

Est.  
1841

YORK  
ST JOHN  
UNIVERSITY

Douglass, Melanie Dawn ORCID:  
<https://orcid.org/0000-0002-4665-2034>, Bain, Stella A., Cooke,  
David J. and McCarthy, Paul (2019) The Role of Self-Esteem and  
Locus-of-Control in Determining Confession Outcomes. *Personality  
and Individual Differences*, 147. pp. 292-296.

Downloaded from: <http://ray.yorks.ac.uk/id/eprint/3860/>

The version presented here may differ from the published version or version of record. If  
you intend to cite from the work you are advised to consult the publisher's version:

<https://www.sciencedirect.com/science/article/pii/S0191886919302855>

Research at York St John (RaY) is an institutional repository. It supports the principles of  
open access by making the research outputs of the University available in digital form.  
Copyright of the items stored in RaY reside with the authors and/or other copyright  
owners. Users may access full text items free of charge, and may download a copy for  
private study or non-commercial research. For further reuse terms, see licence terms  
governing individual outputs. [Institutional Repository Policy Statement](#)

# RaY

Research at the University of York St John

For more information please contact RaY at [ray@yorks.ac.uk](mailto:ray@yorks.ac.uk)

Running Head: SELF-ESTEEM, LOCUS-OF-CONTROL, CONFESSION DECISIONS

The Role of Self-Esteem and Locus-of-Control  
in Determining Confession Outcomes

Melanie Dawn Douglass\*

York St John University

Stella A. Bain

Glasgow Caledonian University

David J. Cooke

Glasgow Caledonian University

Paul McCarthy

Glasgow Caledonian University

\*Corresponding author:

Dr Melanie Dawn Douglass

School of Psychological & Social Sciences

York St John University, York, YO31 7EX

United Kingdom

email: m.douglass@yorks.ac.uk

## Abstract

Previous research suggests that self-esteem and locus-of-control are inversely related to compliance. There is also research to suggest that low self-esteem and external locus-of-control are associated with interrogative suggestibility. While it is believed that compliance and interrogative suggestibility are risk factors for falsely confessing, previous research has not directly examined the relationship between these personality variables and confession decisions made in an experimental paradigm where ground truth is known. The present study used the Russano paradigm and involved 104 participants recruited through the Glasgow Science Centre. Participants filled out personality questionnaires and a set of cognitive exercises with a confederate. As is standard for the paradigm, they were then accused of cheating. The researcher was not aware of whether participants were guilty or innocent. During the subsequent interview, which was based on conversation management, signed confession statements were sought, with these coded as true or false based on the participant's condition. Results indicated that having an external locus-of-control was predictive of falsely confessing, rather than denying guilt. Self-esteem and time at which a confession was made did not affect the results. This paper discusses the implications of these findings and the study's limitations.

*Keywords: Self-esteem, Locus-of-control, Confessions, Individual Differences, Russano Paradigm*

There is evidence that low self-esteem is associated with compliance (Carver et al., 1989; Graf, 1971; Graf, 1971; Gudjonsson & Clark, 1986; Gudjonsson & Sigurdsson, 2003; Gudjonsson, Sigurdsson, Brynjolfsdottir, & Hreinsdottir, 2002). Gudjonsson and Sigurdsson (2003) argue that individuals with low self-esteem are vulnerable to being compliant because they are eager to please and reluctant to engage in confrontation. There is also evidence that compliance is positively associated with the likelihood of confessing (Gudjonsson, 1984b, 1991, 1992; Sigurdsson & Gudjonsson, 1996). However, there is a lack of evidence directly linking self-esteem to confession outcomes.

Research has also shown that low self-esteem is associated with suggestibility (Bain, Baxter, & Fellows, 2004; Baxter, Jackson, & Bain, 2003; Canfield, 1997; Gudjonsson & Lister, 1984; Singh & Gudjonsson, 1984). Suggestibility is associated with an increased probability of making a false confession (Gudjonsson, 1991; Redlich & Goodman, 2003). People with lower self-esteem may be affected more by the demands of the interviewer and, to manage the situation, focus on these demands to an extent that it impedes accurate recall (Bain & Baxter, 2000; Baxter et al., 2003; Gudjonsson, 2003). As a result, they may experience increased anxiety and focus on managing their affective states, further impeding accuracy (McGroarty & Baxter, 2009), making the task seem more difficult (Bain, Baxter, & Ballantyne, 2007; Bain et al., 2004; Gudjonsson, 2003; McGroarty & Baxter, 2009).

