Van Hasselt, & Romano, 2005), counselling psychology (Miller & Rollnick, 2012), and education (Benson, Cohen, & Buskist, 2005; Meyers, 2008; Wilson, 2006), shows that a ethical-based approaches to interpersonal interactions is associated with a greater likelihood of obtaining positive results (e.g., successful negotiations, reductions in recidivism). In contrast, research in those disparate areas have also highlighted the fact that taking a get tough approach is generally ineffective because it can lead to reactance – the adoption or strengthening of an attitude/action that is contrary to the desired attitude/action (see Gudjonsson, 2003; Memon, Vrij, & Bull, 2003). Additionally, our findings are consistent with what would be predicted from different theories about how to communicate effectively and build productive working relationships (e.g., Reactance Theory, see Brehm & Brehm, 1981; Communication Accommodation Theory, see Giles & Ogay, 2006).

Although research suggests that the association between criminal justice experience and confessions is inconclusive (see Deslauriers-Varin, Lussier, & St-Yves, 2011), we found that less experience with the justice system (in the form of the number of previous convictions) was predictive of both self-reported decisions to confess and cooperate. Relatedly, inmates who had previous convictions were more likely to consult legal advice, and those who requested the service of a lawyer were more likely to deny involvement and avoid cooperating with the police (see Moston, Stephenson, & Williamson, 1992, for similar findings). Many of our participants

reported that their experiences taught them that police officers do not always play fair and that it was in their best interest to seek the advice of their legal representation – a lesson that inexperienced offenders have not learned. When seeking legal advice, inmates were advised to stay silent and avoid the risk of being manipulated into self-incrimination through the use of persuasive tactics. Future research will help determine if similar sentiments about mistrusting interrogators exist for seasoned offenders who operate in countries where humanitarian interviews have been used more widely for a longer period of time (e.g., UK, Norway, New Zealand).

In line with findings from experimental and other self-report studies, we found that confessions occurred more readily when the detainee perceived the evidence against them to be strong (e.g., Deslauriers-Varin et al., 2011; Gudjonsson & Petursson, 1991; Kassin & Kiechel, 1996; Moston et al., 1992; Phillips & Brown, 1998). Some of our participants, which echoes explanations reported in other studies, explained that it was pointless to deny involvement when it was clear that the police had proof of their guilt. Others researchers have argued that inmates realize that it may in their best interest to confess, and ultimately to plead guilty, when presented with strong evidence because it may result in a more lenient sentence; or at the very least, offenders have reasoned that the judicial process will be swifter if they confessed (see Dando & Bull, 2011; Dando, Bull, Omerod, & Sandham, 2015).

Our findings will no doubt raise interesting discussions about how police interrogations ought to be conducted. Our findings are consistent with arguments that greater levels of confessions and cooperation can be obtained when a humanitarian interviewing style and proof of guilt are utilized (findings that match those from experimental studies). It is also seemingly the case that those two tactics are especially important to consider when dealing with seasoned

criminals who have strong, pre-existing negative views of interrogators. However, caution is required because other factors, beyond those included in our correlational study, may influence the confession and cooperation decisions (e.g., personality of interviewer). Moreover, some police officers may be inclined to use these strategies in an insincere way (i.e., faking evidence and faking the humanitarian philosophy), but such an premeditated approach is ill advised because of the consequences that exist for the offender (e.g., wrongful imprisonment), the interrogator (e.g., disciplinary measures or even civil liability for conducting negligent interrogations), and the police organization (e.g., negative public perceptions). Moreover, using fraudulent practices may produce a boomerang effect, whereby detainees who were prepared to confess or cooperate decide against that course of action because the interrogator's dishonesty is detected (see Gudjonnson, 2003).

