Student No: 20210985

Module Code: PSTY4054 UNUK

University of Nottingham

Assessed Coursework Cover Sheet for Applied Psychology Postgraduate Courses

Module Title:
Forensic Psychology Research Dissertation

Coursework Title:

The Effect of Humour During Investigative Interviewing in Forensic Settings

Word Count (excluding references and appendices): 5981

This is to confirm that I submit this piece of assessed work in the full knowledge of the published guidelines on plagiarism and its consequences

Type name: Matthew Mason

Contents

Project Proposal: The Effect of Humour During Investigative Interviewing in Forensic Settings

Background of Topic

this research explores techniques for interviewing witnesses, using investigative interviewing techniques. it builds on the concept of reconstructive memory, as this is what interviews and testimony is based on (Loftus & Palmer, 1974). Exploring the impact of suggestion in reconstructive memory, she uncovered that people's perceptions of events can be impacted by the use of specific words, and the weight we assign to them (Loftus & Palmer, 1974). Consequently, interviewers adapted their questioning to keep the tone of questions neutral, minimising the risk of effecting reconstructive memory taking effect. Following on from this, Loftus, Loftus and, Messo (1987) determined that recall of events would be drastically affected if there was a weapon involved, in the event. Consequently, details about the offender tend to be reported poorly, even if participants feel confident about their description. A meta-analysis by Steblay (1992) supports this claim. Finally, Loftus (1993) demonstrated the harmful influence that post-hoc information can have on reconstructive memory. New information affects the original memory, leading to an inaccurate account of the actual event.

to combat these effects, Geiselman, Fisher, Firstenberg, Hutton, Sullivan, Avetissian, and Prosk (1984) developed The Cognitive Interview (CI) technique. This technique aimed to achieve the most accurate interview as possible, avoiding all biases. The CI has been proven effective in many studies (Memon,

Meissner and, Fraser, 2010; Fisher, Milne, and Bull, 2011). The most relevant aspect of CI to this research proposal is the focus on rapport, active participation, and mnemonics. It is these values that humour maybe able to assist with, achieving a more effective interview. The Revised CI, (Fisher & Geiselman, 1992) was modified in a number of ways to the original, including even more emphasis on rapport building.

In real life, typically developed adults are not the only individuals that get interviewed regarding offences. A significant portion of interviewees are children or vulnerable individuals who are offenders, victims, or witnesses to offences. With these individuals, there is a higher risk of influencing their recollection, in addition to the communication difficulties they may already have (London and Kulkofsky, 2010). As a result, Lamb, Orbach Hershkowitz, Esplin, and, Horowitz (2007) contributed with the development of the Children Health and Human Development Investigative Interview Protocol (NICHD). The interview technique works in a similar manner to the Cognitive Interview technique but instead is split into two phases: the Pre-substantive Phase and Substantive Phase. Of which, the most relevant to this phase to the research proposal is the former. The Pre-substantive Phase consists of Introductory and "Rapport-Building" phases. Initially, children are assured that it is okay to not know the answer to a question and to demonstrate they know a truth from a lie (Waterman, Blades, and Spencer, 2002; Ahern, Stolzenberg, & Lyon , 2011). During the rapport-building phase, children are asked neutral questions, which do not pertain to the event. This phase serves two purposes, firstly: trust is established between interviewer and interviewee, and secondly: it establishes the level of detail they can expect from an honest answer (Bottoms, Quas, & Davis, 2007). It is

reasonable to assume that children would be more likely to open-up more to some who they have a higher rapport, which humour can assist with. Once completed, the second phase begins, during which they are asked questions pertaining to the event.

children are not the only vulnerable population that can be interviewed. Often the elderly population will give inaccurate accounts for a variety of reasons, and these tend to be less accurate and complete than those from younger populations (Yarmey, 1993). Furthermore, adults with learning difficulties are also classed as a vulnerable population. Common issues regarding adults with learning difficulties include their tendency to agree with whatever is said, regardless of the nature of the question, making their interviews unreliable. When exposed to the cognitive interview technique, accuracy of answer increased by around 33%, although this remains below what would be expected from typically developed adults (Brown & Geiselman, 1990). These findings were supported by Milne and Bull (2001) who reported an increase in accuracy amongst adults with learning difficulties (though noted that they were prone to more exaggerated retellings of events).

This field of research extends into the area of investigative interviewing, a domain chiefly researched by Becky Milne and Ray Bull. For the previous decades, they have conducted research assessing the effectiveness of police interview techniques, as well as the new PEACE (planning and preparation, engaging and explaining, account clarification and challenging, closure, and evaluation) guidelines. PEACE may be seen as an evolution of "The Revised Cognitive Interview" (Fisher and Geiselman, 1992 This technique has found widespread implementation and success with the United Kingdom, attaining just as many confessions as the cognitive interview (Bull & Soukara, 2010). On the

other hand, this conclusion was debated in a future study which found that regardless of if police had prior PEACE training, there was no significance in the performance of officers (Clarke, Milne, & Bull, 2011). (It must be emphasised that it is the implementation of PEACE that was deemed inadequate, not the technique itself.) This claim is supported by Walsh and Bull (2010) who reported that the more PEACE training an officer receives, the higher quality the interview quality is, increasing the likelihood of a confession. This style of interview also lends itself to forensic interviews with individuals learning difficulties (LDs) (Milne & Bull, 2001). This is most likely due to the preparation stage, as officers are encouraged to build rapport with the interviewee. As individuals with LD often communicate differently than the neurotypical population, it is important to understand these behaviours before conducting an interview. Furthermore, this gives individuals with LD time to feel comfortable with their interviewer.

Building rapport is the area of which this study could provide the most benefit. Of the aims of the cognitive interview and the PEACE interview, rapport building if one of the most frequently hit objectives. Dando, Wilcock, and Milne (2010) found a correlation with perceived effectiveness of an interview and meeting a greater number of aims. Despite rapport building being one of the most common tactics used in interviews, analysis of police interviews revealed that many opportunities of further build rapport are not exploited (Walsh & Bull, 2012). These two aforementioned studies suggest that whilst rapport building is frequently used, it is still not being utilised as effectively as it could be. Moreover, Walsh and Bull (2012) report that rapport building tends to stop after

the initial police interview, thus the relationship is not maintained, deteriorating future interviews.

Abbe and Brandon (2014) identified "self-disclosure" as an effective way of establishing rapport. This may involve personal anecdotes, of which humour can become a medium for. Although, the importance of "appropriateness" should also be taken into consideration beforehand. The authors believe that if a joke is too inappropriate for the situation, it can harm the quality of the interview.

Overall, the background of the proposed research project is in the area of interviewing. Whilst humour will have no direct influence on some of these areas, it is possible that it could help to improve techniques such as the cognitive interview, especially regarding building rapport with interviewees. Furthermore, humour may be applicable to any target population.

Evidence for Study:

Humour already exists in forensic settings, though not as utilised as it could be. Hobbs (2007), reviews the way that humour is used as a "social corrective" with judges in the United States of America and the United Kingdom. Whilst some view humour as "inappropriate" for the courtroom, Hobbs (2007), takes the perspective that it is beneficial. In this instance, humour is used to mock the offender and by extension, detract others from committing similar offenses. An example of this in the real world is the TV show "Judge Rinder", who frequently engages with humour in the courtroom, for the benefit of the justice system. Adding to the idea of humour as a means to build rapport, Bitterly and Schweitzer (2019) investigated how humour influences perceptions of accuracy and competence. From this, it is plausible to understand that humour is effective

two-fold. Firstly, humour can shame offenders, and reduces other's desire to carry out the same offense. Secondly, the use of humour allows us to identify the judge as a role of power, competency and accuracy in what they say and do. Judges are not the only ones who benefit from using humour in the courtroom. Just as a teacher may use humour to aid understanding and focus (Abraham, et al., 2014), so can expert witnesses. However, there may be a limit to how much humour can be used. Davis (2017) believes that humour may not be used as freely for expert witnesses as other roles- concluding that whilst the use of humour is encouraged when explaining complicated matters, but is not advised in serious topics such as medicine.

Given the formal settings of a police interview room, and the seriousness of seeking justice, the role/use of humour has been underappreciated. One of the key things that we wish to ascertain from an interview or when giving testimony is accuracy. Due to a history of inaccurate testimonies, eyewitness testimony cannot be used to prosecute somebody in a court of law alone, though a person's account of a situation is still valuable to assisting the investigation. Consequently, over the years, methods have been conducted to examine if they help increase accuracy of recall. There is potential for humour to improve recall as well. In studies that investigated the effect of humour on memory recall, findings suggest that participants had increased word recall after watching a humorous video. During this study they split participants into two groups: emotionally neutral and emotionally dysphoric (the latter brought on by using a Mood-Induction Procedure (MIP)). Whether participants underwent MIP to dampen their mood or not, humour was found to increase recall (Saraa-Zawyah & Dzulkifli, 2013). This study has some interesting implications. Besides the findings that humour improves recall, the study also suggests that humour is

effective regardless of negative emotions such as anxiety and depression. Applying this to a forensic setting, for those who have witnessed a distressing crime, it may prove valuable if subjected to humour before providing an account. However, to what extent, the study does not clarify. Whilst strongly considering their ethics, a negative MIP does not equate to witnessing a particularly violent crime. As such, the results of this study can not be generalised to all negative mood sets, despite the promising results.

Furthermore, there may be a biological basis for this process. Shammi and Struss (1999) detailed the importance of humour for the right frontal lobe. They believe that this area of the brain links environmental information to our emotions, which in response creates memories. Implying the importance of humorousness and novelty to our ability to encode events to memory, with participants with brain damage to these areas scoring lower on humour appreciation tasks and memory tasks. Applying this to the Working Memory Model, humour uses the same processes of encoding humour in the same way as we remember other visual and verbal information. In this sense, if we can establish that humour uses the same cognitive processes as other types of memory, we can use this to trigger synaptic pathways to increase accuracy of recall. The effectiveness of humour on recall has been examined in an educational setting by Bakar and Kumar (2019). By observing award winning teachers, they found that through intentional and unintentional humour (assessed by heart rate), 7 different types of humour contributed to enhancing student learning and attention. Potentially, we may see a similar result inside of a forensic setting as well. However, most of the research focuses more on the encoding aspect of humour and not the retrieval. For example, Takahashi and Inoue (2009), who concluded that humorous events and images are easier to

remember than non-humour ones. other studies also suggest that we remember bizarre and humorous events easier. This is an inherent problem that would also need assessing, as the events witnessed that warrant a police interview are rarely humorous. Is humour only effective if the initial stimulus itself is humorous?

Another issue surrounding recall, in a forensic setting, is the stress associated with the setting itself (in addition to the impacts of the crime). Numerous studies have linked stress and recall, none of which were as impactful as the Yerkes-Dodson Law (Yerkes & Dodson, 1908). The law posits that increase in arousal leads to greater performance, up to a certain point, where it starts to decline again. This idea was expended upon by Easterbrook (1959) in his Cue-Utilisation Theory suggesting that whilst some emotion can be good in triggering recall, in the majority of cases, the emotional arousal inhibits cue utilisation. It would be reasonable to assume that if we can reduce emotional arousal back down to acceptable levels, we may also gain more accurate recall. Humour could accomplish this. Numerous studies have compared humour's effect on reducing stress: in medical settings, we find that stress is lowered amongst cancer patients who have complementary humour therapy (Bennet, Zeller, Rosenberg & McCann., 2003); in educational settings, humour has been reported to reduce stress and increase self-awareness and attention (Hashem, 1994); and in the general workplace, use of humour was linked to lower stress levels (Mesmer-Magnus, Glew, and, Viswesvaran, 2012). Whilst humour seems to be effective at reducing stress in most settings, research would suggest that there may be some culture differences, that would potentially limit the findings of a study advocating for increased use of humour. Another major boon of its inherent ability to build rapport with people, this, is that humour is, up to a point,

advantageous for communicating with those who are uncooperative. Potentially, the biggest application of humour could thus be seen within vulnerable populations. As Saywitz, Larson, Hobbs and, Wells, et al. (2015) mentioned in their systematic review, whilst building rapport should be done on moral and ethical reasons, there is still no certain method of doing so. And, due to individual difference, there may not be a certain procedure to do this. However, methods such as humour have been found to have some degree of success. Degabriele and Walsh (2010) advocate for the use of humour with children with intellectual disabilities, for building rapport. However, finding the humorous stimuli is the key to building this rapport, which can make things difficult. This also relates back to the comments made by Saywitz et al., (2015) that there is no certain way to effectively establish a rapport. Overall, humour seems apt as a means to increase focus in a forensic setting. It can lower stress, improve performance, and is also effective with a typical population as well as vulnerable populations. Alternatively, it can be argued that humour would not be an ideal strategy if the police want an interviewee to be stressed.

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Research Protocol

Overview of the topic

Investigative interviewing is a very common practice in the forensic field. The process usually involves a police officer asking eyewitnesses and people of interest to give their testimony regarding a recent offence. However, humans are not always reliable with the information they provide, voluntarily or not. This concern touches on two prominent areas of forensic psychology: human memory and interviewing techniques.

the unreliability of human memory has been researched by Elizabeth Loftus, who demonstrated how human memory can be influenced. One example is Reconstructive memory, the idea that memories which we believe to be fact have actually been altered by either prior or post event information. Examples of this include: reporting seeing something when it wasn't actually present (Loftus, 1975); underestimating/overestimating the speed of which something happens (Loftus & Palmer, 1974); and how the quality of a memory can be affected if during an event some information can be altered, eg, if a weapon is involved (1987). Altered memories present a problem for forensic investigations, as witnesses may involuntarily provide incorrect information. Shammi and Struss (1999) suggested that the brain processes involved in humour may play a role in the development of a memory. Potentially, if this neural pathway is activated alongside memory (via humour) it may also provide a pathway to the original unaltered memory, leading to a more accurate testimony.

To test this, we must examine , how an interview is conducted.

