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The Role of Outcome Knowledge in the Assessment of Suspect Interviews							
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#### Abstract

Although a large body of research exists on the impact of outcome knowledge, one area that is still fairly unexplored is outcome knowledge in the legal sector. In this online experiment participants were shown the real-life suspect interrogation of Canadian killer Russell Williams and rated the quality of this interview on a questionnaire. This questionnaire is based on the PEACE-model of investigative interviewing. The sample consisted of 156 participants who were randomly divided into one of four conditions which differed regarding the outcome of the interview that was presented (confession (1), awareness (2), no confession (3), control (4)). This study investigated (a) to what extent people attribute the outcome of a suspect interview to the strength of evidence, the suspect himself, or the interrogator's behavior, (b) whether the outcome of a suspect interview (i.e. confession or not) influences people's perception of the interview's quality and (c) whether a potential outcome bias can be reduced by making participants aware of the bias and asking them to not take the outcome into account. Analyses showed that people overestimated the impact the interrogator has on the outcome (a), indicating a vulnerability for an outcome bias. Only very weak support was found for the presence of an outcome bias (b), which is also an explanation why awareness was not found to lower this bias (c). Although the study had some weaknesses, it gives valuable recommendations and forms the basis for further research on the rather unexplored topic of outcome bias in police interrogations.

Keywords: outcome bias, outcome knowledge, awareness, suspect interview, interrogation

The Role of Outcome Knowledge in the Assessment of Suspect Interviews

The effects of outcome knowledge biases

Imagine a student receiving private lessons. If he gets an A on the next exam, one would likely assume that the private teacher did a good job. However, if the student had received a bad grade on the exam, one probably would not be so positive about the teacher's lessons despite his teaching being exactly the same. It is often very difficult to foresee the consequences someone's actions could have, which makes people vulnerable to something that is known as the *outcome bias* in the field of psychology. This bias describes that one's judgment of a decision or behaviour depends on the consequences this behaviour had (Savani & King, 2015). Closely related to the outcome bias is the hindsight bias. Especially after tragic events voices are often raised afterwards, criticising that the incidence should have been foreseen and blaming the responsible authorities (e.g. BBC, 2017; Spitzer, 2018; Frankfurter Allgemeine, 2006). This shows that events often feel like they were predictable and could have easily been prevented. Plenty of research has shown that this is an erroneous belief and that we should not trust this sensation (Ehrlinger & Eibach, 2011; Herwig & Simoncini, 2017). In short, the hindsight bias describes the feeling that one "knew all along" that a specific outcome was going to happen and that one could have foreseen it easily.

The outcome bias therefore differs from the hindsight bias such that it focuses not so much on *how likely* an outcome is, but rather on how good the behaviour was that led to this outcome. Specifically, people tend to judge a decision as good when it leads to a positive outcome and as bad when it leads to a negative outcome. Similar to the hindsight bias, the initial behaviours that led to this decision are often neglected (Savani & King, 2015; Sezer, Zhang, Gino, & Bazerman, 2016).

While there is a large body of literature and research on the hindsight bias (e.g. Bhattacharya & Jasper, 2018; Groß, Blank, & Bayen, 2017; Christensen-Szalanski &

Willham, 1991), the outcome bias has been somewhat less examined. While the story about the private teacher is quite an innocent example of what influence the outcome bias can have on our behavioural judgments, there exist more serious contexts where our assessments of others people's actions play an important role. This is for example the case in the legal sector, where a lot can be at stake for the people involved.

# Outcome knowledge in legal contexts

Judging a decision or behaviour without taking its consequences into consideration is of critical importance especially in the legal sector. A judge for example has to ignore certain information of the outcomes of someone's decision so he can judge the defendant's actions in a fair way. No matter how severe the consequences might have been, it is the behaviour itself rather than the outcome that has to be assessed.

However, the focus within the legal sector lies not only in assessing the behaviour of suspects and defendants, but also on the executive forces themselves. This paper focuses on the influence of outcome knowledge on the behavioural assessment of public servants in the legal sector. Since the actions of officials within police, court or prison is something that every citizen can potentially be affected by, it is of crucial importance to pay attention to how their actions are perceived by the public. There exist only a few studies that have focused on the influence of outcome knowledge on behavioural assessments in the legal sector. For example, one study by Ask and Granhag (2010) examined the influence that outcome knowledge has on the perceived suggestiveness of a line-up. They found that participants perceived line-ups to be more suggestive (thus unconsciously influencing) when they were told that the suspect had been positively identified. This resulted in participants' impression that the line-up was badly constructed and not objective because one person (the suspect) was already sticking out due to a distinctive appearance. Another study by Findley and Scott (2006) implicates that judges in court are also frequently influenced by outcome and hindsight

bias when reviewing their cases after a conviction. Even if it was found that an error was made during the investigation or conviction process, the (hindsight) knowledge that a defendant was found guilty leads a judge to consider that error harmless as the conviction is still seen as 'correct' and inevitable (Findley & Scott, 2006). On a broader level, a meta-analysis by Giroux et al. (2016) supports the claim that legal decision makers (e.g. judges or police officers) should make judgements based on the information that was known at the time an offense was committed. However, it often happens that a case is reviewed with full knowledge of the (negative) consequences it led to, which biases an objective judgment of what the suspect could have known in the past. Giroux et al. (2016) furthermore state that this outcome knowledge can have an influence in different areas of legal decision making, such as medical malpractice or criminal and forensic investigation, and that visual as well as auditory evidence can lead to biased decision making. Importantly, although this meta-analysis focuses on the hindsight bias in particular, it nonetheless signals the impact outcome knowledge can have on judgments in legal contents. Furthermore, many areas within the legal sector remain where the role of outcome knowledge is still unexplored.

The outcome bias in suspect interrogations

The outcome bias has not yet been investigated in the context of suspect interrogations. It is however important to investigate how people perceive the quality of suspect interrogations since a lot can be at stake for the people involved. It is important to note that several studies showed that a confession is seen as key evidence in court (Kassin, 2008; Palmer et al., 2016). A study by Kassin and Neumann (1997) shows that confessions are even stronger than eyewitness evidence and character testimony. Consequently, an outcome bias regarding confessions would imply that people judge interrogations to be better when the interrogation has led to a confession (and vice versa). This would mean that interrogations which produce a confession are praised more than those who do not, which

could in turn lead to confession-driven interrogations rather than information-driven interviews. Confession-driven interrogations should be avoided as this method has been found to increase the likelihood of false confessions (Hartwig, Meissner, & Semel, 2014; Meissner et al., 2017). This in turn can lead to wrongful convictions of innocent individuals.