There are at least three limitations of the current study that require discussion. The most notable concern pertains to the problems associated with self-report data. Perhaps most central concern is the reliance on participants to provide an accurate account of their interrogation. We also had to rely upon the honesty of the participants (e.g., problem with biases such as social desirability) and the ability of the offenders to comprehend our questions (e.g., construct validity). Although the offenders' perceptions of the interrogation is as important as what actually occurred, future steps should be taken to reduce the problems of self-report data, for example, by either verifying the self-report data (as done by Deslauriers-Varin et al., 2011) or modeling confession and cooperation decisions with more objective data (e.g., data from actual interrogations, controlled experiments).

A second potential limitation pertains to demand characteristics – cues transmitted from the experimenter to the participant pertaining to the experimenter's expectations of the results of

the study, or expectations regarding how the participant is to perform/respond (Orne, 1962). Although the information conveyed to participants prior to participating was delivered in a way that the participant would not be made aware of any expectations the interviewer may have, it is possible that participants in the current study may have provided information that was in line with their interpretation of what they believed the interviewer's hypothesis to be. Ideally, a blind interviewer without knowledge of the experimental hypothesis should have been used in order to eliminate the former type of intentional or unconscious bias.

A third potential limitation is that the same person conducted all interviews. It is impossible to know whether the inmates would have responded differently if there were variations in interviewer characteristics (e.g., gender). For future research, the interviews should be conducted by different interviewers – who vary by gender, age, ethnicity – to minimize the effect that the idiosyncratic features of a single interviewer might have on the results. Unfortunately, the time, resources, and institutional approvals required to vary interviewers was unavailable. It is also important to note that having more than one interviewer runs the risk of reducing the reliability of the interviewing process.

There is an important and far-reaching debate about the type of approach that should be followed by police interrogators. On the one side are those who appear to hold common-sense beliefs that conducting accusatorial interrogations is a useful and necessary way to seek justice. On the other side are those that advocate for information gathering interviews that are ethical, and science-based. Our results contribute more knowledge to this larger debate (by, for example, using cooperation as a dependent measure, and examining how attitudes toward the police might influence responding), and add to the existing conclusions that a humanitarian approach goes hand-in-hand with decisions to confession and cooperation. Our findings also consistent with

previous arguments that interviewers may wish to work more arduously to overcome the

negative experiences of some seasoned detainees, and to make sure that real proof of guilt is

used. We encourage replication of this research, and additional research that analyses actual

interrogations to predict confessions and information provision (such as that of Walsh & Bull,

2010). We anticipate that, as scientifically derived data continues to amass in its favour,

information gathering approaches will become more persuasive to law enforcement

organizations.

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Notes

[1]The Wickersham Commission – a commission chaired by former attorney general George W. Wickersham - produced *The Report on Lawlessness in Law Enforcement* in 1931. The report was one of the fourteen that was published by the National Commission on Law Observance and Enforcement (NCLOE), which was established by President Hoover in 1929 to systematically examine police misconduct. The various reports led to major reforms in police accountability, including police interrogations.

[2]The 'get tough' philosophy still continues to surface sporadically within policing, however. A recent Canadian case, for instance, documented the use of physical force (e.g., grabbing neck, acute fracture of the ribs, slamming head against wall) by police interrogators (see *R. v. Singh*, 2013)

[3]A quantitative presentation of the free recall responses is not provided for two reasons. First, the original intent of the free recall phase was to prime the participants prior to responding to our questionnaire – it was not our intention to use the free recall responses as a way of collecting generalizable data. Second, an attempt to code the free recall responses (as requested by reviewers) resulted in unacceptably low levels of reliability.

Table 1

Zero-Order Correlations with Self-Reported Confessions and Cooperation, and Correlations between Predictors

Predictor	Zero-Order Correlation (r) Confession	Zero-Order Correlation (r) Cooperation	Humanitarian Style	Legal Advice	Interrogation Length	Perception of Evidence	Age	Previous Conviction	Number of Convictions	Offense Seriousness
Humanitarian Style	.41	.37								
Legal Advice	-.14	-.08	-.03							
Interrogation Length	.02	-.12	.06	.17						
Perception of Evidence	.54	.16	.16	.00	.09					
Age	-.05	.23	.13	-.14	-.09	.00				
Previous Convictions	-.11	-.13	-.13	-.25	-.09	.05	.07			
Number of Convictions	.00	-.17	.21	.00	-.01	.02	-.04	-.51		
Offense Seriousness	.07	.00	.08	.15	.20	-.01	-.01	-.18	.11	
Attitude Toward Police	.10	.27	.34	.18	.02	.05	.21	.17	-.05	.07