Gudjonsson and Lister (1984) also found that suggestibility is associated with an external locus-of-control in males. This relationship was corroborated by Forrest, Wadkins, and Larson (2006), who demonstrated that a positive relationship exists between suggestibility and having an internal locus-of-control. Therefore, individuals with an external locus-of-control, and those with low self-esteem, tend to have low perceptions of their control over and capability of dealing with the situation. According to Gudjonsson and Clark's (1986) model of interrogative suggestibility,

one's performance in an interrogative situation is related to one's ability to cope under pressure. They proposed that factors that increase stress, or arousal, including one's psychological predispositions, would affect behavioural outcomes during interrogations (Gudjonsson & Clark, 1986). That is, certain factors lead to heightened suggestibility during police interviews, thereby resulting in false confessions. This theoretical framework, in combination with the empirical findings suggest that self-esteem and locus of control affect confession outcomes. However, previous investigations of this assertion have focused on indirect relationships. That is, whether personality variables are associated with interrogative suggestibility, as measured by the Gudjonsson Suggestibility Scales (GSS; Gudjonsson, 1984a; 1997), rather than whether they directly affect confession decisions.

Forrest et al. (2006) used the computer crash paradigm (Kassin & Kiechel, 1996) to investigate direct relationships. They found a positive relationship between internalised guilt and having an external locus-of-control. This supports previous research (e.g., Gudjonsson & Lister, 1984), while providing support that a direct relationship exists between locus-of-control and false confessions. However, the paradigm used does not allow for true confessions. The authors believe that one cannot gain clear insight into false confessions without investigating the factors associated with true confessions, true denials, and false denials. This is particularly important because there is some evidence of overlap between predictors of true and false confessions. For example, there is some evidence that locus-of-control also increases the probability of true confessions (Kebbell, Alison, Hurren, & Mazerolle, 2010). To explore this further, and to investigate how personality variables differentially affect true and false confessions, it is necessary to adopt an experimental paradigm that investigates both true and false confessions.

Russano, Meissner, Narchet, and Kassin (2005) have developed a paradigm that allows the researcher to do this. In the study, a confederate and participant were asked to complete a series of

cognitive tasks individually. The confederate then asked half of the participants to assist them on one of the problems, which participants knew violated the researcher's warning against collusion. Ninety percent of the participants cooperated when asked for assistance. After completion of the task, the participants were accused of cheating – a form of academic dishonesty.

The advantage of this paradigm is that participants can be guilty or innocent, allowing for both true and false confessions statements. Moreover, the interviewer is unaware of the participants' innocence or guilt, which is more ecologically valid, and is important because suspected guilt affects interviewer behaviour (Narchet, Meissner, & Russano, 2011). The risk of differential behaviour based on suspected guilt is not negated by using a semi-structured interview because differences in tone or facial expressions may still occur. The final advantage of the paradigm is that, unlike self-report measures and the GSS, it uses a direct, experimental design, thereby allowing cause and effect to be investigated. For these reasons, the researcher believes that the best means of testing the research question.

All previous studies using this paradigm have focused on situational factors; for example, investigator bias, the use of false evidence, and interrogation techniques (Narchet et al., 2011; Perillo & Kassin, 2011; Russano et al., 2005). However, situational influence is only one of the factors that Gudjonsson (1989) identified as affecting confession decisions. Therefore, research using this paradigm to investigate the other factors involved in confession decisions should be conducted. Given previous research findings (e.g., Baxter et al., 2003), it was hypothesised that individuals with low self-esteem and an external locus-of-control would make more false confessions than individuals with high self-esteem and an internal locus-of-control.