Over the past decades, there has been a growing emphasis on the importance of interview technique. From standard interviewing, Geiselman et al. (1984) created the cognitive interview, this work emphasising the importance that psychological states have on memory. This was improved upon with the Revised Cognitive Interview (Fisher & Geiselman, 1992), which included more criteria to help witnesses remember details about the event. Currently, the PEACE model of investigative interviewing is the standard for the United Kingdom. Existing research suggests that forensic interviews have benefited from these developments (Bull & Soukara, 2010). One element that has always been emphasised between these techniques is rapport building, which involves creating a positive relationship between interviewer and interviewee. How this is done varies person to person, but humour remains a consistent route of quickly building rapport with new people (Tremayne, 2014).

Research Questions

- The aim of this research is to establish if the use of humour during simulated forensic interviewing is a benefit or a hindrance
- The study will investigate if recall is more accurate when interviewees are exposed to a humorous interviewer
- The study also aims to assess if participants have greater recall of the events witnessed, after being exposed to a humorous interview
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Proposed Method

A) Participants

Participants for this study will be any member of the general public over the age of 18-years-old, as any member of the general public may be brought in for questioning. Similarly, this extends to vulnerable populations such as the elderly and individuals with mental disorders, though this study will not seek to ensure their participation. People under the age of 18 are ineligible to take part in this study as the video stimulus of a crime may be given a film certificate rating of 18.

Participants will be selected through volunteering, opportunity, and snowball sampling. Recruitment for this study will be advertised though word of mouth and online promotions. Biases should be reduced as participants will be randomly assigned to either condition by a computer, ensuring reduced researcher interaction. Based on a previous study investigating the effect of increased rapport building during investigative interviewing (Holmberg and Madsen, 2014), there is expected to be an effect size of moderate to high. When calculating for G-power, with three conditions and moderate effect size (f=0.25), it is expected that the study will require a minimum of 252 participants.

B) Procedure

This study will follow a quantitative, between-participants experimental design. Participants will be randomly assigned to one of three conditions: Standard Cognitive Interview (participants will be asked questions in typical police manner); Humorous Interview (the same process as the cognitive interview but with frequently made jokes); and a control group (this interview will try to ignore aspects which the cognitive interview emphasises). Participants will be allowed to see the video stimulus online, before being allocated to one of the

conditions, and asked to say what they remember. The interview will be conducted entirely online, through a survey software. Participants will be prompted to answer in the provided text boxes, in the style of the intended interview approach. This means that the prompts will be different in each condition. For example, during the cognitive interviews, participants will experience more slides as it takes time to replicate the environment of the forensic interview. Alternatively, the control condition will just be given slides pertaining to giving their account. Participants will then be assessed on the number of events recalled, from a video stimulus (correctly or not), as part of the cognitive interview is to encourage free recall for interviewees. Furthermore, the amount of correct information will also be recorded to see if humour has any effect on the accuracy of recall.

1. Volunteers who express interest in participation will be sent a link to the online study
2. Upon following the link, the participants will then read through the Participant Information Sheet. If participants are still interested, they can then read and sign the consent forms.
3. Participants will view a video stimulus and then be randomly assigned to one of three conditions: Standard Cognitive Interview (SCI), Humorous Cognitive Interview (HCI), and a Control Group.
4. After proceeding through their condition, they will then read the participant debrief and thanked for their participants.
5. Their data will be recorded and compared to the other conditions

C) Measures (or materials in experiment)

Participants will be viewing an online video (of a foreign film), shot in the style of first person, to replicate the experience of participants witnessing the stimulus themselves. Consequently, we will be creating (most likely) new content for them to witness. Data will be analysed to check for: amount of recall, accuracy of the recalled information and how much the participant engaged with the interview

The statistical software SPSS will be used during the data analysis stage.

D) Proposed analytic methods

Unrelated ANOVA will be used to compare the three groups in the study. This also allows T-tests to be conducted post-hoc if necessary. Primarily, the main outcomes that will be analysed is the effect that each condition has on recall and accuracy. Although, t-tests may be used to look for a significant effect between variables, such as: age, gender, and education

E) Estimated timescale

	Ethics Approval	Recruitment and Experiments	Data Analysis	Write Up
February				
March				
April				
May				

June				
July				

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Ethics Application Form

Application for approval of all studies involving **Healthy Human Participants only conducted by Staff and Students of the University of Nottingham which don't involve an invasive procedure**

Please complete one application form, consent form (template attached) and participant information sheet (template attached), one detailed study proposal (template attached) Please e-mail 1 copy of each as attachments

1. Title of Project:

The Effect of Humour During Investigative Interviewing in Forensic Settings

Short title

- Humour and Investigative Interviewing

2 Names, Qualifications ,Job Title, School/Divisional/Unit/Address, email of all Researchers:

Chief Academic/Supervisor: Dr. Vincent Egan

Other key researchers/collaborators: Dr. Simon Duff

Students name and course: Matthew Martyn Mason: Forensic Psychology

3 Type of Project: Masters Dissertation

4 Location of study: Online

5 Description and number of participants to be studied:

- Participants of this study will be any member of the general public, above the of 16-years-old. As they will be old enough to give consent to participate in this study and non-adults are also eligible for police interviews. G-power calculations suggest the study will need a minimum of 252 participants

6 Summary of Experimental Protocol - **Please give details below (no longer than this side of A4) under the following headings: - 1. Background. 2. Aims (to include hypothesis to be tested Primary and secondary endpoints), 3. Research protocol and methods, 4. Measurable end points/statistical power of the study. 5. Key references. This section must be completed. This is in addition to a more detailed project proposal/protocol which should be attached to this application. Please use 10pt typeface.**

1. **Background:**

- One key part of police interviews, when interviewing eyewitnesses, is to quickly establish a positive rapport. If done correctly, the interviewee will feel more comfortable and willing to talk with the interviewer. One way that people can effectively build rapport with others is by using humour, as it comes across as friendly and informal. Potentially, by encouraging interviewers (such as police officers) to use jokes when conducting an interview, participants may be willing to give more detail in their answers. Previous research suggests the higher quality the rapport is between interviewer and interviewee, the more useful the interview will be.

2. Aims:

- To analyse if humour is beneficial for forensic interviews
- To investigate whether participants remember more details about the event correctly, when exposed to a humorous interview
- To examine if participants are willing to make more assertions about an event, after being exposed to a humorous interview

3. Protocol and Methods:

- This study will take place online and is expected to last between 20-30 minutes. Participants will be 18 years old and upwards, as they would be eligible for forensic interviewing in real life.
- Participants will be shown visual stimuli of an event. They will then be randomly allocated to one of three conditions: Standard Cognitive Interview (SCI), Humorous Cognitive Interview (HCI), and a Control Group.
- Additional factors will also be looked at such as age, gender and education to see if this has a potential impact on participants ability to recall, given the condition that they have received. In terms of practical applications, this could help interviewers tailor their approach when dealing with particular interviewees. Participants will also be asked about their birth month but this is to facilitate random trial placement as moth of birth should not be an impactful variable
- SCI Condition: This condition will try to replicate the current model of forensic interviewing, modelled of the PEACE guidelines (currently used in the UK).
- HCI Condition: This condition will echo the format of the SCI but will include jokes and humorous anecdotes as the primary way of building rapport
- Control Condition**:** This condition will ignore the practices emphasised by PEACE guidelines and will simply ask participants to try to recall whatever they can
- The amount of information provided in total, as well as the amount of accurate information provided will be measured. This will then be compared across the three conditions to assess for significance, using unrelated ANOVAs

7 Lay Summary of project (in lay words):(maximum 200 words) ***Summaries which include***

language which is too technical for lay members of the Committee will be rejected.

- One key part of police interviews, when interviewing eyewitnesses, is to quickly establish a positive rapport. If done correctly, the interviewee will feel more comfortable and willing to talk with the interviewer. One way that people can effectively build rapport with others is by using humour as it comes across as friendly and informal. Potentially, by encouraging interviewers (such as police officers) to use jokes when conducting an interview, participants may be willing to give more detail in their answers. Previous research suggests the higher quality the rapport is between interviewer and interviewee, the more useful the interview will be. Participants will be spilt into three groups: the current police model; the current police model with jokes; and, a basic interview with no standard guidelines. The study aims to see if by adding humour, participants are more likely to list more details about an event, and if they are more accurate. The results of this study could have major practical applications for the way the currently forensic interviews are conducted.

8 Will written consent be obtained from all volunteers?

-Written consent will be acquired through participants clicking a box underneath the Participant Information Sheet and Consent Form, to show their agreement and understanding of what is expected from them.

9 <u>Will an inconvenience allowance be offered</u>

- No

10 <u>FUNDING</u>

- In its current form, the study is self-funded

11 Studies involving NHS Staff, organisations, Services

Does the study involve any premises, services staff who hold a contract with a hospital, Primary Healthcare or Social Care Trust?

- N/A

12 How will the subjects be chosen?

- Subjects will be chosen through opportunistic, volunteer, and snowball sampling

13 Describe how possible participants will be approached.

- The study will be advertised through word of mouth by the researcher, as well as promoted on social media (For example: Facebook, Twitter and Reddit). The general public will be encouraged to pass this on to other people them may know who meet the criteria for being a participant

14 What sources of information will be included? i.e, pre-existing research database, student records, visits to other organisation, online resource

- All information gathered as part of this study will be from the primary source, no pre-existing data will be used in this experiment.

15 Whose permission will be sought to access this information (eg GP, consultant Head of Organisation)?

- N/A

16 For interview/focus groups:

- N/A

17 Data Storage and Data management

- Physical data (such as questionnaires and consent forms) will be stored in a secure draw in my working space, protected by lock and key. Digital data (such as entered impulsivity scores and time spent in the room) will be kept secure on a personal laptop which is kept close to my work space and protected with antivirus software and password protection. All digital data will also comply with the rules and regulations of the GDPR, as mandated by UK law

18 What ethical problems do you foresee in this project?

- There should be no foreseeable major ethical concerns associated with this project. Anonymity will be maintained through individuals allocating themselves a pseudonym online, so their real identities cannot be revealed. Participants data will also be safeguarded via password protected computer with anti-virus to protect against leaks. There may be a risk to harm in the form of witnessing distressing images during the crime video. To alleviate the potential harm, participants will be warned beforehand, in the Participant Information Sheet. They will be advised not to participate if they have a nervous disposition to blood and violence.

The stimulus material will be from a Russian foreign film, shot in first person. The video will depict a detective chasing a suspect through a city.

19 What are the possible limitations of the proposed design of this study?

- Potential limitations for this are the participant demographic. As the study is online and will also be advertised online, potentially participants involved with this study may not be a good representation of the general public, as the platform may favour younger people, though efforts will be made to promote the study where a more elderly population may see it. There is also the issue of individual difference, whilst jokes are designed to be humorous, there is no guarantee that everyone who is a part of the Humorous Cognitive Interview will find the jokes funny. To assess the effectiveness of the humour, a rating scale for how funny participants believed the jokes were and how much they rate their own sense of humour may be added.

DECLARATION: I will inform the Medical School Ethics Committee as soon as I hear the outcome of any application for funding for the proposed project and/or if there are any significant changes to

this proposal. I have read the notes to the investigators and clearly understand my obligations as to the rights, welfare and dignity of the subjects to be studied, particularly with regard to the giving of information and the obtaining of consent.

Signature of Lead Investigator:  **Vincent Egan (project supervisor)**

 **Matthew Mason (student conducting the project).**

Date: 27.01.20

****Nb If you are student your supervisor must sign this form otherwise it will be rejected**

Name and address for correspondence with applicant:

Please submit your completed application to:

Administrative Support
Faculty of Medicine & Health Sciences Research Ethics Committee
c/o Faculty PVC Office
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University of Nottingham
UK | CHINA | MALAYSIA

Ethics Approval Letter

University of Nottingham
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Mr Matthew Mason
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Dear Mr Mason

Ethics Reference No: 520-2003 **– please always quote**	
Study Title: The Effect of Humour During Investigative Interviewing in Forensic Settings	
Chief Investigator/Supervisor: Dr Vincent Egan, Associate of Forensic Psychology Practice, Director MSc Forensic Psychology, Centre for Forensic and Family Psychology, Psychiatry and Applied Psychology, School of Medicine.	
Lead Investigators/student: Matthew M Mason, Masters in Forensic Psychology Student	
Proposed Start Date: 01/05/2020	**Proposed End Date:** 31/08/2020

Thank you for submitting your responses to the comments made by the Committee and the following documents were received:

- FMHS REC Application form and supporting documents version dated 01/05/2020

These have been reviewed and are satisfactory and the project has been given a favourable opinion.

A favourable opinion has been given on the understanding that:

1. The protocol agreed is followed and the Committee is informed of any changes using a notice of amendment form (please request a form).
2. The Chair is informed of any serious or unexpected event.
3. An End of Project Progress Report is completed and returned when the study has finished (Please request a form).

Yours sincerely

pp

Dr John Williams, Associate Professor in Anaesthesia and Pain Medicine
Chair, Faculty of Medicine & Health Sciences Research Ethics Committee

Research Project Paper:
The Effect of Humour During Investigative Interviewing in Forensic Settings

- Matthew Mason, BSc
- University of Nottingham, England
- Department of Forensic and Family Psychology, Division of Psychiatry and Applied Psychology
- For: The Journal of Police and Criminal Behaviour

ABSTRACT

The area of investigative interviewing was revolutionised with the creation of the cognitive interview, which added psychological aspects to the basic interview conducted by the police at the time. The cognitive interview has undergone many evolutions since then, such as the enhanced cognitive interview and the PEACE interview. Humour was considered, due to its pro-social properties, such as: emotion regulation, increasing attention and engagement. This study aimed to investigate whether humour could be added to cognitive interviews, without hindering the established techniques, and potentially improving it. Using a virtual cognitive interview, participants were randomly allocated into three conditions: humorous cognitive interview (HCI), standard cognitive interview (SCI), and control standard interview (CSI). All watched the same 5-minute movie clip. The amount of correct information recalled, and total number of answers given were recorded. Results indicated that humour does not negatively affect the cognitive interview process. The implications of adding humour to cognitive interviews to assist with rapport-building and the humanitarian approach to interviewing are discussed, as well as gathering information from vulnerable populations.