Regarding the fact that a confession is perceived as strong evidence in court and therefore as a desired product of an interrogation, the question arises which factors might influence the decision to confess. When investigating the outcome bias, it is of special importance to know how much influence the interrogator has on the suspect's decision to confess. If that influence is strong then the interrogator is indeed mainly responsible for the outcome of an interrogation. If however this influence is small, it would not be fair to attribute the outcome (e.g. a confession) of an interrogation (solely) to the performance of the interrogator.

# Why people confess

As previously mentioned, an outcome bias can promote confession-driven techniques which in turn bare the risk of producing false confessions. To clarify how this can happen I am first going to elaborate on what makes people confess at all. One study by Gudjonsson and Sigurdsson (1999) states that suspects predominantly confess to the police due to three factors: (a) perception of proof, the suspect's impression of the evidence being so strong that there is no point in denying the offense; (b) external pressure associated with interrogation techniques; and (c) the internal desire to confess to relieve feelings of guilt. Their study furthermore shows that the strongest of those factors is the strength of evidence against the suspect. These findings are supported by Olteanu (2014), who states that suspects confess when they realize that any efforts to hide something become useless since the evidence held against them is too strong to deny. In an earlier research, Reik (1959) focuses on internal pressure and explains that confessing can function as a relief for suspects by providing a way

to overcome feelings of guilt and regret. In addition to this, Berggren (1975) states that for a confession to have a fully cathartic effect, one needs to confess to someone with authority, like for example a police officer. According to Irving, Hilgendorf and Irving (1980), a suspect becomes involved in a decision-making process, including the deliberation of whether to tell the truth or not and whether to confess or not. Horgan et al. (2012) furthermore state that interrogators can impair this process by manipulating the suspect's perception of the consequences of their behaviour (e.g. by maximizing the seriousness of the offense and minimizing the negative consequences of confessing).

In addition to actual guilty suspects that eventually decide to confess to their crimes, there are also a number of people who confess to a crime they have not committed - a socalled false confession. Kassin and Gudjonsson (2004) state that there are various reasons as to why a suspect may give a wrongful account. Some of those reasons are for example the need for self-punishment due to a bad conscience and feelings of guilt or the desire to protect the real culprit. Some individuals even start believing their own wrongful statements as a result of highly suggestive interrogation techniques. However, false confessions are often a result of confession-driven interrogation techniques and involve individuals submitting themselves to giving the demanded confession, mostly out of fear or to escape an unpleasant situation. These suspects have often come to the belief that the short term benefits of a confession (e.g. escaping the interrogation situation or avoiding an implicit or explicit threat) outweigh the long term costs (thus the possible conviction due to their confession; Kassin & Gudjonsson, 2004). Referring to the work of Gudjonsson and Sigurdsson (1999), while strength of evidence is the most powerful way to make a suspect confess, internal (thus from within the subject) and external (thus from the interrogation/interrogator's behaviour) pressure have their biggest impact when the police can only present little to no proof.

Regarding the literature on confessions in the custodial interrogation setting it thus becomes clear that the main factor for a confession is the suspect's perception of the strength

of evidence against them while internal and external factors start to have more of an effect on the suspect's decision to confess only when there is weak to no evidence available. This might indicate that more coercive interrogation techniques are used more willingly when the evidence is not very strong, thus increasing the risk of producing false confessions. As long as the evidence is strong, the interrogator himself therefore seems to have a rather small influence on the decision to confess. If this is indeed the case then it is unfair to hold the individual interrogator responsible for the outcome of an interrogation.

What is good police interviewing?

The previous sections showed that there are still gaps in research regarding the role of outcome bias in the legal context. This study aims at filling some of these gaps by finding out to what extent evaluations of suspect interviews are influenced by outcome knowledge. It is therefore measured how people perceive the quality of a suspect interrogation in the light of different outcomes. However, to be able to judge an interview's quality we first need to establish a concept of what makes a "good" interview.

As shortly mentioned in the previous section, there is strong evidence that a confession-driven (accusatorial) interrogation approach brings risks such as producing false confessions and instilling tunnel vision (Meissner et al. 2017; Findley & Scott, 2006). The research community therefore widely agrees that other, more information-driven interrogation techniques are more favourable and effective (e.g. Spierer, 2017; Hartwig, Meissner, & Semel, 2014). In spite of this, confession-driven interrogations still exist and are often employed in practice (Spierer, 2017). The question arises why this is still the case.

One possible explanation might derive from the theory on the outcome bias.

Regarding suspect interrogations, it is undeniable that a confession is seen as the desired outcome of an interrogation, since it is very valuable evidence in court (Kassin, 2008; Palmer et al., 2016). This might lead to interrogations which produce confessions to be more praised

and rewarded by the community than those who do not. If it is indeed the case that a police officer is more praised for an interrogation when it resulted in a confession, the judgment of the community likely contributes to the use of confession-driven approaches. I therefore want to find out whether people actually think that an interrogation is qualitatively better when it results in a confession, thus indicating a preference for confession-driven approaches.

Regarding the set of problems concerning those approaches, the question arises what techniques can be used for a more ethical and effective way of interviewing. In 1993, a guideline for successful and ethical suspect interrogations was published, which is since then known as the PEACE framework (Clarke & Milne, 2001). This guideline marked a change in police interviewing in a lot of countries around the globe and is especially being used in many European countries and Australia. The main changing point was that PEACE shifted the focus towards more investigative interviewing techniques, meaning that the main goal of an interrogation is to get as much information as possible to find out the truth (Oleszkiewicz, 2018). The PEACE framework has therefore been suggested as an alternative since it is more non-accusatory and investigative than previously used approaches (e.g. the Reid technique, see for an example of this technique Spierer, 2017).

The five letters of PEACE stand for **P**reparation and Planning, **E**ngage and Explain, **A**ccount, clarification and challenge, **C**losure and **E**valuation. Those five phases were reviewed and evaluated by Clarke and Milne (2001) and will be shortly explained in the following.