## Method

### Participants

A sample of 106 individuals over eighteen, 55.77% of whom were female, were recruited from Glasgow Science Centre using opportunistic sampling, between April and August, 2013. However, one participant withdrew from the study before the interrogation phase and another was withdrawn because they had previous contact with the confederate. The mean age of the sample was 29.30 (SD = 10.79), with ages ranging from 18-59. The interviewer was not aware of which participants were guilty/innocent.

### Materials:

Rosenberg's (1965) Self-Esteem Scale is a 10-item questionnaire. Participants answered the items using a four-point Likert Scale, ranging from strongly agree to strongly disagree. The higher the participant scores on the scale, the higher their self-esteem. The internal consistency of the measure is reported to be .77 (Rosenberg, 1965).

Rotter's (1966) Internality-Externality Scale is a 29-item questionnaire. Participants chose between two options for each of the 29 items. The purpose of the scale is to measure whether individuals believe that events are a result of their own behaviour or due to chance. High scores reflect an internal locus-of-control. A meta-analysis found the mean internal consistency and test-retest reliability to be .66 (Beretvas, Suizzo, Durham, & Yarnell, 2008).

In addition, an interview script was developed by the researcher (see Appendix A) to ensure consistency in interrogation format. The script used questions developed by Russano et al. (2005); however, to better approximate UK investigative interviewing standards, the questions were ordered in a sequence consistent with a conversation management manual (Shepherd, 2007). In addition, to be consistent with best practise (see Bull, 1999; Evans & Fisher, 2011; Home Office, 1995; Sellers

& Kebbell, 2009), open-ended questions, intended to elicit details regarding what happened during the experiment, were placed before questions suggesting that the researcher had evidence against the participant.

#### Procedure:

The experiment followed the Russano et al. (2005) paradigm. Participants were recruited to participate in a study about how self-esteem and locus-of-control affect team and individual problem-solving ability. Following recruitment and the establishment of consent by the researcher participants met the experimenter and one of five confederates. Participants were then left with the confederate to complete the personality questionnaires, with counter-balancing introduced to avoid order effects. The experimenter then gave the participants the problem-solving exercises. The experimenter explained that the participants should first complete the team problems by discussing them and then individually complete the other problems, without any consultation.

During this task, for half of the participants, the confederate pretended to have difficulty with the “triangle problem” and asked the participant for assistance. Participants were classified as ‘guilty’ or ‘innocent’ based on this interaction. To test the circumstances leading to false confessions, the confederate did not ask the other half of the participants for assistance. After the problem sets had been completed, the experimenter returned with the post-problem-solving questionnaire. While they were doing this, the experimenter returned and informed them that there was a problem, stated the need to speak to them separately, and had the confederate exit with her.

After three minutes had elapsed, the experimenter returned and reiterated that there was a problem with the data sets and proceeded to question the participant using the interrogation script. The purpose of the interview was to persuade the participant to confess to cheating and to illicit a written confession. The interrogation ended as soon as a confession was made; where no confession



occurred, the interrogation lasted approximately five minutes. Confession outcomes were labelled as true or false based on the participants' behaviour with the confederate. All interviews were timed and the phase of the interview during which a confession occurred was also noted by the researcher. The research undertook debriefing and informed consent after the interview phase.

## Results

In total, 53 participants (51%) were asked for assistance and 51 (48.1%) were not. Of those asked, 47 (88.7%) assisted the confederate. In addition, three (2.9% of sample) participants initiated cheating themselves. Unlike previous studies, those who refused to assist the confederate were included in the analysis, to avoid artificially inflating the compliance levels. In total, 50 participants were 'guilty' (48.1%) and 54 (51.9%) were 'innocent'. Confessions were obtained from 46 participants (44.6%), three of which were false confessions (2.9%). A total of 57 participants (55.3%) did not confess, 10 of whom (9.6%) were false deniers. The mean self-esteem score for the sample was 21.39 ( $SD = 4.57$ ) and the mean locus-of-control score was 12.06 ( $SD = 4.13$ ). The mean time to elicit a confession was 147.41 seconds ( $SD = 70.63$ ).