Key Words: Forensic, Interviewing, Humour, Vulnerable, Cognitive

1. INTRODUCTION

Investigative interviewing (II) revolves around the process of asking questions to eyewitnesses, victims, and people of interest, to establish how an event took place in the absence of other evidence (Schollum, 2005). II uses psychological principles to gather information strategically. Despite the importance of eyewitness information for law enforcement, research has repeatedly suggested that eyewitness testimony is unreliable and subject to influence. Although the justice system has seen improvements in developed countries since the turn of the century, it is crucial to understand the impact of faulty eyewitness testimony to optimise the delivery and integrity of the legal process.

A study conducted by Rattner (1988) investigated cases where individuals were wrongly imprisoned. Of the 205 cases investigated, it appeared that 52% of unjust imprisonments were due to unreliable eyewitness testimony. The inclusion criteria of this study stretched back to 1900 and only took cases where prisoners were exonerated. The study suggested that a vast majority of innocent people who were convicted would have seen justice had it not been for incorrect eyewitness testimony. Furthermore, the study implied the existence of many more individuals who remained imprisoned based on faulty testimony. Although, this is subject to certain limitations (e.g., records from the early century being more challenging to attain than records compiled at a closer date). The development of technology over this period allows for advancement in law enforcement, which improves judgement of innocence and guilt. Nonetheless, this study explores eyewitness testimony and how it may be improved.

1.1 Eye-Witness Testimony

The issues with eyewitness testimony became highlighted in the 1970s. In one of the most influential studies on memory, Loftus and Palmer (1974) evidenced that recall can be drastically altered by merely changing the verb used in questioning. When an individual is exposed to a more aggressive word, they are more likely to believe they witnessed something more aggressive than they did. Their second experiment suggested that the wording of questions can lead to subjects admitting to witnessing something that did not occur. Likewise, Loftus (1975) established that participants could be influenced into stating something from memory that was not present, maintaining this belief for at least a week. The study drastically altered our perception of memory as an exact process, suggesting it could be reconstructed.

Research into this area of psychology has determined what can influence recall. Participants appear more likely to reconstruct a memory when the event is believed to be plausible. Plausibility can be gained through circumstantial evidence or rumination on a potential event, even if the initial event is not very plausible. For example, they could be made believe that they participated in a childhood event that never happened; this effect was more prominent when presented with a photograph from the time period of the supposed event (Lindsay, Hagen, Read, Wade, & Garry, 2004). Furthermore, Sharman and Scoboria (2009) had participants imagine scenarios from their childhood and asked, "what if?" questions about events that did not occur. Regardless of whether the "what if?" was plausible or not, participants became more confident in its occurrence with rumination. The most significant limitation of these two studies was their use of childhood memories. As II cannot fact check the

participants' self-reports, there is a chance that the participants initially believed an event did not occur, when it actually did. Potentially, their false memory acted as a prompt or drew upon unconscious memories.

According to the Multistore Model of Memory (MSM; Atkinson & Shiffrin, 1968), the events we witness are added to our short-term memory via attention and encoded into our long-term memory through rehearsal. In this model, it would stand to reason that memories are potentially altered during this rehearsal phase, so can lead to inaccurate long-term memory. Alternatively, the memory goes through reconstruction at the retrieval phase.

Additionally, due to the importance of the prefrontal cortex in memory, it can be theorised how the Working Memory Model (Baddeley & Hitch, 1974) can play a role with eyewitness testimony as this is the centre for (short-term) information processing. If an individual is being met with information coming from many different sources, it is easy to become overwhelmed as the episodic buffer tries to relate as much information as possible. If a task cannot be completed due to the cognitive load put on the central executive, it can lead to information not being encoded to long-term memory, leading to 'post-event information' to fill in the gaps, resulting in false memories (Baddeley, 2012; Maclean, Coburn, Chong, & Connolly, 2018).

Current research suggests that there may be biological markers which can help determine whether individuals are experiencing a "true" or "false" memory (Schacter & Loftus, 2013); fMRI machines have been used to investigate brain region activation, during encoding and retrieval. Okado and Stark (2005) implemented the misinformation paradigm- a procedure where a

participant is exposed to stimuli and then subjected to a similar stimulus with the critical events changed. They noted the brain regions involved during the encoding process by showing them the first video while in the fMRI machine, and then the "misinformation" stimulus. They found that when exposed to the original video, the brain regions in the hippocampus and prefrontal cortex were activated in the same areas where the "true" memory regions had activated during encoding. Likewise, the areas activated in the "false" memory regions when viewing the misinformation paradigm. The study suggests that there is a possibility to examine a difference between "false" and "true" memories, leading to the idea that the reconstructive memory is more like a copied file rather than overwriting the original trace. The study implies that regardless of post-event information, everybody has the potential to recall the original event. Potentially, humour can be used as a cognitive technique to help facilitate accurate recall during II, by facilitating the activation of synaptic pathways to the original event

1.2 Cognitive Interview

The misinformation effect can drastically alter an individual's recollection of an event, and this can stem from many factors (Steblay, 1992). To safeguard against these influences, Geiselman et al. (1984), created The Cognitive Interview (CI) technique. This technique has four primary aims to assist witness recollection: context reinstatement, (Godden & Baddeley, 1975; de Bettencourt, Turk-Browne, & Norman, 2019); achronological order (Vrij, Leal, Mann, & Fisher, 2012); different perspectives, (Memon, Cronin, Eaves, & Bull, 1996), and report everything (Memon, Wark, Bull, & Koehnken, 2011). Overall, this technique has accumulated a mass of support for the accurate testimonies it can

provide (Köhnken, Milne, Memon, & Bull, 1999; Memon, Meissner, & Fraser, 2010; Vrij, Fisher, & Blank, 2017). Unfortunately, without proper training on CI its implementation can be problematic; it has been reported that some officers have been confused, and struggle to implement the guidelines within interviews (Fisher, Geiselman, & Amador, 1989; Dando, Wilcock, & Milne, 2010). Consequently, the Enhanced Cognitive Interview (ECI; Fisher & Geiselman, 1992) was developed to provide a standardised procedure and add more psychologically relevant aspects to the interview. In this revised version, there was added emphasis on the rapport-building phase before the interview. Plus, a review of the information towards the end.

In the United Kingdom, the ECI has since evolved into the PEACE model of interviewing (Milne & Bull, 2003). While operating in a similar way to its predecessor, its emphasis on preparation leads to a more effective rapport-building phase and is generally considered more humanistic. (Holmberg & Christianson, 2002; Read, Powell, Kebbell, & Milne, 2009). PEACE is a mnemonic of the stages of the interview: Plan and Prepare, Engage and Explain, Account, Clarify, and Challenge, Closure, and Evaluate. Investigating how effective the PEACE model was compared to the old techniques, Walsh and Bull (2010) concluded that forensic interviews had improved overall, with each section adding more detail than any previous model. Bull and Soukara (2010) assessed the implementation of the PEACE model, finding that the philosophies and practices had been effectively implemented into forensic interviewing. Furthermore, this technique garnered fewer false confessions than ECI (Meissner, Redlich, Bhatt, & Brandon, 2012). However, contrasting evidence suggested that PEACE-trained officers were no more effective than non-trained

officers and concluding that there was still gaps in the implementation of PEACE (Clarke, Milne, & Bull, 2011). An alternative viewpoint could be that PEACE interviews are not more effective than the earlier iterations, though they are more comfortable to experience for the interviewee. Overall, the model is still relatively new and undergoing improvements, which the current study aims to improve. Arguably the most critical addition to CI, the rapport phase, can provide great assistance to cognitive interviews and this is currently the aspect of the CI which receives the most neglect (Walsh & Bull, 2012). A good relationship, with positive rapport during interviews has been linked to several beneficial outcomes, such as: increased details reported, faster establishment of trust, increased cooperation, and easier negotiations (Abbe & Brandon, 2014).

This concept has already been highlighted by ORBIT (Observation of Rapport Based Interview Techniques), which explains how rapport-based interviews are more effective in humanely interviewing people (Alison, Alison, Noone, Elntib, & Christiansen, 2013). ORBIT highlights two techniques for building successful rapport: motivational interviewing (MI) and interpersonal behaviour circle (IBC). MI should be affirmative, empathetic, and understanding (Ackerman & Hilsenroth, 2003). Birtchnell (2010) found that uncooperative interviewees can be coaxed with complementary styles, which could include being mildly challenging and even sarcastic if the situation calls for it, as part of IBC. In both instances, humour can be used to assist the rapport-building.

It is also essential to recognise the impact that age can have on cognitive interviews. As presented by Salthouse (2004) different age groups go through different stages of cognitive decline. As a result, it is important to take steps to ensure older-adults are being accommodated. The positive influence of rapport-

building is also critical when interviewing witnesses classified as vulnerable, such as: children, older adults, and those suffering from a developmental disorder (Saywitz, Larson, Hobbs, & Wells, 2015).

1.3 The Multifaceted Uses of Humour

Humour is a term used to describe any action or communication that others perceive as funny, including the cognitive and emotional processes which accompany it (Martin & Ford, 2018). It is more than a reactional behaviour; it can be used as social lubricant to hasten the development of bonding between parties, making it an effective catalyst for establishing rapport.

As Abbe and Brandon (2014) suggested, self-disclosure is an effective way of rapport-building. Another effective method of rapport-building is humour (Chiarello, 2010). Logically, combining the two, we should see a similar rapport-building method, as seen in television entertainers (Matwick & Matwick, 2017). Many other industries promote the use of this type of rapport-building, with beneficial results. Nurses and counsellors who utilise humour report more receptive patients (Huber, 1978; Kovarsky, Schiemer, & Murray, 2011; Elliot, 2013). Teachers who use humour with their students report increased attention, cooperation, and confidence (Pollak & Freda, 1997; Webb & Barrett, 2014). It can be argued that the addition of humour to any social process done by an industry or organisation will have overall beneficial effects (Barsoux, 1996).

The benefits of humour can extend past the rapport-building phase. Badli and Dzulkifli (2013) reported that after being exposed to humorous stimuli, recall was vastly improved compared to a control group. Furthermore, this study used a Mood-Induction Procedure (MIP) to alter the mood of participants.

Regardless of the mood of the participants, after being exposed to humour, recall showed an improvement. These findings are important when applying the results to a forensic setting, as it suggests that even victims who are distressed or saddened due to what they witnessed will still be responsive to humour. However, the study was not as emotionally taxing as genuinely witnessing or being the victim of crimes. The extent of this effect is not yet understood but still hints at some usefulness.

Additionally, novelty plays a significant role in both effective humour and witnessing a crime. Takahashi and Inoue (2009) reported that humans have an easier time recalling novel events. Unfortunately, due to their nature, it is rare that an eyewitness is being interviewed by a Police Officer about a humorous event, in real life. However, humour relies on the same novel value. Theoretically, by triggering the humour response, an individual may be psychologically reinstated into a novel context.

There is evidence to support this cognitive pathway. Shammi and Strauss (1999) investigated how humour is processed thought in the prefrontal cortex. Their study reported that the right frontal lobe is involved when linking environmental information to our emotions. They noted that patients with brain trauma in this area performed poorly on both memory and humour appreciation tasks. Existing research into memory suggests that our sense of humour is encoded the same way that other visual and verbal information is. Potentially, if we can trigger a humour response, it may jump-start the other informational pathways- leading to more accurate information recall. This idea links back to the earlier research on “true and false” memories and the role if the prefrontal cortex. Hence, humour may be helpful in eliciting recall.

Apart from the direct benefits of humour on memory, humour can help indirectly by stress reduction. The Yerkes-Dodson Law has long been documented with regards to forensic psychology (Yerkes & Dodson, 1908). This theory posits that too much, or too little, anxiety harms performance, and there exists a point of ideal stress. Easterbrook (1959) expanded on this by developing the Cue-Utilisation theory, showing that providing adequate stimuli can improve recall, which was a forerunner of context reinstatement. Humour may therefore be used as a tool for boosting the stress response or lowering it depending on intensity. Intense humour can trigger a release of cortisol, the primary stress hormone (Lai et al., 2010). Alternatively, humour can lower stressfulness in cancer patients (Bennett, Zeller, Rosenberg, & McCann, 2003); relieve stress in higher education students (Hashem, 1994), and in the general workplace (Mesmer-Magnus, Glew, & Viswesvaran, 2012).

Humour has already been implemented in forensic settings, such as courtrooms. Hobbs (2007) labels humour a "social corrective" which has been utilised informally by some judges in the United States and the United Kingdom. Humour may be beneficial for judges as humour can be viewed as exercising mastery and confidence in their role (Pundt & Herrmann, 2014). Furthermore, Bitterly and Schweitzer (2019) reported that humour could influence people's perceptions of recall accuracy and competency. However, humour in the courtroom does have its limits, as Davies (2017) suggests that expert witnesses not engage in attempts at humour and should just perform their tasks as required. Potentially as this humour can diminish the perception of the expert in court (Dvoskin & Guy, 2008).

1.4 Research Questions

On the basis that humour is biologically linked to encoding and retrieval pathways in the brain, as well as effective at building rapport between interviewer and interviewee. This study will explore the effectiveness of humour compared to standard cognitive and control interviews. It is expected that the humorous interview will yield equal to or greater results than the standard cognitive interview. In turn, the standard cognitive interview is expected to be more effective than the control interview, in terms of the number of details recorded and the accuracy of details (accurate, inaccurate and confabulations). Additionally, using older-adults as a sample for vulnerable interviewees, it is expected that participants over 50-years-old will recall the least amount of correct information and give the fewest answers overall.