Preparation and Planning is the basis of each interview and refers to the work that is spent beforehand. This includes for example how well the interviewer is aware of the full circumstances of the incident and has prepared the interrogation to go smoothly. Engage and Explain is the first step when interrogating a suspect, even though it usually occurs throughout the whole interview. This phase includes presenting the caution, reassuring the suspect's understanding of the circumstances, and establishing a professional relationship (rapport) with

the suspect. The *Account* phase includes encouraging the suspect to give their own version of events, clarifying their account and trying to verify their truthfulness. In the *Closure* phase, the interviewer summarises their understanding of what has been said and provides the opportunity for the suspect to add to or correct what the interviewer understood. Lastly, in the *Evaluation* phase, the interview and the interviewer's performance are discussed and assessed.

# Overcoming the outcome bias

While a lot of research has focused on the consequences of the outcome bias and the problems that come with it, the literature on how this bias can be overcome is quite scarce. In 1981, Fischhoff stated that once a judgmental bias (like outcome bias or hindsight bias) is identified, researchers use one of two strategies to find ways to eliminate it. One way is to develop methods to reduce that bias, another way is to claim that the bias is not very robust and devise experimental situations in which it will not appear. Fischhoff's study tested the efficiency of different debiasing strategies and showed that even though most of those strategies were ineffective, some did have an influence on judgmental biases. This at least raises some speculations about the robustness of judgmental biases and how they can best be studied.

One of the few studies that address the outcome bias directly comes from Sezer, Zhang, Gino and Bazerman (2016). They set up an experiment including cases where intentions and outcomes are misaligned (thus good intentions leading to a bad outcome and vice versa). They compared the influence of outcome knowledge between separate (thus either good intentions leading to a bad outcome or bad intentions leading to a good outcome) and joint evaluations (both cases combines). Their study shows that the outcome bias was stronger when people's actions were evaluated jointly rather than separately. This indicates that people have difficulties attending to information about an individual's *intentions* when judging joint behaviours and therefore tend to resort to information about the *outcome*.

Another study by Mackie and Ahn (1998) focused on the outcome bias in in-group and outgroup situations. They found out that the outcome bias was especially strong when the outcome for the in-group was favourable, but not when it was unfavourable. This suggests that the strength of an outcome bias also depends on whether the outcome is in line with people's motivational concerns.

Several studies thus show under which circumstances the outcome bias is stronger or weaker. This indicates that there are situations in which outcome bias may be overcome or at least reduced. However, since there are rather few studies to address this topic the existing literature does not enable a clear conclusion on how robust the outcome bias is and how it can best be overcome.

# The present study

In 2010, a remarkable criminal case sparked a lot of attention in the media all around the globe when a 27-year old young Canadian woman went missing. During the investigation a 46-year old military pilot was interrogated at the police headquarters a few days later. He was not only accused of the abduction of the young woman but also of another murder and several other crimes that happened in the same area. Even though he denied all allegations at first, he finally confessed to all of the crimes. Afterwards, a video of the interrogation was made publicly available. A shortened version of this video (9 minutes) was used as stimulus material in this study.

The main purpose of this study was to examine to what extent people are influenced by an outcome bias when evaluating the quality of the interrogation at hand. Therefore, the outcome of the interrogation was manipulated in four different versions. The four groups were (1) the *confession condition*, where participants saw the suspect confess during the interrogation; (2) the *awareness condition*, where participants also saw the suspect confess but were furthermore specifically asked not to take the confession into account when assessing

the interview quality; (3) the *no confession condition*, where participants were told that the suspect did not confess during the interrogation; and (4) the *control condition*, where participants received no information about the interview outcome at all.

To measure people's evaluation of the suspect interrogation, I used the PEACE-based questionnaire by Clarke and Milne (2001) as a basic orientation to measure interview quality. The questionnaire was used to answer the following research question: "To what extent are evaluations of suspect interviews influenced by outcome knowledge?"

# Hypotheses

First of all, it is tested to what extent people attribute the interview outcome to the strength of the evidence against the suspect, external factors like the performance of the interrogator, or internal factors as the suspect's own intentions. Although research has shown what factors actually contribute (most) to the suspect's decision to confess (Gudjonsson & Sigurdsson, 1999), it is not yet known how people *perceive* the relative contribution to this decision. A potential over-estimation of the interrogator's influence would indicate a vulnerability for an outcome bias in this particular situation. For explorative reason this study therefore includes the following question:

To what extent do people attribute the outcome of an interview to the strength of evidence, the suspect himself, and/or the interrogator's behaviour?

According to the literature on the outcome bias, it can be expected that the initial action (the interrogation) will be seen as more positive when it leads to a desired outcome (a confession) and as more negative when it does not, which would contribute to a culture of confession-driven techniques. To investigate this, the following hypothesis has therefore been established:

H1: Participants in the confession condition rate the interview to be of higher quality than do participants in the control condition, while participants in the no confession condition rate the interview to be of lower quality than do participants in the control condition.

Furthermore, studies have presented circumstances in which the outcome bias is stronger or weaker, indicating that there are situations in which it can be overcome or at least reduced. Since the body of research on this topic is quite scarce, this study aims at investigating how robust the outcome bias really is and how it can be overcome. It is thus examined to what extent the outcome bias can be reduced by raising people's awareness about it. The second hypothesis is therefore:

H2: Participants in the awareness condition score lower on perceived interview quality than participants in the confession condition.

#### Methods

### Design

The design that was employed in this study was a between-subjects experimental design with three *experimental conditions* and one *control condition*. As independent variable the outcome of a real-life suspect interrogation was employed. Participants were appointed to one of the four conditions and saw a video clip of the interrogation. Depending on the condition, they received different information about the interview outcome (*confession condition* vs *awareness condition* vs *no confession condition* vs *control condition*). As dependent variables, six factors were used to examine how people perceived the interview quality. A questionnaire was used for this purpose which measured different aspects of the interrogator's behaviour. The items in the questionnaire were based on the PEACE framework. The experiment that has been conducted in the course of this study was checked and approved beforehand by the Ethical Commission.

# **Participants**

Participants were recruited online by means of convenience sampling. In total, 206 respondents took part in the study which were randomly allocated to one of the four conditions. The only requirements for participation were to be over the age of 18, understand English and agree with the informed consent. However, a fair amount of participants started the questionnaire but did not fill in the questions. In total, a number of 156 cases was included in the analyses. 113 of the participants were female and 43 were male. The age of the participants ranged from 18 to 57 with a mean age of 24.69 (*SD*=5.39).