The relationship between the target variables (locus-of-control, self-esteem, and time of confession) and confession outcome was assessed using multinomial logistic regression. Table 1 shows the locus-of-control results for the multinomial logistic regression for participants who made true confessions, false denials, and true denials; in comparison with those who made a false confession. A test of the full model against a constant only model was not significant, indicating that the predictors as a set did not distinguish between the confessions outcomes ( $chi\ square = 6.151$ ,  $df = 3$ ,  $p > 0.05$ ). The Wald criterion indicated that locus-of-control was the only significant predictor. True deniers had a significantly higher (more internal) locus-of-control than did false confessors ( $B = -0.427$ ,  $df = 1$ ,  $p = 0.054$ ).

*Insert Table 1 About here*

Multinomial logistic regressions were also carried out using true confessors, true deniers, and false deniers as the comparison group; however, no other significant associations were found (all  $p$ -values  $> 0.05$ ). In addition, self-esteem and time at which a confession was made failed to significantly contribute to the regressions and were excluded from the analyses (all  $p$ -values  $> 0.05$ ).

## Discussion

The aim of this research was to investigate the roles of self-esteem and locus-of-control in determining confession outcomes within an experimental paradigm. It was hypothesised that individuals with lower self-esteem and an external locus-of-control would be more likely to falsely confess. The results support the hypothesis that individuals with lower (more external) locus-of-control scores are more likely to make a false confession than a true or false denial. However, the results failed to find an association between confession outcome and both self-esteem and the length of time it took to obtain a confession.

According to Kassin and Wrightsman (1985) there are three types of false confession: voluntary, coerced-compliant, coerced-internalised; the latter two are differentiated by the fact that coerced-compliant confessors know themselves to be innocent, whereas coerced-internalised come to believe in their guilt. If those who falsely confessed accepted guilt internally (i.e. coerced-internalised), the finding that locus-of-control was predictive of the confession outcome corroborates previous research which has found a significant correlation between locus-of-control and interrogative suggestibility (Gudjonsson & Lister, 1984). However, it is not possible to determine whether guilt was internalised by the participants, which is something that should be

addressed in future research. Irrespective of that fact, this study advances previous research by demonstrating a direct relationship between locus-of-control and confession outcomes.

The results regarding self-esteem are also consistent with previous studies. Although some researchers have found evidence that low self-esteem leads to increased interrogative suggestibility (Baxter et al., 2003; Baxter & Boon, 2000; Gudjonsson, 1999; Gudjonsson & Clark, 1986; Gudjonsson & Lister, 1984; Gudjonsson, Sigurdsson, & Einarsson, 2004; Klaver, Lee, Rose, 2008), other researchers have failed to find a significant relationship (Bain, McGroarty, & Runcie, 2015; Drake et al., 2008; McGroarty & Baxter, 2009). One reason for the present results could be the low frequency of individuals with low self-esteem. Despite the range of potential scores being broad (1-30), and the data not being skewed, there were relatively few individuals with a clinically low level of self-esteem (i.e. below 15). This means that the data were overly homogeneous (cf Deslauriers-Varin, Lussier, & St-Yves, 2011).

A second explanation of the result may be found in the literature on dissociation. Evidence suggests that it is only those with pathological dissociativeness that are more suggestible (Eisen, Morgan, & Mickes, 2002), not those within the normal range. It is possible that self-esteem also has a non-linear relationship with confession decisions. That is, that those suffering from poor self-esteem are at risk of interrogative suggestibility, despite there not being a relationship, more generally, between self-esteem and interrogative suggestibility. This may explain why studies that have compared individuals with high self-esteem and individuals with low self-esteem (e.g., Bain et al., 2004) have found that self-esteem affects interrogative suggestibility, while correlational studies have failed to find a relationship (e.g., Drake et al., 2008).

The failure to find a significant association between time at which a confession was made and whether the confession was true or false was inconsistent with data from police interviews (Baldwin, 1993). It is likely that this was due to the short nature of the interviews and the low

number of false confessions. However, it is also possible that the non-significant result was due to the interview technique used. Research has suggested that most individuals have decided whether to confess before the interview (Deslauriers-Varin, 2006; Deslauriers-Varin, Beauregard, & Wong, 2011; Deslauriers-Varin & St-Yves, 2006). In the present study, participants were first asked to give an account of what happened, and many gave true confessions during free recall, while others delayed confession until evidence was provided by the researcher. This explanation supports the idea that there are individual differences in why people provide true confessions, though this needs to be examined further.