2. METHOD

2.1 Design

This study follows a 3x2 between-participants experimental design, exploring the type of investigative interview (HCI, SCI, and CSI) and the effectiveness of the responses (Total Answers and Accuracy of Answers). The study will use a virtual cognitive interview (Geiselman, Fisher, MacKinnon, & Holland, 1985). Participants' testimony will be examined and measured for correct, incorrect and confabulated answers. Participants were pseudo-randomised into conditions depending on their birth month (HCI: Jan, Apr, Jul, Oct; SCI: Feb, May, Aug, Nov; CSI: Mar, Jun, Sep, Dec).

2.2 Participants

Participants were recruited online through various websites, with the approval

from the University of Nottingham Ethics Board (Appendix. N) . In total, 90(N) participants completed the study. The study consisted of 48 females and 42 males (See Table.1), with a mean age of 35-years-old (S.D=15 years-old). Participants were given no incentive to complete the study. All participants had to be over 18-years-old to view the stimulus video.

2.3 Procedure

The procedure used in this study is similar Geiselman et al. (1985), who originally assessed the effectiveness of the cognitive interview against the standard police interview.

Participants were invited to a virtual cognitive interview. Once they had read the participant information sheet (Appendix. E) and given informed consent (Appendix. F), participants were randomly allocated to one of three conditions: Humorous Cognitive Interview (HCI; Appendix. A), Standard Cognitive Interview (SCI; Appendix. B), or Control Standard Interview (CSI; Appendix. C). Regardless of the condition, all participants first watched the same 5-minute POV clip (Appendix. D) and were told it was body camera footage (Hardcore Henry; Bekmambetov, Naishuller, Kononenko, & Smith, 2015). Each condition had the same set of questions to answer but asked in different ways. Both HCI and SCI adhered to the four principles of CI and were asked to give testimony accordingly. The CSI asked questions without these guidelines. HCI and SCI had identical questions, although the HCI condition included a humorous anecdote, designed to mimic the self-disclosure recommended by Abbe and Brandon (2014).

During the first set of questions, participants are asked to recall everything they had just witnessed. The remainder of the questions in this set asked participants to describe the events from other people's point of view. The second set of questions referred to event recall, including: weapons, locations, and identity.

Participants earned one point for recalling an event, for example, "The officer entered the server room (1)". Additionally, they were awarded bonus points for accurate descriptions, for example, "…the server room (1) had green lights (1)". Although if participants gave an inaccurate description, it would be counted as incorrect, such as "The server room had green and blue lights". A response like this would earn two correct points (server room and green lights) but also score on incorrect point (blue lights).

Once the data was collected, answers were labelled as: correct, incorrect, or confabulated, as done in the original Geiselman et al. (1985) study. Furthermore, the study explored which conditions resulted in the most answers by looking at the mean given for each condition.

This method was decided on as it would be easier to compare the effectiveness of humour in a manner that could be compared against the original study, with hypnosis being replaced by humour.

Furthermore, participants were split into age groups (18-30; 31-50; 50< years-old) following the cognitive ageing suggested by Salthouse (2004). Youths should have the least cognitive decline, followed by middle-aged individuals

whose decline becomes more stable, then later-adulthood whose cognitive decline is more severe.

2.4 Materials

This study used a virtual cognitive interview so required an online site to host the interview. There was no previous virtual cognitive interview to use as a template for this study. The interview used was based on the examples provided by Fisher and Geiselman (1992). This served as the best example as it gives a textbook example of how a cognitive interview should be conducted, which has seen widespread use and real-world application and has a myriad of evidence showing its effectiveness. Additionally, a film clip from the movie Hardcore Henry (Hardcore Henry; Bekmambetov, et al., 2015), was used as stimuli.

2.5 Proposed Analytical Methods

The study follows a 3 x 2 between-participants design. Consequently, the study will primarily focus on Univariate ANOVAs to assess the effectiveness of each interview type. Post-hoc analyses were conducted using between-groups t-tests.

2.6 Ethical Considerations

If viewers did not like an action film clip of a police chase in dangerous conditions, the study had a mild risk of causing psychological harm due to the material used as the stimuli. While a non-harmful source was considered, it was felt a more graphic incident would have greater ecological validity. Likewise, there may be a physical stress response. To overcome this, there was a warning as part of the Participant Information Sheet, leaving it to the participants' discretion to opt in or out. Additionally, as the clip is from a movie rated 18 by

the British Board of Film Classification, the study excluded participants under that age. Informed consent was obtained virtually, by having participants provide informed consent; they were unable to progress unless they consented to all requirements. Participants were informed of their right to withdraw and given researchers' contact information in the brief and debrief, as well as their deadline to withdraw. Finally, anonymised data was kept securely using a password-protected computer, with up-to-date anti-virus software. All potential ethical issues were challenged and addressed by the University of Nottingham Ethics Board.

3. RESULTS

Table. 1

A table to show the biological sex of the participants, and the conditions they were assigned to

	Biological Sex		
Condition	Male	Female	Total
HCI	12	13	25
SCI	7	11	18
CSI	23	24	47
Total	42	48	90

3.1 Effect of Different Cognitive Interviews

The primary aim of this study was to determine whether adding humour to a cognitive interview would be as effective, if not better, than the standard

procedure of cognitive interviewing. To assess this claim, the data was put through two ANOVAs.

Table .2

A table to show the mean scores of each interview condition, in relation to the type of answers given, during their eyewitness testimony

	Mean Testimony Score (With Standard Deviation)			
Condition Type	Correct Information Given	Incorrect Information Given	Confabulated Information Given	Total Information Given
HCI (Humour)	33.68 (17.52)	3.96 (2.46)	.88 (.88)	38.52 (18.68)
SCI (Standard)	36.56 (20.82)	4.17 (4.02)	1.06 (1.00)	42.06 (23.66)
CSI (Control)	24.89 (14.48)	3.28 (2.73)	.74 (.92)	28.87 (16.53)
Total	29.67 (17.32)	3.57 (2.90)	.84 (.92)	34.19 (19.36)

Note: See Appendix. L for bar chart

For the effect that Interview Style had on Correct Information Given, using the means and standard deviations from Table. 2, the resulting ANOVA was $F(2,90)= 4.153$; $P= .019$ (Appendix. G). The result suggests significance between interview type and Correct Information given. Post-hoc t-test revealed HCI and SCI, $t(41)= -.491$; $P=.626$. However a t-test between HCI and CSI was

statistically significant: t(70)= 2.277; P=.026. As was SCI and CSI, t(63)=2.183; P= .039 (Appendix. H)

Additionally, the ANOVA reported a significant effect of Interview Style on Total Responses, computed to F(2,90)=4.12; P=.019- (Appendix G). Once more, post-hoc tests revealed no statistically significant differences between HCI and SCI, t(41)= -.548; P= .587. Although, there were significant differences between experimental conditions and the control. HCI and CSI, t(70)= .254; P= .027. SCI and CSI, t(63)=2.540; P= .014 (Appendix. H)

However, for the dependant variables of incorrect and confabulated, there was no statistically significant results F(2,90)= 1.16 and F=(2,90)= .76 respectively. For both ANOVAs P= >.05 (Appendix. G).

3.2 Differential Effects of Age

Table. 3

A table to show the descriptive statistics of participants in the Age Group analysis

	Biological Sex		
Age Group (in Years)	Male	Female	Total
18-30	21	26	47
31-50	13	11	24
>50	8	11	19
Total	42	48	90

A series of single variable ANOVAs were conducted with the above data broken down by age-range (youth, adult, and older-adult) as per Salthouse's model of adult cognitive decline (2004). These analysed whether the humour-based interview was more effective.

Once more, univariate ANOVAs were conducted to assess the effectiveness of age on Correct and Total Information. Incorrect and Confabulated data was omitted from this table, as the focus of this study revolves around Correct and Total information.

Table. 4

A table to show the mean performance of different age groups completing an eyewitness testimony, measuring the amount of information and correct information recalled

Age Group in Years	Total Correct Information (Standard Deviation)	Total Information Given (Standard Deviation)
18-30 (Youths)	33.36 (18.78)	38.17 (20.98)
31-50 (Middle-Aged)	28.38 (15.67)	32.92 (17.76)
50< (Later Adulthood)	22.16 (17.32)	25.95 (14.52
Total	29.67 (17.32)	34.19 (19.36)

Note: See Appendix. M for bar chart

The ANOVAs suggested that the effect of Age on Correct Information Given was marginally significant. $F(2,90)= 3.056$; $P= .052$ (Appendix. I). Due to the marginally significant result, t-tests were conducted into the relationships of age and Correct Information Given. In these tests: comparing Youth to Middle

Age, t(69)= 1.116; P= .268 Comparing Middle-Aged to Later-Adulthood, t(41)= 1.388; P= .173. Statistically non-significant results. Alternatively, comparing Youths to Later-Adulthood, t(64)= 2.373; P= .021- a statistically significant result. Conducting a two-way ANOVA to assess the whether the significant results were due to humour or age, F(4)= 2.081; P>.05 (Appendix. J). The significance in the data may potentially be attributed to the age differences in each condition. Although, this is only exploratory data because of the low sample size

As for Total Information Given, F(2,90)= 2.884; P= .061, consequently, the effect is statistically non-significant. Similar two-way ANOVAs revealed F(4)= .109; P>.05 (Appendix. K).

4. DISCUSSION

Following the results, it would be acceptable to reject the null hypothesis that humour hinders the cognitive interview process. In the first set of data analyses, the results suggest that there is a significant difference between interview types and correct answers given. This result was not unexpected, given the vast amount of empirical research suggesting that the cognitive interviews are an improvement on the previous investigative interviewing method (Kohnken, Milne, Memon, & Bull, 1999; Memon, Meissner, & Fraser, 2010; Vrij, Fisher, & Blank, 2017). However, it was unknown what effect humour would have on this process.

T-tests showed no significant effects between a standard CI and same interview with the inclusion of humour. Furthermore, there was a statistically

significant difference when evaluating the use of humour compared to basic interviewing approach. The same finding was found for the Total Answers Given dependant variable. There were no significant differences between HCI and SCI mean scores, although both conditions were significant when compared to CSI. These results suggest that casual humour can be used within a cognitive interview without significant risk of it harming the accuracy of the details given during eyewitness testimony.

An extra ANOVA was conducted to examine the effect that age had on recall. While not the primary focus of this study, the data revealed trends that eyewitness testimony may differ between age groups. Again, the results of these ANOVAs revealed a significant effect between age and dependant variable (Correct and Total). T-tests suggest a marginal significance between the Youth group and Later-Adulthood group. We can interpret this to mean that Later-Adulthood can lead to reduced accuracy of events and the amount recalled in general- this is supported by the two-way ANOVAs ran during the "Age Group" post-hoc. As results could not determine humour as the sole reason for condition performance, it stands to reason that age may have been an influencing factor in the significant findings. However, due to small sample size in some conditions, this is exploratory research.

4.1 Potential Explanations

The findings relating to the relationship between HCI and SCI reflect the strong empirical foundation that led to the development and evolution of the cognitive interview. While the HCI may not be an outright improvement over the SCI, the study at least allows for flexibility to the technique, and the potential to expand.

A potential explanation for why humour could not improve recall may be due to increased cognitive load that comprehending a joke takes, as executive functions are trying to hold information while trying to understand a joke. This may result in information being lost as the joke is being read due to time, short-term memory being believed to last around 30 seconds (Atkinson & Shiffrin, 1971). However, this may be justified as people experience external information after witnessing a crime, giving it ecological validity. Alternatively, given the theatrical nature of the stimuli which is clearly from a film, the anxiety of the participants may not reach the peak that Yerkes and Dodson (1908) predicted was necessary for good performance, even if the clip was exciting. Plus, the effect of calming jokes could have resulted in slightly lower arousal, meaning humour could not improve performance. Additionally, as jokes are subjective, there was no way to determine how the interviewer perceived the joke

4.2 Humanitarian Approach

These results could be utilised in current interviewing methods. Read et al. (2009) argues modern interview techniques (such as PEACE) are humanitarian, i.e., championed by compassion and understanding. With such methods, interviewees have responded positively with less stress and higher quality of information gathered (Oxburgh, Ost, & Cherryman, 2012). In this respect, officers are now trained to conduct with kindness in mind, however, given the potentially traumatic cases that forensic work sometimes involves, compassion and empathy burnout may occur (Turgoose, Glover, Barker, & Maddox, 2017). There may be an inherent problem of relying on compassion in a role that depletes compassion. Instead of creating a new coping strategy, it may be easier

to adapt a pre-existing approach. It is not uncommon for individuals in a forensic setting to develop gallows/black humour as a coping mechanism. This type of humour revolves around making jokes to cope with tragic events (Scott, 2007). This humour is also used by ordinary people and officers. Potentially, II can take this somewhat naturally occurring behaviour and allow law enforcement to use it in an interview setting. Martin, Puhlik-Doris, Larsen, Grey and Weir (2003), believe humour can be divided into four styles: affiliative, self-enhancing, aggressive, and self-defeating. Future research may wish to focus on affiliative and aggressive humour, as suggested by the research of ORBIT (Alison et al., 2013).

Combing the results from the current study with humanitarian interviewing techniques, interviewers should not be discouraged from using affiliative humour to relate with the interviewee. However, to what extent the type of humour can influence interviews is yet to be determined and presents an opportunity for future research.

4.3 The Elderly Population

Data analysis was conducted on age groups with the idea of vulnerable interviewees in mind. Vulnerable adults can be people classed as: elderly, mentally ill, or suffering from another developmental disorder. Due to the perceived difficulty in acquiring a big enough population, the elderly was focused on as an insight into vulnerable adults. The research data suggests that there is a marginally significant difference between the testimony given by 18-30-year-olds and those over 50 years old. Due to the nature of this effect, the implication is that testimony quality may be impacted by cognitive ageing.