Out of all participants, 81 were German, 19 were Dutch and 56 of other nationality. All of the participants received either a Bachelor's degree (N=64), some college but no degree (yet) (N=43), a Master's degree (N=28), secondary education (N=20) or even a professional degree (N=1).

### Materials and Procedure

The questionnaire was generated with the online programme Qualtrics and then shared and spread via social media (Facebook and Whatsapp), where participants were also asked to share the survey with their acquaintances. The study was furthermore published on Sona Systems, a software offering a cloud-based participant pool for launching full-scale research (Sona Systems, 2018). The collected data was automatically stored online in Qualtrics, then downloaded and analysed with the statistical programme SPSS.

Introductory information provided to the participants

When opening the survey, respondents first had to agree with an informed consent that informed participants about the length and set-up of the survey (i.e. video clip and questionnaire) and provided basic information about the study background. The actual purpose of the study was however not revealed to avoid any influence on the participants beforehand. Furthermore, the informed consent stated that participation was entirely voluntary

and withdrawal from the study was possible at any time without the need to give any reasons. It was also ensured that the data was treated anonymously and would not be shared with anyone but the research team.

# Manipulation

The video clip that was shown to participants presents a remarkable criminal case that has sparked a lot of attention. On 28<sup>th</sup> of January 2010, 27-year old Jessica Lloyd went missing. During the investigation, the police found distinctive tire tracks near her house in Canada. A traffic control was set up in the course of which the police found a car whose tires matched the tracks found at the suspected crime scene. The driver of the car was 46-year old Russell Williams who at that time was a Colonel in the Canadian forces and a military pilot. Williams was ordered to the Ottawa Police headquarters for interrogation a few days later. He was accused of the abduction of Jessica Lloyd as well as another murder and several sexual assaults and break-ins that happened in the same area. Even though he denied all allegations at first, Williams finally confessed to all of the crimes after being confronted with the evidence (e.g. the tire tracks and his boot prints being found near Lloyd's house). He eventually even led the police to the place where he had dumped Lloyd's body.

The video was introduced with short background information about the case at hand. From here on, the exact content slightly differed depending on the condition. Participants in the *confession condition* (1) were informed that the suspect confessed during the interrogation. They then saw the interrogation including the confession at the end. Participants in the *awareness condition* (2) saw the same video (interrogation plus confession) but were additionally asked afterwards to not take this confession into account when giving their opinion on the interrogation. Participants in the *no confession condition* (3) were informed beforehand that the suspect did not confess. They then saw the interrogation, but without the confession. Finally, participants in the *control condition* (4) were not given any information

about the outcome of the interrogation at all. They just saw the interrogation without the confession. It was chosen to inform the participants in the experimental conditions beforehand about the outcome of the interrogation to strengthen the expected impact of the outcome bias while watching the video. It also provides a more representative approach to the outcome bias as in a real-life situation the outcome of an action is usually already known before any material or additional information is received. After finishing the video participants were directed to the questionnaire.

# Questionnaire

After watching the video, participants were presented with the questionnaire which was based on the work of Clarke and Milne (2001). In total, six factors were measured: General impression, Preparation and Planning, Engage and Explain, Account, Interviewer characteristics and Questioning skills. Each factor was measured with three to five items. General impression was assessed directly after the video to get a general image before potentially influencing participants with specific questions. The PEACE factors Closure and Evaluation were not visible in the video and therefore not included. Additionally, three items were employed which measured to what extent participants attributed the outcome of the interview to the interrogator, the evidence and/or the suspect.

Furthermore, participants were asked to indicate how well they understood the video and whether they were already familiar with the case at hand. This was done to make sure participants were able to accordingly give their opinion and were not influenced by any information other than shown in the study. Lastly, participants were asked to fill in a few demographic questions.

# Debriefing

The last page of the survey included the debriefing. This revealed the background of the study as it was the aim to find out (a) to what extent people attributed the interview outcome to the (strength of) evidence, the suspect, or the interrogator; (b) whether people's opinion of the quality of an interview were depending on the interview outcome; and (c) whether this effect was still present when people were specifically asked *not* to take the outcome into account. Furthermore, participants received additional information on the criminal case at hand, including the real names of victim and offender. They were informed that it was a real case and read a quick description of the crimes, evidence, outcome and conviction of the offender. Additionally, an e-mail address was provided and participants were invited to establish contact with me in case of any further questions.

# Data preparation

Firstly, the adapted items were rephrased into statements and arranged in six question blocks, each measuring one of the six factors. This was done by means of a 7-point Likert-type scale, ranging from "Strongly disagree" to "Strongly agree". After data collection the item ratings of each subscale were merged to create a separate measurement for each of the six factors. For example, the five items that measured *General impression* in the first subscale were merged into a new variable which was called "V1\_GeneralImpression". This was done for each of the six variables and then used for the analyses. Due to the wording of the items (some negatively, some positively), some of them had to be recoded.

### Results

# General analyses

The variables  $Preparation \ and \ Planning \ and \ Interviewer \ characteristics$  were normally distributed, whereas the variables  $General \ impression$ ,  $Engage \ and \ Explain$ ,  $Account \ and \ Questioning \ skills$  were not normally distributed as shown by the Shapiro-Wilk-Test (p<.05). Despite this parametric tests were used as well. This was done because the sample size of 156 participants seems sufficient to use parametric tests. Also, non-parametric tests have the issue of lacking test power. Inter-item consistency for every factor is presented

in Table 1 for better overview and shown to range from acceptable to excellent. To get an impression of how people perceived the interview quality in general, some explorative analyses were executed. Furthermore, participants indicated an overall good comprehension of the video (M=6.14, SD=.933) as well of the questions (M=6.18, SD=.993).

Firstly, it was tested whether the six variables differed based on participants' gender by conducting an independent samples t-test. The analysis showed no significant difference in scores between males (M=5.14, SD=.807) and females (M=5.22, SD=.874), t(154)=-.548, p=.584. Participants' gender therefore was not found to have any influence on how people perceived the quality of the interview.

Secondly, it was tested whether the continuous variables age and education were somehow related to the six factors. Therefore, a linear regression analysis was conducted for age and education. In the course of the analysis, no significant regression equation was found for age [F(1,154)=.913, p=.341], with an  $R^2$  of .006. Furthermore, no significant regression equation was found for education either [F(1,154)=3.134, p=.079], with an  $R^2$  of .020. The perception of the interview quality was therefore not found to differ across age or education.