It may also be true that, where disclosure of evidence was delayed, the importance of time at which the confession occurs is reduced in terms of determining whether the confession is true or false. The effect of time of evidence disclosure on confession decisions needs further exploration, particularly considering recent studies on the different disclosure strategies used within UK police interrogations (Read, Powell, Kebbell, Milne, & Steinberg, 2014; Smith & Bull, 2014; Walsh, Milne, & Bull, 2015). This line of research is particularly important because there is evidence that when disclosure occurs affects confession decisions (Sellers & Kebbell, 2009).

The results are, however, limited by the low number of false confessions. Despite this affecting power, this rate is consistent with the purported rate of false confessions in police investigations (cf Gudjonsson & Sigurdsson, 1994; Garret, 2008), suggesting the study had adequate ecological validity. Based on previous literature that used the Reid Model of interrogation (e.g., Russano et al., 2015), it can be presumed that a more pressured interview script would have increased the false confession rate. Rates of false denial, cooperation with the confederate, and true confession were similar to those in previous studies (e.g., Russano et al., 2005). This suggests that the low number of false confessions was a product of the type of interrogation script used (i.e. based on the PEACE model, cf Kassin et al., 2010; Meissner et al., 2014).

This research suggests that even with minimal pressure, some individuals are at heightened risk of confessing, based on their psychological traits. This is consistent with Gudjonsson's (2003, 2010) argument that individual differences affect behaviour within an interrogative situation. Further research could explore this further by examining possible interactions between individual and situational factors. Future research is also needed in light of research showing that police interrogations in the UK incorporate some interrogation techniques/questions that are inconsistent with best practise (Clarke et al., 2011; Griffiths & Milne, 2005; Oxburgh, Ost, & Cherryman, 2010; Read et al., 2014; Soukara, Bull, Vrij, Turner, & Cherryman, 2009; Walsh & Milne, 2008). Therefore, more research is needed to see whether external locus-of-control and low self-esteem put a person at risk of making a false confession in a more pressurised interrogation environment. However, given that only 9.6 percent of the sample made a false denial and 2.9 percent made a false confession, the present study demonstrates the advantage of using an interrogation technique that is based on conversation management and best practise. It also shows direct evidence that individual factors affect confession outcomes.

## References

- Bain, S. A. & Baxter, J. S. (2000). Interrogative suggestibility: the role of interviewer behaviour. *Legal and Criminological Psychology, 5*, 123-133.
- Bain, S. A., Baxter, J. S., & Ballantyne, K. (2007). Self-monitoring style and levels of interrogative suggestibility. *Personality and Individual Differences, 42*, 623-630. doi: 10.1016/j.paid.2006.08.021
- Bain, S. A., Baxter, J. S., & Fellowes, V. (2004). Interacting influences on interrogative suggestibility. *Legal and Criminological Psychology, 9*, 239-252. doi: 10.1348/1355325041719419
- Bain, S. A., McGroarty, A., & Runcie, M. (2015). Coping strategies, self-esteem and levels of interrogative suggestibility. *Personality and Individual Differences, 75*, 85-89. doi: 10.1016/j.paid.2014.11.003
- Baldwin, J. (1993). Police interview techniques: Establishing truth or proof? *British Journal of Criminology 33*, 325-352. doi: 10.1093/oxfordjournals.bjc.a048329
- Baxter, J. S. & Boon, J. C. W. (2000). Interrogative suggestibility: The importance of being earnest. *Personality and Individual Differences, 28*, 753-762. doi: [10.1016/S0191-8869\(99\)00136-1](https://doi.org/10.1016/S0191-8869(99)00136-1)
- Baxter, J. S., Jackson, M., & Bain, S. A. (2003). Interrogative suggestibility: Interactions between interviewees' self-esteem and interviewer style. *Personality and Individual Differences, 35*(6), 1285-1292. doi: 10.1016/S0191-8869(02)00349-5
- Beretvas, S. N., Suizzo, M-A., Durham, J. A., & Yarnell, L. M. (2008). A reliability generalisation of scores on Rotter's and Nowicki-Strickland's Locus-of-Control scales. *Educational and Psychological Measurement, 68*(1), 97-119. doi:10.1177/0013164407301529
- Bull, R. (1999). Police interrogative interviewing. In A. Memon & R. Bull (Eds.), *Handbook of the*

psychology of interviewing (pp. 279-292). Chichester, UK: John Wiley & Sons.