Simons and Spiers (2003) identified the medial temporal lobe and prefrontal cortex as brain regions critical to memory processing. Incidentally, these areas undergo the most deterioration from cognitive ageing. This issue may be compounded by changes in the prefrontal cortex, which is believed to play a major role in executive functioning, impairing unconscious processes (Rabinovici, Stephens, & Possin, 2015). Devitt and Schacter (2016) explain how these issues may cause unreliable and false memories to occur. When older adults receive new information, the brain has trouble assigning the information's origin. The synaptic pathway and root become closely linked to other pre-established memories. The original memory is heavily influenced by other information, as described by Slotnik and Schacter (2004), leading to misinformation effects noted by Loftus and Palmer (1974). As encoding suffers, so does retrieval. The complicated synaptic pathways merge information from present and past, resulting in false memory retrieval. This issue is made worse by the declined cognitive function in the prefrontal cortex, which struggles to inhibit irrelevant information.

Meta-analyses provide evidence to support the claim that older adults perform worse in eyewitness tasks (Erickson, Lampinen, & Moore, 2016). Although, it has been suggested in another meta-analysis that the youth are significantly better than other age groups, rather than older adults being significantly worse as such (Fitzgerald & Price, 2015). Overall, it is apparent that the way interviews are conducted are not to the benefit of the elderly, nor in the best interest of the police trying to gather information. Due to the small sample, future research may wish to explore the extent of humour's effectiveness on the elderly population.

4.4 Limitations

This study had to overcome a few limitations. Like many other projects, the real world COVID-19 pandemic interfered with the research. Firstly, there was the issue of small sample size available for this study; recruitment was more difficult due to the lack of face-to-face methods originally intended; on-line cognitive interview paradigms are novel, and recruitment was challenging as many persons left the research webpage after seeing what was involved. The snowball sampling was a problematic recruitment style here. As all recruitment was now online, only those with an online presence would volunteer. As N(90), the study can be said to be underpowered, as estimates based on previous research recommend N(252) to have enough statistical power. However, this study was modelled after Gieselman et al. (1985) who published their paper with a sample size of 89 participants, so this study can be said to have more power than the original it was based upon.

Secondly, the design of the interview had to change to conform to COVID-19 guidelines; conducting an interview without a face-to-face component. Consequently, this study was adjusted to become a virtual cognitive interview. The first methodological difficulty with a virtual cognitive interview is that there was no pre-existing standardised template to use. Instead, one was created using the procedures detailed in the enhanced cognitive interview (Fisher & Geiselman, 1992). The second methodological issue was the cognitive strain put on participants. While remembering and recalling is expected as part of the study, the added task of writing the response out themselves makes the study more cognitively taxing for participants as well as highly time-consuming. As a result, there was excessive participant drop-out. However, this method was justified as it allowed for the maximum number of responses, rather than

interviewing people separately, which could have crippled the power and spread the virus.

Furthermore, the difference in methodology gives strengths and weaknesses to the study. Namely, the replacement of hypnosis to humour reduces the risk that participants experience psychological distress while taking part. This study also replaced a student population with the public to add ecological validity. However, by converting the interview to a digital format, each trial ran longer than the original.

Another limitation was exclusive to the humour condition. Humour is not universal and can differ from person to person (Svebak, 2010). The humour condition may not have been humorous to all participants. To appeal to the broadest audience, the top jokes from a popular social media site were served as inspiration for the humour in this study.

The final limitation of this study was the reliance on technology. As previously mentioned, the study existed solely online, which could have had a substantial influence on the study. It has been suggested that the elderly have a reduced online presence and can have fewer operational online skills (van Deursen & van Dijk, 2010; Ramón-Jerónimo, Peral-Peral, & Arenas-Gaitan, 2013). Potentially, the older adults could have fared much better in if given this interview in person, rather than online. However, as meta-analyses report, it is unlikely that this would have been the case as previous studies have shown the same poor performance in person (Erickson, Lampinen, & Moore, 2016).

5. CONCLUSION

Overall, the cognitive interview is proven to be more effective than standard interviews in the forensic setting. The results of this study add to the current empirical research, which supports the continued use of the cognitive interview technique for investigative interviewing. Furthermore, the study suggests that the inclusion of humour with this technique is not to be discouraged as there are no significant drawbacks on accuracy and total recall from interviewees when humour is used. The implications of this study suggest that cognitive interviewing could be conducted with more flexibility and potential for faster rapport-building due to the inclusion of humour. It could be applied to current models such as PEACE interviewing to improve the humanitarian aspect of such a technique. Additionally, the study highlights the issues using a cognitive interview on some populations, such as those in later adulthood. In conclusion, this study supports the exploration and use of humour as an interviewing technique within forensic settings.

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Appendices

Appendix A: Format of the HCI Condition

Stage 1: Free Recall

Welcome, participant. Ordinarily this interview would be conducted in person, but for some reason, people don't want to meet up with a stranger these days. Who knew? So, I'm going to be a virtual interviewer through this process. I hope you enjoyed that clip because you're going to be talking about it for the foreseeable future. If you didn't, tough luck, turns out most people don't enjoy witnessing crimes. But with your help today, we may actually be able to improve the process. Your first tasks revolve around recalling what you saw of the pursuit. You know, I'm actually a big fan of running, myself. Try to do a couple times a week. As I psychologist I can tell you it's extremely therapeutic, its got a great way of allowing you to forget most of your problems, and that's because if you're like me, you're focusing on how much your whole body hurts instead. Please answer the following questions to the best of your ability.

Remember to read and follow the instructions given to you.

1. Starting at the end to the beginning, please state all the information that you can. Please be as detailed and make as many points as you wish
2. How would the elderly people next to the dumpster (skip) describe the events that they would have witnessed?
3. How would the woman on the escalator describe the events that she witnessed?
4. How would the person being chased describe the events?
5. How would the bus driver have described the events he witnessed?

(Next Page) Stage 2: Event Recall

Thank you for that enlightening testimony. Of all the participants I've had, you're the first, so let's keep this up.

This next section will be about event recall. You may have mentioned some details in the last section, that's fine, feel free to repeat yourself. Recall and memory have always been an interesting topic to me, particularly at older ages. The idea that memory deteriorates with old age is a myth. Sure, the elderly show more prominent symptoms of dementia but there not much difference in recall ability between the young and old.

My grandfather had an incredible memory, used to tell me tales from when he was young. He used to recall going to the shop, told me he could get: "10 chocolate bars, 3 fizzy drinks and a toy" with only £1 in his pocket. "Can't do that nowadays" he said. I asked "Why?". He replies solemnly with aged wisdom in his eyes "... too many cameras"

1. Please describe the individual being chased in as much detail as you wish
2. From end to beginning, please state as many locations as the pursuit went through
3. Please recall all the information relating to weapons including type of weapon and who used them

(Next Page) Stage 3: Observations

You've been doing great so far, and we're almost at the finish line. Just a short activity for you now, just to check how well you watched the clip. There was some strange occurrences that happened during the chase. We're now going to see how many of them you managed to spot. Please answer honestly, when it comes to research, even an incorrect answer or lack of an answer is still helpful.
Some people have good observational awareness, others not so much. I have a needy girlfriend, always after compliments so she likes to point out things that aren't perfect. She'll say things like "Urgh, I'm too fat, my hair's a mess, and nose is too big". Ever the great boyfriend that I am, I always find something positive to say, "At least you've got great eyesight"

Please answer honestly, which of the following things did you witness in the video? (Tick all that are applicable)

- A small child holding the red balloon
- A dog pulling away a severed arm
- The man being chased lose his coat
- The police officer putting on knuckle dusters
- The street performer on the unicycle

Appendix B: Format of the SCI Condition

Stage 1: Free Recall

Please answer the following questions to the best of your ability. Remember to read and follow the instructions given to you.

1. Starting at the end to the beginning, please state all the information that you can. Please be as detailed and make as many points as you wish
2. How would the elderly people next to the dumpster (skip) describe the events that they would have witnessed?
3. How would the woman on the escalator describe the events that she witnessed?
4. How would the person being chased describe the events?
5. How would the bus driver have described the events he witnessed?

(Next Page) Stage 2: Event Recall

Please describe the individual being chased as much detail as you wish

1. Please describe the individual being chased in as much detail as you wish
2. From end to beginning, please state as many locations as the pursuit went through
3. Please recall all the information relating to weapons including type of weapon and who used them

(Next Page) Stage 3: Observations

Please answer honestly, which of the following things did you witness in the video? (Tick all that are applicable)

- A small child holding the red balloon
- A dog pulling away a severed arm
- The man being chased lose his coat
- The police officer putting on knuckle dusters
- The street performer on the unicycle

Appendix C: The Format of the CSI Condition

Stage 1: Free Recall

1. Please describe, in as much detail as you wish, the events that you have just witnessed

(Next Page) Stage 2: Event Recall

1. Please describe, in as much detail as you can, the man who was being chased
2. Please state, in as much detail as you wish, all the locations the chase went through
3. Please describe, in as much detail as possible, all the weapons you saw during the clip

(Next Page): Stage 3: Observations

Please answer honestly, which of the following things did you witness in the video? (Tick all that are applicable)

- A small child holding the red balloon
- A dog pulling away a severed arm
- The man being chased lose his coat
- The police officer putting on knuckle dusters
- The street performer on the unicycle

Appendix D: Link to Video Stimuli

- https://www.youtube.com/watch?v=JPXwLdRIHcM

Appendix E: Participant Information Sheet

Brief

Alternative Methods of Investigative Interviewing

Research Team: Matthew Mason, Forensic Psychology Master of Science Student supervised by Dr Vincent Egan, Centre for Forensic and Family Psychology, Psychiatry & Applied Psychology, School of Medicine.

Research Ethics Ref: FMHS/520-2003

This study is looking at different investigative interviewing techniques and to see how different ways of relating to the person being interviewed, influences their ability to remember events seen during a police pursuit.

You are being invited because you are over 18 years old. Please read through this information sheet before volunteering to take part. You can ask any questions before deciding by contacting the researchers (details below). Taking part is entirely voluntary.

What will I be asked to do?

You will be asked some questions about your background to give us an idea of the range of different types of people taking part. We will not ask for any personal details such as your name, address, date of birth. You will then be shown a video clip of a police officer investigating a call out, which is around 10 minutes long. After viewing this, you will be asked to recall the situation to see how much and how accurately you remember the clip. This should take between 15-20 minutes to complete. You are free to change your mind at any point during the task by closing the browser (click X, Right hand corner of screen). The data will only be uploaded on completion of the task by clicking the submit button at the end when prompted. If you change your mind after taking part please let the research team know before 15 June 2020. After this date, it will not be possible to extract your responses because they will be combined with all the anonymous responses provided by all the other participants ready for analysis.

What are the possible risks of taking part?

We do not anticipate any risks however, if you find watching scenes containing blood and violence distressing then it may be better not to take part.

Will the research be of any personal benefit to me?

The findings of this survey will not benefit you directly but your contribution together with others may help to improve and develop how investigative interviews are conducted.

Who will know I have taken part in the study?

No one will know you have taken part in this study because we will not ask for your name or any other personal identifiers during the online task. Your IP address will not be visible to or stored by the research team because an online survey tool is being used which receives and

stores and IP address but enables this detail to be filtered out before it is transferred to the research team. As with any online related activity the risk of breach is possible but this risk is being minimized by using the measures described above. If you contact us to ask questions we will receive your e-mail address but this will be received separately from your completed online task and it will not be possible to link the two sets of data. Your e-mail address will be kept separately and only for as long as needed to resolve your queries.

What will happen to your data?

When you have clicked the submit button at the end of the task, it will be uploaded into a password protected database with a code number. You will have been asked to create a pseudonym and keep a note of it. The research team will not be able to see who it is from. However if you decide to withdraw if you contact the researchers before the 15 June 2020 they will be able to arrange this. It will not possible to withdraw the data after this date. Your data (research data) will be stored in a password-protected folder sitting on a restricted access server at the University under the terms of its data protection policy. Data is kept for a minimum of 7 years and then destroyed.
This online task study is for a Masters project and the answers received from all participants will be combined in a password protected database ready for analysis. The results will be written up as a dissertation and may be used in academic publications and presentations. The overall anonymised data from this study may be shared for use in future research and teaching (with research ethics approval).
If you contact us to ask questions we will receive your e-mail address but this will be received separately from your completed questionnaire and it will not be possible to link the two sets of data. Your e-mail address will be kept separately and only for as long as needed to resolve your queries.

Who will have access to your data?

The University of Nottingham is the data controller (legally responsible for data security) and the Supervisor of this study (named above) is the data custodian (manages access to the data) and as such will determine how your data is used in the study. Your research and personal data will be used for the purposes of the research only. Research is a task that we perform in the public interest. The only personal data we will receive is your e-mail if you contact us to ask further questions or need support. For further information about how the university processes personal data please see: https://www.nottingham.ac.uk/utilities/privacy.aspx/
Responsible members of the University of Nottingham and funders may be given access to data for monitoring and/or audit of the study to ensure we are complying with guidelines.

If you have Any Questions please contact:

Matthew Mason, Researcher: E-Mail matthew.mason@nottingham.ac.uk
Dr Vincent Egan, Research Supervisor: E-mail vincent.egan@nottingham.ac.uk

If you are unhappy and wish to complain formally, you should then contact the Faculty of Medicine and Health Sciences Research Ethics Committee Administrator: E-mail: FMHS-ResearchEthics@nottingham.ac.uk

Appendix F: Consent Form

Informed Consent

Theory

Based on research conducted by Fisher and Geiselman (1992), police conduct investigative interviews in the style of the Cognitive Interview, designed to improve witness recall of events surrounding a crime. Evidence suggests that rapport is a major factor in achieving a more complete recall (Milne and Bull, 2011). One way of doing this is through humour. Consequently, this study aims to assess if humour can be used to improve police interviewing techniques.