Table 1
Inter-item consistency for every factor

	General impression	-	Engage and Explain	Account	Interviewer characteristics	Questioning skills
Cronbach's	.89	.84	.79	.70	.64	.78

# Explorative question

To test to what extent participants attributed the interview outcome to the strength of evidence, the suspect himself or the interrogator, a 3 x 3 mixed ANOVA was conducted to assess the overall interaction effect. *Condition* (thus *confession*, *no confession* and *control*) was hereby set as the between-subject factor and *attribution type* (thus evidence, suspect and

interrogator) as the within-subject factor. The analysis shows that no significant interaction effect of *condition* and *attribution type* was found, F(4, 240) = 1.09, p = .364. To test for a main effect of *condition* on attribution, a series of repeated measures ANOVAs was performed to compare the effect of *attribution type* (evidence, suspect or interrogator) on *attribution level* (strength of attribution scores). This was done for all three conditions. Means and standard deviations for these analyses are presented in Table 2. Mauchly's test indicated that sphericity was not violated for any of the conditions (*confession condition*: W = .937,  $^2$  (2) = 2.48, p = .29; *control condition*: W = 1.00,  $^2$  (2) = .002, p = .99; *no confession condition*: W = .87,  $^2$  (2) = 5.25, p = .07)).

In the *confession condition* there was a significant effect of *attribution type* on attribution level (F(2, 78) = 8.62, p < .001). Post hoc tests using the Bonferroni correction revealed that there was a significant difference in *attribution level* between evidence and suspect (p = .003) and between interrogator and suspect (p = .001). However, no difference was found between evidence and interrogator (p = 1.00). Therefore, it can be concluded that participants who saw the suspect confess attributed the interview outcome mostly to the strength of evidence and the interrogator's behaviour and attributed less responsibility to the suspect.

In the *control condition* no significant effect of *attribution type* on *attribution level* was found (F(2, 80) = 2.77, p < .383). Post hoc tests using the Bonferroni correction revealed that there was no significant difference in *attribution level* between evidence and suspect (p = .44) or between evidence and interrogator (p = 1.00). However, there was a significant difference between interrogator and suspect (p = .02) Therefore, it can be concluded that participants who did not know about the interview outcome thought that the outcome would be more due to the interrogator than to the suspect.

Finally, in the *no confession condition* no significant effect of *attribution type* on *attribution level* was found (F(2, 82) = .97, p < .07). Post hoc tests using the Bonferroni

correction revealed that there was no significant difference in *attribution level* between evidence and suspect (p = .35), between interrogator and suspect (p = .34) or between evidence and interrogator (p = .35). Therefore, it can be concluded that people who thought the suspect did not confess attributed the responsibility of the outcome equally across evidence, suspect or interrogator.

Table 2
Means and standard deviations for the three attribution types per condition

	Confession condition		Control condition		No confession	
					condition	
	M	SD	M	SD	M	SD
Evidence	4.88	.24	4.61	.26	4.69	.23
Suspect	3.75	.22	4.07	.25	4.21	.21
Interrogator	4.90	.20	4.83	.22	4.50	.23
Interrogator	4.90	.20	4.83	.22	4.50	•

# First hypothesis

To test whether participants in the *confession condition* would have a more positive perception and participants in the *no confession condition* would have a more negative perception of the interview than did participants in the *control condition*, a series of between subjects One Way ANOVAs was executed for each of the six factors across those three conditions. Means and standard deviations for those analyses are presented in Table 3. No significant difference was found between the three groups regarding *General impression* [F(2,120)=2.80; p=.065;  $^2=.045$ ], *Preparation and Planning* [F(2,120)=1.48; p=.231);  $^2=.024$ ], *Engage and Explain* [F(2,120)=.77; p=.467);  $^2=.013$ ] and *Interviewer characteristics* [F(2,120)=2.67; p=.074;  $^2=.042$ ]. This means that neither did people who saw the confession have a more positive perception, nor did people who were informed the suspect did not confess have a more negative perception regarding those four factors than did

participants who received no information about the outcome at all. The hypothesis was therefore partly rejected.

However, the groups were found to differ significantly regarding the factors Account  $[F(2,120)=7.18; p=.001; ^2=.107]$  and  $Questioning skills [F(2,120)=4.00; p=.021; ^2=.063]$ . The Tukey post hoc test revealed a significant difference regarding the factor Account between the confession and the no confession condition (p=.001), as well as the confession and control condition (p=.016). However, the control and the no confession condition did not differ from each other significantly (p=.705). This means that people who saw the confession rated the interviewer's Account more positively than did participants who did not receive any information or were informed that the suspect did not confess. Regarding the factor Questioning skills, the post hoc test shows that there was a significant difference only between the confession and the no confession condition (p=.015). This means that participants who saw the confession found the interviewer's Questioning skills better than did the people who were informed the suspect did not confess. This part of the hypothesis was therefore accepted.

Table 3
Means and standard deviations for the six factors per condition

	Confession condition		No confession condition		Control condition	
	M	SD	M	SD	M	SD
General impression	5.48 <sup>a</sup>	1.02	4.93 <sup>a</sup>	1.24	5.37 <sup>a</sup>	1.06
Preparation and Planning	5.94 <sup>a</sup>	.84	5.63 <sup>a</sup>	1.06	5.87 <sup>a</sup>	.66
Engage and Explain	5.35 <sup>a</sup>	.99	5.19 <sup>a</sup>	1.28	5.49 <sup>a</sup>	.98
Account	5.46 <sup>a</sup>	.80	4.68 <sup>b</sup>	1.10	4.85 <sup>b</sup>	.97
Questioning skills	4.84 <sup>a</sup>	.76	4.27 <sup>b</sup>	1.04	4.59 <sup>ab</sup>	.92

*Table 3 (continued)* 

Interviewer	5.44 <sup>a</sup>	.94 <sup>a</sup>	4.97 <sup>a</sup>	1.14 <sup>a</sup>	5.05 <sup>a</sup>	.80ª
characteristics						

Note: Different superscript alphabets in the same row indicate statistical difference by Bonferroni test (significant at p .05).