Canfield, L. A. (1997). *Predictors of suggestibility and false memory production in young adult women*. *Journal of Personality Assessment*, 74, 384-399. doi:

10.1207/S15327752JPS7403\_4

Carver, C. S., Scheier, M. F. & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56(2), 267-283.

doi: 10.1037/0022-3514.56.2.267

Clarke, C., Milne, R., & Bull, R. (2011). Interviewing suspects of crime: the impact of PEACE training, supervision and the presence of a legal advisor. *Journal of Investigative Psychology and Offender Profiling*, 8, 149-162. doi: 10.1002/jip.144

Deslauriers-Varin, N., Beauregard, E., & Wong, J. (2011a). Changing their mind about confessing to police: The role of contextual factors in crime confession. *Police Quarterly*, 14(1), 5-24.

doi: 10.1177/1098611110392721

Deslauriers-Varin, N., Lussier, P., & St-Yves, M. (2011b). Confessing their crime: Factors influencing the offender's decision to confess to the police. *Justice Quarterly*, 28, 113-145.

doi: 10.1080/07418820903218966

Deslauriers-Varin, N., & St-Yves, M. (2006). The psychology of suspects' decision-making during interrogation. In R. Bull, T. Valentine, & T. Williamson (eds.), *Handbook of psychology of interrogative interviewing* (pp. 1-15). Chichester, UK: Wiley-Blackwell.

Drake, K. E., Bull, R. & Boon, J. C. W. (2008). Interrogative suggestibility, self-esteem, and the influence of negative life events. *Legal and Criminological Psychology*, 13, 299-310. doi:

10.1348/135532507X209981

Eisen, M. L., Morgan, D. Y. & Mickes, L. (2002). Individual differences in eyewitness memory and suggestibility: examining relations between acquiescence, dissociation and resistance to

misleading information. *Personality and Individual Differences*, 33, 553-571. doi:  
10.1016/S0191-8869(01)00172-6

Evans, J. R., & Fisher, R. P. (2011). Eyewitness memory: Balancing the accuracy, precision and quantity of information through metacognitive monitoring and control. *Applied Cognitive Psychology*, 25, 501-508. doi:10.1002/acp.1722

Forrest, K. D., Wadkins, T. A., & Larson, B. A. (2006). Suspect personality, police interrogations, and false confessions: Maybe it's not just the situation. *Personality and Individual Differences*, 40, 621-628. doi: 10.1016/j.paid.2005.09.002

Garrett, B. L. (2008). Claiming innocence. *Minnesota Law Review*, 92, 1629–1723.

Graf, R. G. (1971). Induced self-esteem as a determinant of behavior. *The Journal of Social Psychology*, 85, 213-217. doi: 10.1080/002245545.1971.9918570

Griffiths, A. & Milne, R. (2005). Will it all end in tiers? Police interviews with suspects in Britain. In: T. Williamson (Ed.), *Investigative interviewing: Rights, research, regulation* (pp. 167-189). Cullompton: Willan.

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

Gudjonsson, G. H. (1984b). Interrogative suggestibility: comparison between 'false confessors' and 'deniers' in criminal trials. *Medicine, Science and the Law*, 24, 56-60. doi:  
10.1177/002580248402400109

Gudjonsson, G. H. (1989). The psychology of false confessions. *The Medico-Legal Journal*, 57, 93-110.

Gudjonsson, G. H. (1991). Suggestibility and compliance among alleged false confessors and resisters in criminal trials. *Medicine, Science and the Law*, 31, 147-151.

Gudjonsson, G. H. (1992). *The psychology of interrogations, confessions and testimony*. Chichester:



John Wiley & Sons.