Table 2

A Summary of the Logistic Regression Analysis on Self-Reported Confession Decision

Predictor	β	Wald χ^2-test	*p*	Odds Ratio	95% Confidence Intervals for Odds Ratio	
					Lower	Upper
Age	-0.06	2.51	.11	0.94	0.88	1.01
Humanitarian Style	1.39	11.94	<.001	4.02	1.83	8.86
Previous Convictions	-3.80	7.78	.01	0.02	0.00	0.32
Number of Convictions	-1.04	5.68	.02	0.35	0.15	0.83
Interrogation Length	-0.33	1.32	.25	0.72	0.41	1.26
Perception of Evidence	0.98	19.13	<.001	2.65	1.71	4.10
Legal Advice	-1.96	5.54	.02	0.14	0.03	0.72
Attitude Toward Police	-0.02	0.08	.78	0.98	0.83	1.15
Offense Seriousness	0.86	1.63	.20	2.37	0.63	8.93

Note. The 95% confidence interviews were rounded up. No confession = 1 and confession = 2.

Table 3

A Summary of the Standard Multiple Regression Analysis of Self-Reported Cooperation

Predictor	*B*	*SE B*	*β*	*t*	Sig. (*p*)
Age	0.033	0.019	0.15	1.71	.09
Humanitarian Style	0.825	0.219	0.36	3.76	<.001
Previous Convictions	-2.421	0.726	-0.36	-3.34	<.001
Number of Convictions	-0.967	0.240	-0.42	-4.03	<.001
Interrogation Length	-0.322	0.184	-0.16	-1.75	.08
Perception of Evidence	0.146	0.094	0.14	1.55	.12
Legal Advice	-0.590	0.433	-0.13	-1.36	.18
Attitude Toward Police	0.027	0.049	0.05	0.56	.58
Offense Seriousness	-0.011	0.405	0.00	0.03	.98

Appendix: Interview Protocol

Measure of Interrogation Style

What I would like you to do now is **focus on the police officer**, the main person who conducted your most recent interrogation. Again, please respond to the following statements with the following 7-point scale

Strongly disagree	Disagree	Somewhat Disagree	Neither Disagree nor Agree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

1. The police officer tried to make me feel comfortable before the interrogation began
2. The police officer made me feel like `just another suspect`
3. The police officer made an effort to get to know me before the interrogation began
4. The police officer made an effort to make me feel like an equal during the interrogation
5. The police officer tried to see things from my perspective
6. The police officer showed me respect
7. The atmosphere in the interrogation room was relaxed
8. The police officer spoke in a calm voice throughout the interrogation
9. The police officer spoke slowly throughout the interrogation
10. The police officer interrupted me often during the interrogation
11. The police officer encouraged me to continue talking about the alleged crime
12. The police officer made me feel rushed to provide information during the interrogation
13. The police officer seemed distracted while I was speaking
14. The police officer was impatient during the interrogation
15. The police officer tried to confuse me
16. The police officer tried to trick me during the interrogation
17. The police officer ended the interrogation on a positive note
18. The police officer thanked me for the information I provided
19. The police officer seemed grateful for the information I provided
20. The police officer was threatening
21. The police officer made me feel shameful
22. The police officer talked more than me during the interrogation
23. The police officer provided me with excuses for my alleged behavior
24. The police officer made the charges against me seem less serious than they really were
25. The police officer exaggerated the seriousness of the alleged offense
26. The police officer exaggerated the strength of the evidence that existed against me
27. The police officer seemed sincere during the interrogation
28. The police officer made me feel like I had control over the flow of the interrogation
29. The police officer was intimidating
30. The police officer worked hard to help me understand my rights