# Second hypothesis

The second hypothesis was that participants in the *awareness condition* would score lower on perceived interview quality than would participants in the *confession condition*. To test this hypothesis, a One Way ANOVA was executed. As was already indicated before, no significant difference was found between the *confession* and the *control condition* regarding any of the factors (all ps > .05) except for *Account* (F(2,111)=4.02; p=.021;  $^2=.067$ ). The analysis furthermore showed that the variables differed neither between the *control* and the *awareness condition*, nor between the *confession* and the *awareness condition* (all ps > .05). This means that people who were asked not to take the confession into account did not score any differently when they were not specifically made aware of the outcome bias. However, both groups (*confession* and *awareness*) also did not rate the interview quality to be any better than did participants in the *control condition*. This means that seeing the confession did not have an influence on people's perception of the interview quality, regardless of whether they were aware of the outcome bias or not. The hypothesis was therefore rejected.

#### Discussion

### Answering the research question

This study aimed at investigating to what extent the evaluations of suspect interviews are influenced by outcome knowledge. It was furthermore examined whether the outcome bias could be consciously eliminated by making people aware of it. Participants watched a short video clip of a real-life suspect interrogation and were then asked to evaluate the quality of that interrogation.

Before investigating the influence of the outcome bias, it was explored to what extent people attributed the interview outcome (i.e. whether the suspect confessed or not) to the strength of evidence, the suspect's intentions or the interrogator's behaviour. The results showed that people who saw the confession attributed the interview outcome mainly to the strength of evidence and the interrogator's behaviour, while attributing less influence to the suspect himself. This suggests that especially in case of a favourable outcome the interrogator is seen as influential. Interestingly, no such effect was found among people who were informed the suspect did *not* confess. These findings could possibly indicate that interrogators are praised when they elicit a positive outcome, but are not blamed in case of a negative outcome. This might be interesting to investigate in future research by specifically comparing negative and positive outcome groups and measuring how strongly people attribute the interview outcome to the interrogator. Previous research by Gudjonsson and Sigurdsson (1999) has shown that evidence has the most influence on a suspect's decision to confess, while internal (from within the suspect) and external factors (the interrogator's behaviour) have a rather small impact. While participants thus accordingly rated the evidence influence to be high and the suspect's influence to be low, the findings might indeed indicate an overattribution of responsibility to the interrogator. This could promote a vulnerability to the outcome bias. When people think that producing a confession is largely the responsibility of the interrogator this might enhance pressure on the interrogator and could bear the risk of promoting confession-driven interrogation techniques.

While vulnerability to the outcome bias was provided, only weak support was found for the existence of an outcome bias. It was expected that participants who saw the confession would have a more positive perception of the interview than participants who received no information about the outcome at all, while participants who were told there was no confession would have a more negative perception of the interview than those who received no information about the outcome at all (Hypothesis 1). It was shown that participants rated

the *Account* more positively in case of a confession compared to when they did not know what the outcome was. *Questioning skills* were also perceived more positively in case of a confession, but only compared to those who thought the suspect did not confess. The rest of the factors were not found to be influenced by the outcome in any way. This is not in line with what was expected since research has shown that people judge the same behaviour as better when it leads to a positive rather than negative outcome (e.g. Savani & King, 2015; Sezer, Zhang, Gino, & Bazerman, 2016) and a confession is seen as the desired outcome for the general public (e.g. Kassin, 2008, Palmer et al., 2016).

In case of an outcome bias it was also expected that this bias would be weakened when people were asked not to let themselves be influenced by the interview outcome (Hypothesis 2). The results provided no support for this expectation as awareness was not shown to have any influence on participants. Research on this topic is rather scarce and not clear-cut, as not many studies have been reported that tried to overcome the outcome bias. Support for these findings however comes from Findley and Scott (2006). Although they are referring to effects with regards to the hindsight bias, it is expected that this can also account for the outcome bias since they are closely related. Their paper states that the influence of outcome knowledge is extremely difficult to overcome, even when people are aware that it exists and that it is inappropriate. Furthermore, it has been shown that people are even influenced by the outcome bias when they think they are not. This is in line with a study by Baron and Hershey (1988) who investigated the outcome bias in decision evaluation and found that even when subjects felt that they should not consider outcomes in evaluating a decision, they still did so. On the other hand, Findley and Scott (2006) suggest that education and training can have a positive effect and even help in overcoming the influence of outcome knowledge. This is in line with a paper from Kahneman and Klein (2009) who focused on judgments that are based on intuition. According to their approach, two conditions have to be met for people to make skilled intuitive judgments: The environment must provide cues to identify a situation and

people must have the opportunity to practice the skill of recognizing these cues. Referring to the context of this study, it would be interesting to investigate under what circumstances people are able to recognize a potential outcome bias as such and whether training can help in overcoming it. I therefore suggest to focus on the effect and possible implementation of awareness training in future research.

These literature findings indicate that even though there might be ways to overcome the outcome bias, it is rather robust and cannot be overcome as easily as purely informing people of its existence. However, one needs to keep in mind that this study only showed very weak support for an outcome bias, which makes it difficult to draw conclusions regarding the effectiveness of awareness.

# Strengths of the study

When discussing the present study, it is also necessary to take a look at the strengths and weaknesses regarding the set-up. The probably strongest point of this research is that it is the first study to investigate the influence of the outcome bias in suspect interrogations.

Although there is quite some literature on the outcome bias in general, the investigation of this bias within legal contexts has not been very extensive yet. This study provides first insights into how suspect interviews are received by the public and the role a confession plays in the perceived quality. It can therefore function as a base for follow-up research.

Another strength is the material that was used in this study. The PEACE-model is being widely regarded as a rather ethical and effective alternative to more accusatorial interrogation techniques (e.g. Spierer, 2017) and is of great importance within research and practice in the legal sector. The questionnaire that was used was based on the PEACE-checklist that was developed by Clarke and Milne (2001). Their set-up has been frequently tested and provides a high validity to the research method used in this study. Furthermore, almost all of the factors showed a rather high inter-item consistency, which speaks to the

reliability of the findings. Moreover, the video that was used was chosen because it showed a real-life suspect interrogation, which provided a realistic and credible situation. Regardless of the notably strong factors of this study, some limitations need to be discussed in the following as well that will try to explain why the hypotheses received rather weak support.