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

Gudjonsson, G. H. (1999). Feeling guilty and reparation for criminal acts. In M. Cox (Ed.), *Remorse and reparation* (pp. 83-94). London, England: Kingsley.

Gudjonsson, G. H. (2003). *The psychology of interrogations and confessions: A handbook*. Chichester: Wiley.

Gudjonsson, G. H. & Clark, N. Y. (1986). Suggestibility in police interrogation: a social psychological model. *Social Behaviour, 1*, 83-104.

Gudjonsson, G. H., & Lister, S. (1984). Interrogative suggestibility and its relationship with perceptions of self-esteem and control. *Journal of the Forensic Science Society, 24*, 99-110.  
doi: 10.1016/S0015-7368(84)72302-4

Gudjonsson, G. H. & Sigurdsson, J. F. (1994). How frequently do false confessions occur? An empirical study among prison inmates. *Psychology, Crime and Law, 1*, 21-26.

Gudjonsson, G. H., & Sigurdsson, J. F. (2003). The relationship of compliance with coping strategies and self-esteem. *European Journal of Psychological Assessment, 19*, 117-123.  
doi: 10.1027//1015-5759.19.2.117

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

Gudjonsson, G. H., Sigurdsson, J. F., Brynjolfsdottir, B. & Hreinsdottir, H. (2002b). The relationship of compliance with anxiety, self-esteem, paranoid thinking and anger. *Psychology, Crime and Law, 8*, 145-153. doi: 10.1080/10683160208415003

Home Office. (1995). *Police and Criminal Evidence Act 1984. Codes of practice* (Rev. ed.). London: HMSO.

- Kassin, S. M. & Kiechel, K. L. (1996). The social psychology of false confessions. Compliance, internalization, and confabulation. *Psychological Science*, *7*, 125-128. doi: 10.1111/j.1467-9280.1996.tb00344.x
- Kassin, S. M., & Wrightsman, L. S. (1985). Confession evidence. In S.M. Kassin & L.S. Wrightsman (Eds.), *The psychology of evidence and trial procedure* (pp. 67-94). Beverly Hills, CA: Sage.
- Kebbell, M., Alison, L., Hurren, E., & Mazerolle, P. (2010). How do sex offenders think the police should interview to elicit confessions from sex offenders? *Psychology, Crime and Law*, *16*, 567-584. doi: 10.1080/10683160902971055
- Klaver, J. R., Lee, Z., & Rose, V. G. (2008). Effects of personality, interrogation techniques and plausibility in an experimental false confession paradigm. *Legal and Criminological Psychology*, *13*, 71-88. doi: 10.1348/135532507X193051
- McGroarty, A., & Baxter, J. S. (2009). Interviewer behaviour, interviewee self-esteem and response change in simulated forensic interviews. *Personality and Individual Differences*, *47*, 642-646. doi: doi.org/10.1016/j.paid.2009.05.024
- Meissner, C. A., Redlich, A. D., Michael, S. W., Evans, J. R., Camilletti, C. R., Bhatt, S., & Brandon, S. (2014). Accusatorial and information-gathering interrogation methods and their effects on true and false confessions: A meta-analytic review. *Journal of Experimental Criminology*, *10*, 459-486. doi: 10.1007/s11292-014-9207-6
- Narchet, F. M., Meissner, C. A., & Russano, M. B. (2011). Modelling the influence of investigative bias on the elicitation of true and false confessions. *Law and Human Behavior*, *35*, 452-265. doi: 10.1007/s10979-010-9257-x
- Oxburgh, G., Ost, J., & Cherryman, J. (2010). Police interviews with suspected child sex offenders: Does use of empathy and question type influence the amount of investigation relevant

information obtained? *Psychology, Crime and Law*, 18, 259-273. doi:

10.1080/1068316X.2010.481624

Perillo, J. & Kassin, S. M. (2011). Inside interrogation: The life, the bluff, and false confessions.

*Law and Human Behavior*, 35, 327-337. doi: 10.1007/s10979-010-9244-2

Read, J., Powell, M., Kebbell, M., Milne, B., & Steinberg, R. (2014). Evaluating police

interviewing practices with suspects in child-sexual abuse cases. *Policing and Society: An*

*International Journal of Research and Policy*, 24(5), 523-544. doi:

10.1080/10439463.2013.784297

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.