You will now be asked to confirm that you have understood what is required of you as a participant. You do not have to consent to all points, however, failure to do so will mean that you are not eligible to take part in the study

I can confirm that I have read and understood the participant information sheet? *Required

Yes

I can confirm that my involvement in this study is entirely voluntary. And that I may withdraw my data up to June 15th? *Required

Yes

I can confirm that I understand the digital data collected from me will be kept secure and confidential? *Required

Yes

I agree to involved in the study as described above? *Required

Yes

Appendix G: SPSS Outputs (Conditions vs DVs)

Tests of Between-Subjects Effects

Dependent Variable: Total_Correct

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	4361.064[a]	4	1090.266	4.067	.005	.174	16.267	.898
Intercept	2253.988	1	2253.988	8.407	.005	.098	8.407	.817
Age	1537.668	1	1537.668	5.736	.019	.069	5.736	.657
Education	95.852	1	95.852	.358	.552	.005	.358	.091
Condition	1994.641	2	997.321	3.720	.029	.088	7.440	.666
Error	20643.192	77	268.093					
Total	99707.000	82						
Corrected Total	25004.256	81						

a. R Squared = .174 (Adjusted R Squared = .132)

b. Computed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable: Total_Incorrect

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	19.463[a]	4	4.866	.554	.697	.028	2.215	.177
Intercept	28.256	1	28.256	3.215	.077	.040	3.215	.425
Age	4.695	1	4.695	.534	.467	.007	.534	.112
Education	.264	1	.264	.030	.863	.000	.030	.053
Condition	11.497	2	5.749	.654	.523	.017	1.308	.156
Error	676.647	77	8.788					
Total	1801.000	82						
Corrected Total	696.110	81						

a. R Squared = .028 (Adjusted R Squared = -.023)

b. Computed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable: Total_Confabulated

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	4.570[a]	4	1.142	1.354	.258	.066	5.417	.403
Intercept	.014	1	.014	.017	.897	.000	.017	.052
Age	.455	1	.455	.540	.465	.007	.540	.112
Education	3.003	1	3.003	3.560	.063	.044	3.560	.462
Condition	.495	2	.248	.294	.746	.008	.587	.095
Error	64.955	77	.844					
Total	131.000	82						
Corrected Total	69.524	81						

a. R Squared = .066 (Adjusted R Squared = .017)

b. Computed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable: Total_Responses

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Corrected Model	5144.844[a]	4	1286.211	3.798	.007	.165	15.192	.874
Intercept	2828.789	1	2828.789	8.353	.005	.098	8.353	.814
Age	1779.244	1	1779.244	5.254	.025	.064	5.254	.619
Education	137.333	1	137.333	.406	.526	.005	.406	.096
Condition	2336.615	2	1168.307	3.450	.037	.082	6.900	.630
Error	26076.095	77	338.651					
Total	130763.000	82						
Corrected Total	31220.939	81						

a. R Squared = .165 (Adjusted R Squared = .121)

b. Computed using alpha = .05

Appendix H: SPSS Outputs- Conditions (T-tests)

HCI & SCI

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total_Responses	Equal variances assumed	1.705	.199	-.298	38	.767	-2.028	6.808	-15.810	11.753
	Equal variances not assumed			-.286	28.967	.777	-2.028	7.085	-16.519	12.463
Total_Correct	Equal variances assumed	1.413	.242	-.261	38	.795	-1.616	6.186	-14.139	10.907
	Equal variances not assumed			-.254	30.449	.801	-1.616	6.373	-14.624	11.392

HCI & CSI

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total_Responses	Equal variances assumed	.297	.587	2.482	67	.016	11.022	4.441	2.157	19.887
	Equal variances not assumed			2.389	39.937	.022	11.022	4.614	1.696	20.348
Total_Correct	Equal variances assumed	1.038	.312	2.502	67	.015	10.022	4.006	2.025	18.018
	Equal variances not assumed			2.350	37.579	.024	10.022	4.265	1.385	18.658

SCI & CSI

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total_Responses	Equal variances assumed	4.666	.035	2.417	61	.019	13.050	5.400	2.253	23.847
	Equal variances not assumed			2.037	21.801	.054	13.050	6.406	-.243	26.343
Total_Correct	Equal variances assumed	6.356	.014	2.455	61	.017	11.638	4.740	2.160	21.116
	Equal variances not assumed			2.066	21.747	.051	11.638	5.634	-.055	23.331

Appendix I: SPSS Outputs- Age Group vs DVs

Tests of Between-Subjects Effects

Dependent Variable: Total_Responses

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2074.370[a]	2	1037.185	2.884	.061
Intercept	81467.949	1	81467.949	226.521	.000
Age_Groups	2074.370	2	1037.185	2.884	.061
Error	31289.419	87	359.648		
Total	138563.000	90			
Corrected Total	33363.789	89			

a. R Squared = .062 (Adjusted R Squared = .041)

Tests of Between-Subjects Effects

Dependent Variable: Total_Correct

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1752.998[a]	2	876.499	3.056	.052
Intercept	60898.231	1	60898.231	212.325	.000
Age_Groups	1752.998	2	876.499	3.056	.052
Error	24953.002	87	286.816		
Total	105916.000	90			
Corrected Total	26706.000	89			

a. R Squared = .066 (Adjusted R Squared = .044)

Appendix J: SPSS Output- Age Group (T-tests)

Youths & Middle Aged

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total_Correct	Equal variances assumed	.719	.399	1.116	69	.268	4.987	4.467	-3.925	13.898
	Equal variances not assumed			1.184	54.467	.242	4.987	4.211	-3.455	13.429
Total_Responses	Equal variances assumed	.445	.507	1.049	69	.298	5.254	5.008	-4.738	15.245
	Equal variances not assumed			1.107	53.779	.273	5.254	4.744	-4.259	14.766

Youths & Later-Adulthood

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total_Correct	Equal variances assumed	2.587	.113	2.373	64	.021	11.204	4.722	1.771	20.636
	Equal variances not assumed			2.758	47.585	.008	11.204	4.063	3.033	19.375
Total_Responses	Equal variances assumed	2.173	.145	2.320	64	.024	12.223	5.268	1.699	22.747
	Equal variances not assumed			2.703	47.866	.009	12.223	4.522	3.129	21.316

Middle Aged & Later-Adulthood

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Total_Correct	Equal variances assumed	.804	.375	1.388	41	.173	6.217	4.480	-2.830	15.265
	Equal variances not assumed			1.418	40.860	.164	6.217	4.386	-2.641	15.075
Total_Responses	Equal variances assumed	.911	.345	1.382	41	.174	6.969	5.041	-3.212	17.151
	Equal variances not assumed			1.416	40.943	.164	6.969	4.923	-2.974	16.912

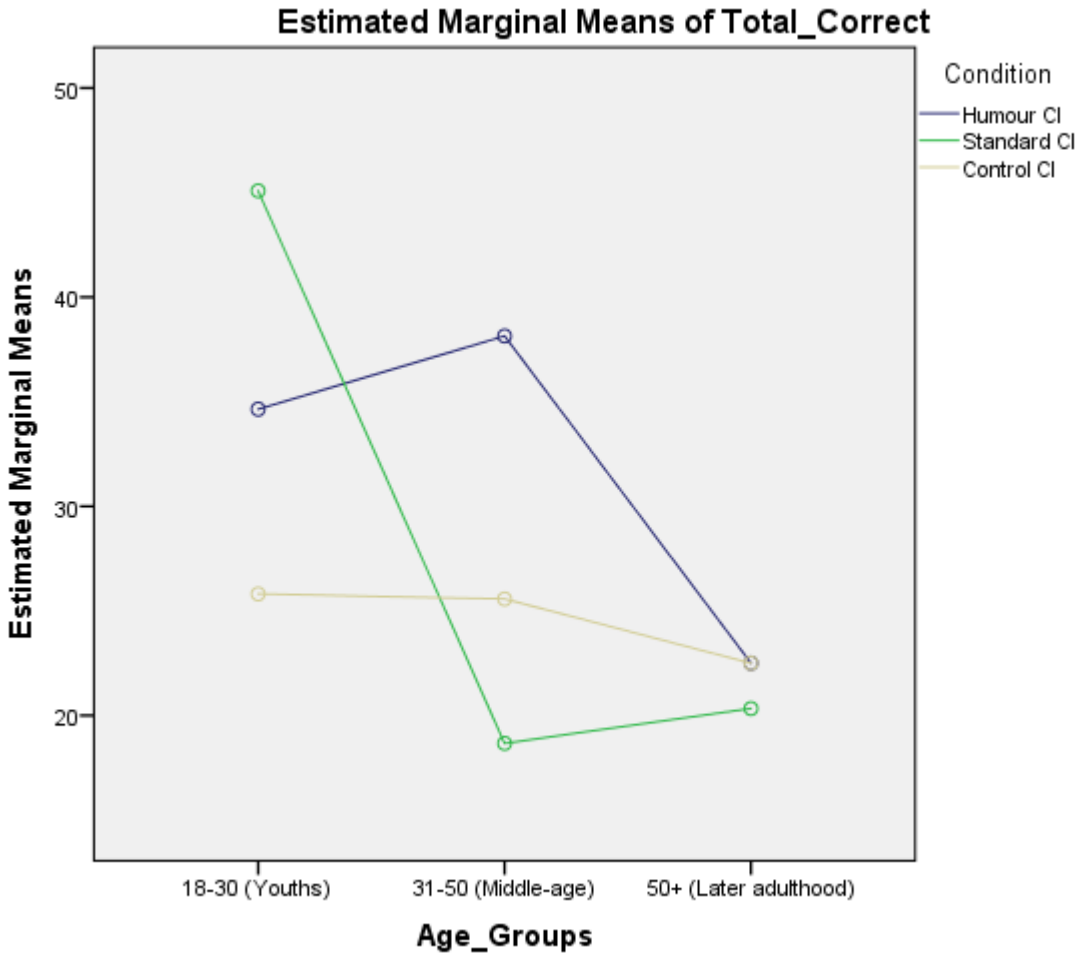
Appendix K: Age Group Effect on Conditions (with Graph)

Tests of Between-Subjects Effects

Dependent Variable: Total_Correct

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5695.012[a]	8	711.876	2.744	.010
Intercept	45272.162	1	45272.162	174.530	.000
Age_Groups	2130.427	2	1065.214	4.107	.020
Condition	702.649	2	351.324	1.354	.264
Age_Groups * Condition	2159.284	4	539.821	2.081	.091
Error	21010.988	81	259.395		
Total	105916.000	90			
Corrected Total	26706.000	89			

a. R Squared = .213 (Adjusted R Squared = .136)