# Limitations to the study

#### Research

One possible explanation why there was only weak support found for the hypotheses could be that the video and the questionnaire did not align well. What becomes apparent in the analyses is that the only factors that really were influenced by the outcome of the interview were *Account* and *Questioning skills*. This makes sense when considering the previous finding that people tend to attribute the outcome based on the interrogator's performance. It might be the case that the *Account* phase appeals strongly to people since this is the part where the interrogator makes the most appearance. The focus in this phase lies mostly on how the interrogator presents the evidence and challenges the suspect's account (Clarke & Milne, 2001). He becomes more active than in for example the *Preparation and Planning* or *Engage and Explain* phases. This might also explain the ratings for the second factor, as the interrogator's *Questioning skills* are mostly required and therefore shown in the *Account* phase, where the account of the suspect is challenged. Participants might therefore mainly have appointed the outcome of the interview to this phase which reflected in the higher ratings for *Account* and *Questioning skills* when the interview led to a confession and lower ratings when it did not.

It might also be interesting to take a look at the factor *General impression* as the difference that was found between the *confession* and the *no confession* group was bordering significance. Even though these findings are not strong enough to conclude there was an actual difference between the groups, these results deserve a closer discussion. Since this

factor was asking for participants' general opinions of the interview, it was the only other factor that incorporated ratings of the *Account* phase as well. This might therefore also support the notion that people's evaluations mainly depended on the interrogator's performance. If this is indeed the case then those issues can possibly be reduced by distributing the attention more equally by showing more scenes that emphasize the other factors (e.g. more scenes where rapport is built or where it becomes apparent how the interview is planned through). It might also indicate that outcome knowledge affects mainly "quick-and-dirty" evaluations rather than rational decision making. In this case it is especially important to include a part about measuring general impression in future outcome bias research.

## Manipulation

Another issue is that the manipulation itself simply might not have worked as expected. The interview that was used in this study was published after the suspect was convicted and received an overall broad media coverage since then. Especially the way the interview was conducted received a lot of attention. The police officer who interrogated the suspect was praised for his "brilliant" interrogation style by different online magazines (e.g. CBC News, 2010; CTV News, 2010). It was therefore tested in the questionnaire whether participants were familiar with the depicted events, which was not the case. However, even if participants were not influenced by the media beforehand, it might still be that they perceived the interview in a similarly positive way. This is supported by the analyses showing that the ratings for all factors across every condition were rather high. This can be due to several reasons. For instance, it might be that a ceiling effect has occurred, which would indicate that the questionnaire was not fit to measure people's opinions appropriately. However, since the items were based on the well-established and validated PEACE-model by Clarke and Milne (2001), this is rather unlikely. Another explanation might be that the interview quality simply

was very high and that people recognized that. If participants across all conditions were under the impression that it was a very good interrogation, the outcome might not have influenced that opinion (strongly) anymore. This would therefore reject the presence of an outcome bias in this context. These findings suggest that there could be an interaction effect between the bias and the perceived ambiguity of the interrogation. This would be interesting to investigate in future research by employing cases with varying ambiguity and then measuring whether the strength of an outcome bias differs across conditions. A third explanation could be that the differences between the conditions were not strong enough to elicit an outcome bias. One possibility to deal with this would be to employ a more morally reprehensible outcome (e.g. a false confession instead of no confession) which would put more emphasis on the outcome and therefore possibly elicit an outcome bias. This would be helpful in future research that focuses on investigating ways to reduce the outcome bias, as it would be easier to detect a possible effect when an outcome bias occurs.

### Generalizability

One last issue that needs to be mentioned concerns the generalizability of the findings. When analysing the results, it should be taken into account that the sample was not representative for the average population. This especially becomes clear regarding the majority of female participants and the rather young average age. Furthermore, almost all of the participants received college education in any form and were therefore highly educated. This was the case since the study was executed and shared via social media by Master students, leading to those participant characteristics. Furthermore, one has to be careful as to what degree the findings can be generalized referring to cultural aspects. Even though most participants were German, a variety of other nationalities was found among the other participants, making it difficult to draw conclusions regarding one cultural group. It would be

interesting in further research to recruit a more representative sample or to define a narrower target group from the beginning.

### Conclusion

Although the outcome bias has been somewhat investigated across different domains, the role of outcome knowledge within the police sector is still fairly unexplored. This study therefore makes a first step towards forming a basis of research on how police interrogations are received in public and what role outcome knowledge plays in this context. It furthermore raises awareness on the potential impact of confession-driven interrogation techniques on the people involved and promotes the employment of more ethical interviewing techniques.

Even though the expected results were not fully confirmed, it still becomes apparent that people might to some degree be influenced by the outcome of an interrogation, showing the interview is not judged independently from whether the suspect confessed or not. This indicates that the public opinion still puts the focus on the confession when talking about suspect interviews, which is a serious issue as it can lead to questionable interrogation techniques and even police brutality. It is therefore of special importance that the focus within the legal sector gets shifted towards more information-driven interviewing techniques. Since it has been shown that education and training can have a positive effect and even help in overcoming the influence of outcome knowledge, this could for example be done in optimizing police training by enhancing that a confession is not the ultimate goal (e.g. through examples of good police interviews that did not end in confessions and stressing the risk of false confessions).

Although this study has to deal with a few issues which should be improved to help optimize future research on this topic, it is recommended to adapt the survey in the presented form in similar follow-up studies due to its clear strengths. As a main focus for future research it would be interesting to investigate the influence of outcome knowledge in the case of

extreme outcomes or a more ambiguous interview as well as how awareness training can be implemented to reduce the outcome bias.

All in all, this study provides new insights into the present topic, contributes to more in-depth research on the role of outcome knowledge in suspect interviewing and raises awareness for the problematic implementation of confession-driven interrogation techniques. Since police work is something that anyone can potentially be affected by and a lot can be at stake for the people involved, further research on this topic is highly recommended. Investigating the issues that come with confession-driven interrogations and therefore optimizing police actions is an important step towards safer and more ethical work within the legal sector.

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### Appendix

### Questionnaire on Evaluating Suspect Interviews

#### Introduction

Thank you for taking part in this! The study examines how people evaluate suspect interrogations. You are going to watch a video clip that shows part of a real police interrogation with a person who is suspected of murder. Next, you will be asked to complete a short questionnaire about the interrogation. There are no right or wrong answers to the questions, so please answer these questions truthfully. The study will take approximately 15 - 20 minutes to complete. By ticking the bullet point below and clicking " "you consent to take part in the study and you agree to the following terms:

Your participation is confidential. The data will be analysed and reported at group level only, without identification of individuals or institutions. Your participation is voluntary. You may terminate your participation at any time without explanation.