10.1023/A:1022543012851

Rosenberg, M. (1965). *Society and the adolescent child*. Princeton, NJ: Princeton University Press.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement.

*Psychological Monographs: General & Applied*, 80(1) 1966, 1-28. doi: 10.1037/h0092976

Russano, M. B., Meissner, C. A., Narchet, F. M., & Kassin, S. M. (2005). Investigating true and

false confession within a novel experimental paradigm. *Psychological Science*, 16, 481-486.

doi: 10.1111/j.0956-7976.2005.01560.x

Sellers, S., & Kebbell, M. (2009). When should evidence be disclosed in an interview with a

suspect? An experiment with mock-suspects. *Journal of Investigative Psychology and*

*Offender Profiling*, 6, 151-160. doi: 10.1002/jip.95

Shepherd, E. (2007). *Investigative interviewing: The conversation management approach*. Oxford:

Oxford University Press.

Sigurdsson, J. F. & Gudjonsson, G. H. (1996). 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

Singh, K. K., & Gudjonsson, G. H. (1984). Interrogative suggestibility, delayed memory, and self-concept. *Personality and Individual Differences*, 5, 203-209.

Smith, L. L., & Bull, R. (2014). Exploring the disclosure of forensic evidence in police interviews with suspects. *Journal of Police and Criminal Psychology*, 29, 81-86. doi: 10.1007/s11896-013-9131-0

Soukara, S., Bull, R., Vrij, A., Turner, M., & Cherryman, J. (2009). What really happens in police interviews of suspects? Tactics and confessions. *Psychology, Crime and Law*, 15, 493-506. doi: 10.1080/10683160802201827

Walsh, D. W., & Milne, R. (2008). Keeping the PEACE? A study of investigative interviewing practices in the public sector. *Legal and Criminological Psychology*, 13, 39-57. doi: 10.1348/135532506X157179

Walsh, D., Milne, B., & Bull, R. (2015). One Way or Another? Criminal investigators' beliefs regarding the disclosure of evidence in interviews with suspects in England and Wales. *Journal of Police and Criminal Psychology*, 31, 1-14. doi: 10.1007/s11896-015-9174-5

## Appendix

**Table 1:**

Multinomial Logistic Regression with False Confession as the reference category

Category		$\beta$	sig	95% CI
False denial	LofC	-.450	.052	[.404, 1.005]
True denial	LofC	-.427	.054	[.423, 1.008]
True confession	LofC	-.373	.091	[.447, 1.061]

### Interview script is as follows:

[After informing the participant and confederate that there is a problem and having the confederate leave the room, wait three minutes before re-entering the room].

“Sorry for keeping you waiting, [participant’s name].

“As I said earlier, there appears to be a problem in the packages that you and [confederate’s name] submitted. I just want to get some information about what happened during the experiment from you and ask you some questions, is that okay with you?”

“Why don’t we start with you telling me what you can remember about what happened during the experiment.”

“So you are saying that...[paraphrase events according to participant]”

[If during the account, or at any other time in the interview, the participant admits to sharing information with the confederate, explain that the participant needs to sign a written statement stating that information was shared so that the previously mentioned problem with the packages can be accounted for].

[If participant does not confess, questioning continues]

“The problem is, there are inconsistencies between your statement and what appears to have happened based on the packages you handed in. These inconsistencies need to be accounted for.”  
[pause]

“Is there any other information you have that you think might be useful in solving this problem?”

“What if I were to tell you that you and [confederate] had the same incorrect answer to the triangle problem?”

“Did you share information with [the confederate] during the individual problem portion of the experiment?”

“Do you have any other information that might explain the anomaly found in the answers you submitted?”

“Okay, [participant’s name], thank you for answering these questions. If you wouldn’t mind waiting here, I will be back in a few minutes.”

[Re-enter the room after a brief pause and de-brief the participant, inform them of their right to withdraw their data from the study and re-establish consent if they wish to keep their data in the study.]