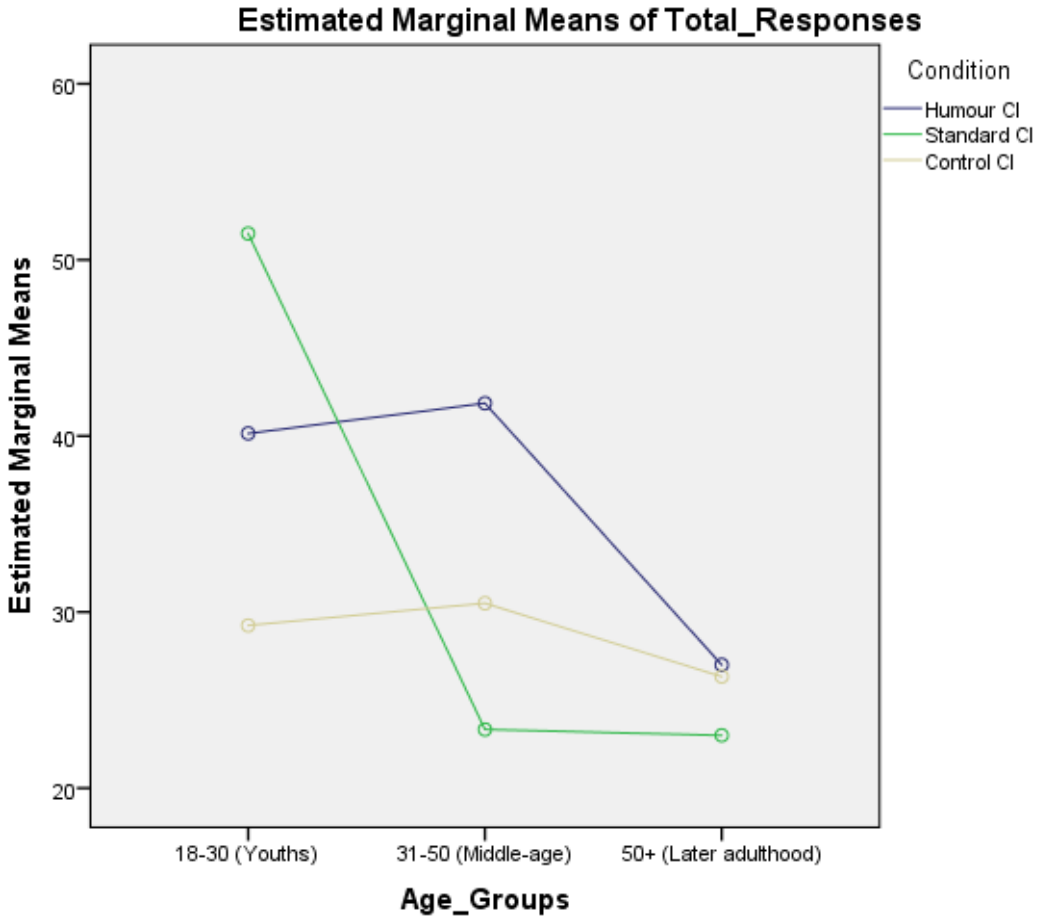


Tests of Between-Subjects Effects

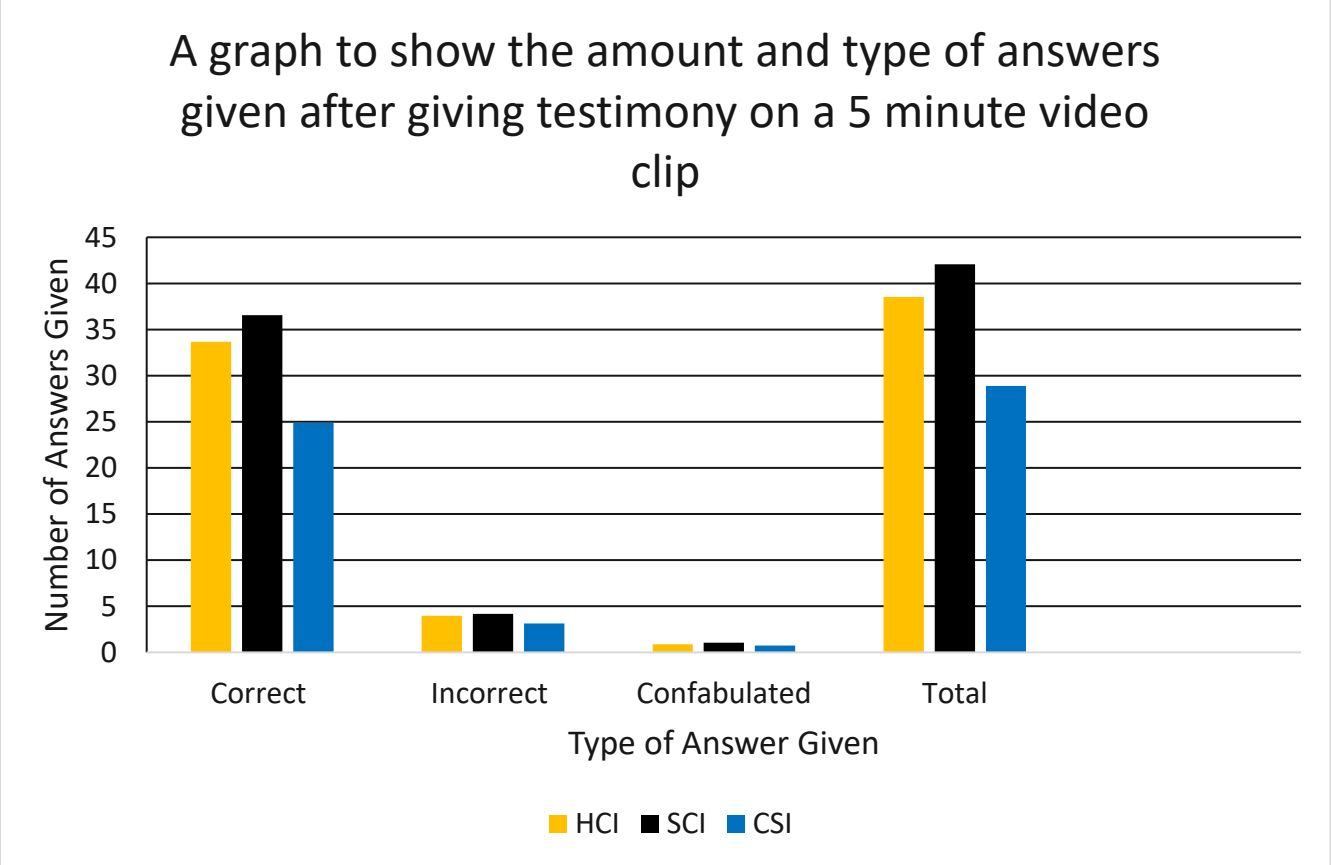
Dependent Variable: Total_Responses

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	6885.575[a]	8	860.697	2.633	.013
Intercept	60559.906	1	60559.906	185.260	.000
Age_Groups	2595.850	2	1297.925	3.971	.023
Condition	814.455	2	407.227	1.246	.293
Age_Groups * Condition	2557.093	4	639.273	1.956	.109
Error	26478.214	81	326.892		
Total	138563.000	90			
Corrected Total	33363.789	89			

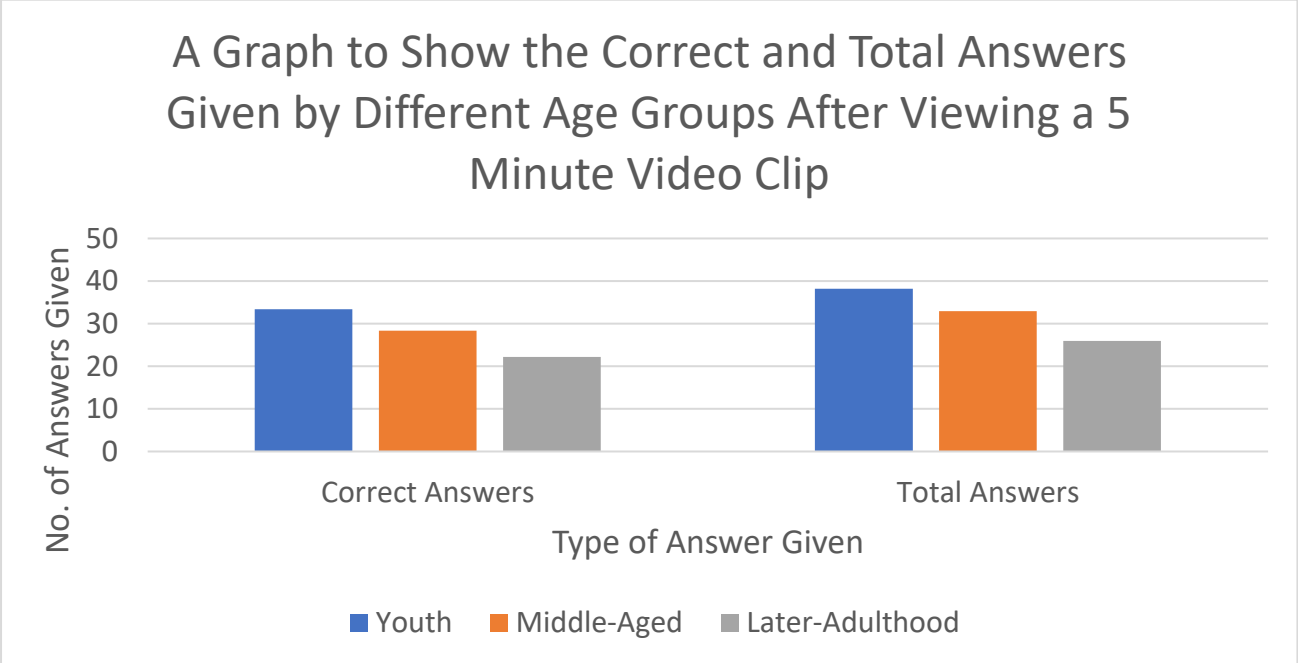
a. R Squared = .206 (Adjusted R Squared = .128)



Appendix L: A Bar Chart for Interview Conditions Performance



Appendix M: A Bar Chart for Age Group Performance



Appendix N: Ethics Approval Letter

University of Nottingham
UK | CHINA | MALAYSIA

Faculty of Medicine & Health Sciences
Research Ethics Committee
Faculty Hub
Room E41, E Floor, Medical School
Queen's Medical Centre Campus
Nottingham University Hospitals
Nottingham, NG7 2UH
Email: FMHS-ResearchEthics@nottingham.ac.uk

Mr Matthew Mason
Masters in Forensic Psychology Student
c/o Dr Vincent Egan
Associate Professor of Forensic Psychology
Centre for Forensic and Family Psychology
Division of Psychiatry and Applied Psychology
School of Medicine
Room B23 YANG Fujia Building
Jubilee Campus, Wollaton Road
Nottingham, NG8 1BB

Dear Mr Mason

Ethics Reference No: 520-2003 **– please always quote**	
Study Title: The Effect of Humour During Investigative Interviewing in Forensic Settings	
Chief Investigator/Supervisor: Dr Vincent Egan, Associate of Forensic Psychology Practice, Director MSc Forensic Psychology, Centre for Forensic and Family Psychology, Psychiatry and Applied Psychology, School of Medicine.	
Lead Investigators/student: Matthew M Mason, Masters in Forensic Psychology Student	
Proposed Start Date: 01/05/2020	**Proposed End Date:** 31/08/2020

Thank you for submitting your responses to the comments made by the Committee and the following documents were received:

- FMHS REC Application form and supporting documents version dated 01/05/2020

These have been reviewed and are satisfactory and the project has been given a favourable opinion.

A favourable opinion has been given on the understanding that:

1. The protocol agreed is followed and the Committee is informed of any changes using a notice of amendment form (please request a form).
2. The Chair is informed of any serious or unexpected event.
3. An End of Project Progress Report is completed and returned when the study has finished (Please request a form).

Yours sincerely

pp

Dr John Williams, Associate Professor in Anaesthesia and Pain Medicine
Chair, Faculty of Medicine & Health Sciences Research Ethics Committee

EXECUTIVE SUMMARY

This study was conducted with police interviewers in mind, to assist with future investigations and for the benefit of the interviewee to make the experience less stressful. Written for the Journal of Police and Criminal Psychology.

Background research has heavily suggested that the collecting information using eyewitness testimony can be unreliable, may be harmful to the investigation. In fact, Rattner (1988) claimed that approximately 52% of all wrongful imprisonment could be linked to faulty eyewitness testimony since the beginning of the century. Loftus and Palmer (1974) were some of the first researchers to comprehensively investigate this issue. In their study, they evidenced how easily human memory can be influenced and altered by suggesting information not known at the time, to the witness. Eventually, the "Misinformation Effect" highlighted at memory is malleable, opening the field of psychology to Reconstructive Memory (Loftus, 1975).

Acting on this new evidence, Geiselman et al. (1984) developed the Cognitive Interview (CI). This was designed to replace the standard police questioning, which was at risk of providing misinformation, lowering the quality of the testimony. This new technique incorporated four psychological principles backed up by scientific evidence: report everything, change perspectives, reinstate context, and change chronological order. The new technique received empirical supporting evidence for its use (Vrij, Fisher, & Blank, 2017). The CI has gone through evolutions since its creation, such as the Enhanced Cognitive Interview (ECI; Fisher & Geiselman, 1992) which added more psychological aspects such as rapport-building. It evolved again into the PEACE interview

model, used in the United Kingdom adding a more humanitarian approach to CI (Milne & Bull, 2003).

Humour was highlighted as a potential addition to the CI due to multifaceted benefits. In terms of how the brain works, there has been evidence linking brain regions that are involved in memory to humour appreciation tasks (Shammi & Strauss, 1999). This establishes a link between humour and memory which can potentially be used to assist accurate recall. Furthermore, humour can provide indirect benefits such as altering mood and reducing stress (Badli & Dzulkifli, 2013); quickly build rapport (Abbe and Brandon, 2014); and make humour-receivers more receptive (Elliot, 2013). Additionally, as effective rapport-building is vital for interviewees classed as vulnerable (Saywitz, Larson, Hobbs, & Wells, 2015), humour could be useful tool to achieve this.

The rationale for the study was to investigate whether humour would be detrimental to the CI process, or potentially beneficial. The practical applications of such finds would add support to the CI model but could also add to the humanitarian approach of the PEACE model. Consequently, interviews could be more beneficial for interviewers and less stressful for the interviewee. It was also essential to examine if humour would be helpful to vulnerable individuals. Furthermore, this would expand the field of forensic psychology into the area of humour, a gap in the literature which has hardly been explored. The aim is to determine whether the Humorous Cognitive Interview (HCI) yields greater or equal amount of correct and total answers compared the Standard Cognitive Interview (SCI) and the Control Standard Interview (CSI).

The data was collected using a “Virtual Cognitive Interview”, a

methodology decided upon due to real-world restrictions and the interest of adding power to the study. The method itself was modelled after Geiselman, Fisher, MacKinnon, and Holland (1985), though the "Hypnosis" condition had been replaced with "Humour". Participants were recruited using social media, volunteer, and snowball sampling. In total, 90(N) participants finished the study and their data was collected. Participants were pseudo-randomised into conditions via their birth month

Regardless of condition, participants watched the same minute video clip from the movie Hardcore Henry (Hardcore Henry; Bekmambetov, Naishuller, Kononenko, & Smith, 2015). The interviews then had 3 stages: free recall, event recall, and observations. The control (CSI) differed from the other conditions (HCI and SCI) as it did not include the four principles of the CI. HCI and SCI were identical except for the humorous jokes and anecdotes featured in the HCI condition. Based on participant responses, testimonies were scored for: Correct, Incorrect, Confabulated, and Total answers given. This data was then put through univariate analyses and post-hoc test to determine significance. Similarly, participants were assessed on performance with regards to their age group, to determine how humour may impact the elderly (as a section of vulnerable witnesses). Age Groups, based on Salthouse (2004), consisted of: 18-30 year-olds (Youth); 31-50 year-olds (Middle-Aged); and 50< year-olds (Later-Adulthood).

The key findings of this investigation suggest that there is no statistically significant difference between the HCI and SCI, but do suggest a significantly significant difference compared to the control (CSI). The data suggests humour

could be integrated into existing CI models without compromising the effectiveness of the CI. This would imply that police interviewers could reap the benefits that humour has been evidenced to provide leading to more humanitarian investigative interviews which benefit both interviewer and interviewee. Additionally, the study indicates that participants over the age of 50 years-old provide statistically significant less correct answers compare to Youths. Implying that the cognitive aging suggested by Salthouse (2004) may negatively influence how older adults perform in the cognitive interview. Consequently, the CI may need to be reformed for the benefit of the older adults. Finally, a two-way ANOVA suggested that the significance found in the study may be a consequence of too many elderly people in the control group. Although this was based on exploratory data with samples below 5 participants, so cannot be confirmed with certainty.

Future research may wish to inquire into the relationship between the elderly and humour more prominently than this generalised study. Furthermore, the effectiveness of the type of humour used may be useful. Martin, Puhlik-Dorris, Larsen, Grey, and Weir (2003) divide humour into four styles: affiliative, self-enhancing, aggressive, and self-defeating. Potentially, a study into which style of humour yields the best results may be important.