#### Confession and awareness condition

In January 2010, a young Canadian woman, Jessica Leal, went missing. During the investigation, the police found distinctive tire tracks next to her house. Hence, the police set up a traffic control in search for matching tires. A few days later, a 46-year old man, Russel Walling, was stopped and it was found that the tires of his car matched the tracks that were found near Jessica's house. In addition, the police found evidence that linked Russel to another murder and several break-ins in the area. Russel was taken in for interrogation. Although he denied the allegations at first, he eventually confessed to all the crimes including the murder of Jessica. You will now see a video showing part of the interrogation with Russel. The video takes about 14 minutes. You can pause the video if you must. It is important that you do not rewind or skip (parts of) the video. Please watch the video carefully. After watching the video, click " " for the questionnaire.

# No confession condition

In January 2010, a young Canadian woman, Jessica Leal, went missing. During the investigation, the police found distinctive tire tracks next to her house. Hence, the police set up a traffic control in search for matching tires. A few days later, a 46-year old man, Russel Walling, was stopped and it was found that the tires of his car matched the tires that were found near Jessica's house. In addition, the police found evidence that linked Russel to another murder and several break-ins in the area. Russel was taken in for interrogation. However, he denied all of the allegations and did not confess to any of the crimes. You will now see a video showing part of the police interrogation with Russel. The video takes about 9 minutes. You can pause the video if you must. You cannot rewind or skip (parts of) the video. Please watch the video carefully. After watching the video, click " " for the questionnaire."

### Control condition

In January 2010, a young Canadian woman, Jessica Leal, went missing. During the investigation, the police found distinctive tire tracks next to her house. Hence, the police set up a traffic control in search for missing tires. A few days later, a 46-year old man, Russel Walling, was stopped and it was found that the tires of his car matched the tire tracks that were found near Jessica's house. In addition, the police found evidence that linked Russel to another murder and several break-ins in the area. Russel was taken in for interrogation. You will now see a video showing part of the police interrogation with Russel. The video takes about 9 minutes. You can pause the video if you must. You cannot rewind or skip (parts of) the video. Please watch the video carefully. After watching the video, click " " for the questionnaire.

#### Video

# Confession, control and no confession condition

Thank you for watching the video!

You will now answer several questions to evaluate your perception of the interrogation. There are no right or wrong answers, so please answer as spontaneously and truthfully as possible.

#### Awareness condition

Thank you for watching the video!

You will now answer several questions to evaluate your perception of the interrogation. When evaluating the interview, it is important that you actively focus on what happened during the interview (i.e., how the interrogator reacted and responded to the suspect's behavior). That is, we want you to evaluate the interview based on the interaction in an objective way, and that you *avoid letting the outcome influence your perception of the interaction*. There are no right or wrong answers, so please answer as spontaneously and truthfully as possible.

### Questionnaire

# General impression and attribution type items

The interrogation was of high quality.

The interrogator did a good job.

The interrogation went bad.

This was a bad example of how interrogations should be done.

This interrogation is an example of good police work.

The outcome of the interrogation was/will be mainly due to the strength of evidence.

The outcome of the interrogation was/will be mainly due to the personality/intentions of the suspect.

The outcome of the interrogation was/will be mainly due to the performance of the interrogator.

# Planning and Preparation

Please read the following statements *carefully* and rate your agreement with each statement.

The interrogator was knowledgeable about the case.

The interrogator prepared well for the interview.

The interrogator knew what he was doing.

# **Engage and Explain**

The interrogator could explain the purpose of the interview clearly.

The interrogator could explain the purpose of the interview professionally.

The interrogator was successful in bonding socially with the suspect.

The interrogator explained that the interview is an opportunity for the suspect to give his account.

#### Account

The interrogator failed to explore new information.

The interrogator asked inappropriate questions.

The interrogator encouraged the suspect to give his own version of events.

The interview followed a logical structure.

# Questioning skills

The interrogator inappropriately interrupted the suspect.

The interrogator asked suggestive questions (questions that already imply what the answer is, therefore influencing the suspect).

The interrogator made good use of open-ended questions.

The interrogator made good use of closed-ended questions.

The interrogator talked too much.

#### Interviewer characteristics

The interrogator showed self-confidence.

The interrogator was open-minded.

The interrogator was inflexible.

The interrogator did not respond to new information.

The interrogator attentively listened to the suspect.

Understanding/knowledge of the study

I understood what was said in the video.

I understood the questions that I answered.

The case of Russel and Jessica is a real case. Were you familiar with this case? If yes, please shortly explain how.

Demographic questions.

What is your gender?

What is your age?

What is your nationality?

What is your highest completed level of education?

# Debriefing

Thank you for participating, you have now completed the study. Below, you will find some more information about the case that was used in this study and about the aim of the research.

# The real case

As previously mentioned, the case of Jessica and Russel was a real one. Only their last names were changed for this study. In January 2010, 27-year old Jessica Lloyd went missing. The tire tracks that were found near her house led to Russel Williams, who was a Colonel in the Canadian Forces. Williams was taken in for interrogation and denied all the allegations at first. However, after being confronted with the evidence (which included the tire tracks and his boot prints being found near Jessica's house), he finally confessed to kidnapping and killing Jessica as well as committing another murder and several break-ins and sexual assaults in the area. Eventually, he even led the police to the spot where he had dumped Jessica's body. Furthermore, he told the police where they could find the hidden keepsakes of his deeds, including photos he took of the two women he killed as well as photos of himself wearing

women's underwear. A shortened edition of the interrogation (which actually lasted about 10 hours) was made publicly available.

# Background of this study

The purpose of this study is to examine the "outcome bias" in police interrogations. Specifically, we test if people judge an interrogation differently when they know the outcome of the interrogation (whether the suspect confessed or not). Furthermore, we want to find out if this bias is still present when people are instructed to not take the outcome into account. You were assigned to one of the three experimental groups (you saw either the confession, no confession, or the confession and the instruction to not take the confession into account) or the control group (you received no information about the outcome). Investigating the outcome bias in police interrogations may help to understand why confession-driven interrogation techniques (rather than information-driven) remain popular amongst law enforcement professionals, despite the fact that they are proven ineffective and unethical. Thank you for contributing to this research.

If you have any questions concerning this study, feel free to contact the researcher.