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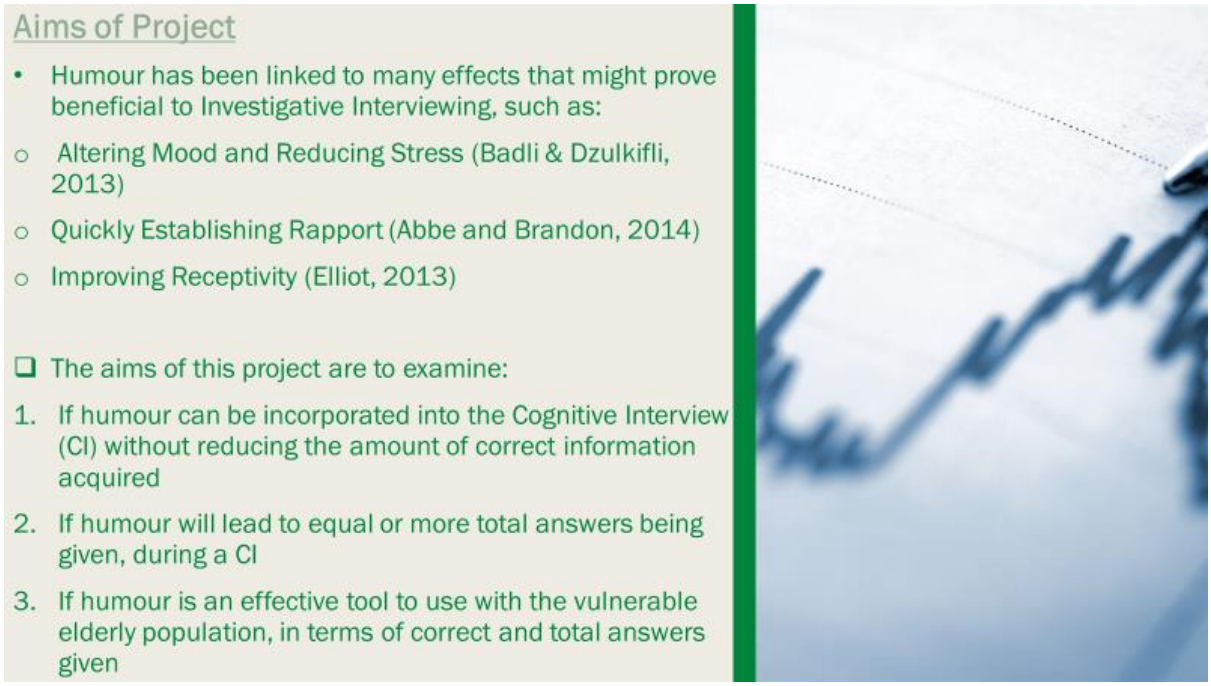
PowerPoint

Slide 1: Title

Slide 2: Aims



Slide 3: Methodology

Method

- This study uses a similar methodology to the original Geiselman, Fisher, MacKinnon, and Holland (1985)
- Participants viewed a 5 minute clip and were asked to give eyewitness testimony
- ❖ 90(N) participants were pseudo-randomly allocated into 3 groups:

1. Humorous Cognitive Interview (HCI)
2. Standard Cognitive Interview (SCI)
3. Control Standard Interview (CSI)

- ❖ The data was also analysed in relation to Age Groups suggested by Salthouse (2004)

1. Youths (18-30 years-old)
2. Middle-Aged (31-50 years-old)
3. Later-Adulthood (50+ years-old)

- ❖ Groups were measured on: Correct, Incorrect, Confabulated, and Total answers given.
- ❖ The data was analysed using univariate ANOVAs and significant findings were subjected to post-hoc t-tests

Slide 4: Results

Results

Key Findings

❖ ANOVAs

■ Correct Answers:

F(2,90)= 4.15; P<.05*

■ Total Answers:

F(2,90)= 4.12; P<.05*

❖ T-tests (Correct)

HCI and SCI: t(41)= -.49; P>.05

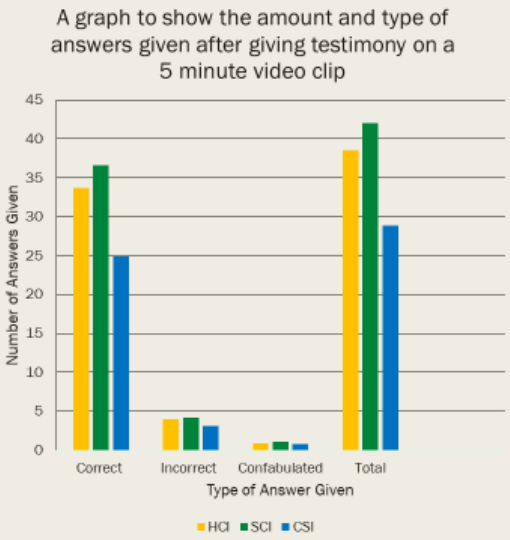
HCI and CSI: t(70)=2.28; P<.05*

❖ T-tests (Total)

HCI and SCI: t(41)= -.55; P>.05

HCI and CSI: t(70)= .25; P<.05*

(* indicates a significant Finding)



Slide 5: Implications and Future Research

Implications and Future Research

Implications

- Humour doesn't negatively impact the effectiveness of the Cognitive Interview. Therefore, it can be integrated into existing CI models for a more humanitarian approach to Investigative Interviewing
- Age has a marginally significant effect on correct answers given (P=.051) but not on total answers given (P=.061). This implies that the CI is not equally effective for all interviewees

Future Research

- Based on Martin, Puhlik-Doris, Larson, Grey, and Weir, (2003), the impact that humour styles have on interviewees may be investigated
- There could a study dedicated to investigating vulnerable populations outside of later-adulthood
- The study may also be replicated using a face to face format, rather than the virtual cognitive interview used in this study

Slide 6: References

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Reflective Diary

This reflective diary will follow the structure as detailed by Gibbs (1988).

Conceptualisation

Before reflecting on my current study and its accompanying trials, I believe it is important to think about the root of my study, and the leading philosophies behind it. Novelty. That's the best description of my philosophy. The desire to do something new, fun, and weird. Whilst I see plenty of my peers expanding on the great theories already in practice, adding to the tallest skyscrapers of academia, I've never seen myself as a builder. To me, I'm an explorer. I hear rumours of treasure and I set off on my search. I don't care if my investigation is fruitless because I enjoy the process. The skills and knowledge I must acquire to even attempt my study reminds me of a captain traversing the rough seas to find land. Scientific exploration is great because even if your treasure isn't found, it can still be celebrated as eliminating a possibility. My undergraduate yielded non-significant results but I was proud of it. My passion for the project landed me 1st place as the Welsh BPS conference. This is the way to do things.

My feelings around my philosophy are generally positive. Although, just because I favour this way of doing things, doesn't mean I lose the responsibility to be object about things. One on hand, my philosophy has fuelled my drive to carry out my studies. I could talk about it all day long which is helpful when I must sell my work to employers and defend it from criticism. On the other hand, I worry how my philosophy reflects on me as an academic. Will my aversion to very serious topic paint me someone who can't handle them. In contrast, my favourite topic outside of humour is the dark tetrad but people should be judged on their actions. We may hope to understand them through their words, but it is

behaviours that interact with the world around us. I can't be upset if people get the wrong idea about me because of the work I produce but I am making an active choice to avoid the more serious, predictable and boring topic In the end, its my perception that it comes down to individualism versus professionalism. The world is not black and white; these two ideas don't have to be opposing. I wish to have a good balance of both. I want this current study to be novel, unique, and scientific. As I realised in the humour module, just because a topic is fun doesn't mean you can't suck the life out of it with hard science. Let's see if I can do something similar. It may harm me in the long-run to not study and contribute something more meaningful all but information is good information. In the future, I will aim to develop a study which mixes novelty and professionalism.

Preparation

Despite my action plan, I think my anxiety got the better of me. A combination of imposter syndrome and the cool new stuff I was learning, I veered away from my original plans. I quickly created a new study based around impulsivity. Had I been interested in impulsivity before? Nope but the lectures were interesting, and I decided to give it a try. When I handed in my proposal, on 18th of November, my supervisor marked it as 52. It was the, and still is, the lowest mark I've received. Oh no. Fortunately, my humour idea was nearly fully developed. After a supervisor meeting with Vince, we decided to go back to the original project.

This was a mix of emotions. It has been the first time I've felt I was in a position I didn't belong. I've always been confident in my abilities; I believe it's due to my focus on objectivity and self-improvement. I think that's why the

feeling of imposter syndrome hit so hard. I know it's a common occurrence for people in similar positions but because I don't have a past of being unsure in my abilities, I was really convinced there had been some mistake. I was stressed and worried, even convinced myself that I was only on the course to balance gender demographics. After a meeting with Kate, I know that isn't true but at the time I really felt that I didn't belong. This feeling was compounded after receiving the 52 mark. It was just in time for the Christmas break and I didn't look at the feedback for the first couple weeks. Mood was low. Fortunately, after my supervision with Vince, I was able to switch my project. My passion was back. I was doing a project I genuinely wanted to do. Evaluating this episode, I had mixed feelings. Although this time caused me immense psychological pressure and stress, I believe it was for the best. I had gone against my philosophy, but it made me realise how important it is to do what you love. I moved forward with a sense of optimism which has carried mw throughout.

The lesson from these experiences is to trust my gut. There is only one me and as imperfect as I may be, I am unique. I shouldn't try to be what I believe others want me to be. I cannot conclude that moving away from my philosophy caused these failures, but I did learn how trying to do something that I'm not comfortable with can cause issues. Despite this, as with all science, there are benefits to experiencing failure. It certainly motivated to try a lot harder with my work. For my action plan going forward, I will try harder to stick to my philosophy. I will make sure that I am comfortable in what I attempt, and I will go forward with my original project

Design

I designed the world's first virtual cognitive interview. Probably not true but there certainly isn't any published ones. It wasn't too difficult. As it turns out, there is a lot if research on cognitive interviews. I developed it the best that I could, following instructions provided by textbooks- even Vince couldn't find an existing template. It was a strange feeling developing an interview without an the interviewer and interviewee being in the same place. Granted its no different from a lot of interviews. Except I had to plan for the four tenants of cognitive interviewing.

I was feeling excited. In the same way that ignorance is bliss. In truth I was very anxious about designing something in academia that is so well documented but doesn't actually exist. I wouldn't be shocked to find a more accurate tool has been developed as a result of my effort, should it be published. Although, reflecting right now, I feel a sense of pride and accomplishment. This is my philosophy in action. I've ventured to uncover new ground. I have the thrill and excitement of doing something new. It might not be the most efficiently designed tool, but it works and its mine. I'm proud of it

I conclude this experience positively, but I am forced to look at alternative perspectives. Was there another way? I could have used the internet to conduct the interview via call. Would it have been more ecologically valid? It probably would be, but I imagine my study would be severely underpowered and would probably scare potential participants off. Plus, it is easier for people to write a response than to set up a telecommunications profile. This is all going in my limitations. I believe I can justify my decisions and that is the most important. The plan going forward will be to run a mock pilot study to make sure it works

Data Collection

I hate the ethics process! I understand it but just because I understand it doesn't mean I like it. So, the event begins as standard, to collect data, I need ethical approval. Due to me being an idiot and the instructions being unclear, I was a month behind in this process, finally submitting on 05/04/2020. When I finally submitted it, with assistance from supervisor Vince, I was made to jump through hoops which others didn't have to. Despite being 2 months away from the deadline, I was still dancing for them. After finally getting that approval letter, I launched the study. Initial recruitment was well, but dried up after a week, reaching 50 participants. The next week saw little improvement. I asked Vince for help and he gave suggestions but the outreach online failed to make much of an impact, he commented that I may struggle to find more. I, however, was determined to reach 100 participants. I am not a self-defeatist, if I get told I can't do something, I want to do it more. In the end, I finished with 90 participants. 103 total responses but 13 had to be excluded. Its technically a win, but it didn't feel like one. Especially when I had over 500 people view the study but not complete it.

I felt rage. I felt frustrated. I felt determined. Honestly, it's a negative mindset but that's my element. If my brain were from Inside Out, Anger would be the one in charge. And its good, the fire fuels my engine. I do my best work when I feel the world is against me, and it certainly felt like that! Evaluating my performance, I realised I have flaws. Shock. I get confused by technology at times, much better with physical copies of things. I have an A GCSE in English, if it had been typed, it would've been a U. However, it also highlighted by strengths. Time management. I was so ready to go when I got the approval as I used the time to build my study from scratch. Going forward, I released the

value of checking in with people. Had I not, I wouldn't have realised my mistake until way later and that would have been dangerous. I will certainly try to maintain contact with peers from the end of the course.

Write-Up

We could use the work we had done prior in our intro, but a combination of introspection and waiting for the ethics made me go against it. I had time and I had newly acquired knowledge. My work had steadily improved over the year, and I knew I these new skills would benefit me. I started from new. I sat in the same spot for about a week, with the exception of the time I spent sleeping. Doing felt robotic, days blended into each other, time was meaningless. It was great. I attribute it to my autism, but I love drone. Give me a repetitive task and I'll be content. I felt unsure if starting fresh was the correct decision but now it's finished, I feel confident I made the correct decision. In the end, I felt the positives outweighed the negatives, at the cost of some friction I had efficiently written up my research project. And I can conclude this event by learning that it is worth taking the extra time on something important to do it right than to do it quickly and easier. But I believe that I that this was only successful because I am objective about my own abilities. I am realistic about what I can achieve, and this is not to be confused with pessimism. I know that I am capable of great things as much as I am poor at others. I didn't lie to myself. I aimed higher because I knew it could be done. Always have to honest with yourself. The action plan for the future will be to utilise my strengths on all future projects and work on the weaknesses that the reflective process has made me aware of.

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