

Dixon et al. (2002)



Accents of Guilt? Effects of Regional Accent, Race, and Crime Type on Attributions of Guilt.

Background and aim: There has been a number of previous research studies into the effects of accents, race and crime on the attribution of guilt. Seggie (1983) found that these factors also influence one another – those with a broad Australian accent were judged as being more guilty when the suspect was accused of assault (a **blue-collar crime**), whereas more guilt was given to the **Received Pronunciation (RP)** accent when the suspect was accused of theft (a **white-collar crime**). The **Brummie** (Birmingham) accent has generally been evaluated more negatively than either rural regional or RP accents in a number of pieces of research (Giles, 1970). Pfeifer and Ogloff (1991) found that white students rated black defendants as more guilty compared to white defendants, especially if there was a white victim.

Further to this research, Dixon et al.'s aim was to examine the influence of an English regional accent: whether the "Brummie" accent was associated with being working class would elicit stronger attributions of guilt than a standard accent. Dixon et al. also investigated the effects of two **confounding variables** on the attribution: the suspect's **race** and the type of crime committed.

Method: Dixon et al used a **laboratory experiment** to investigate whether **accent type, race of suspect, and crime type** predicted **attributions of guilt (DV)**. The experiment design was an **independent measures** design and took place in the Department of Psychology at the University College Worcester. 119 white psychology students (24 males and 95 females, a mean age of 25.2 years) participated as part of a requirement of their degree. Defendants who grew up in Birmingham were excluded from the sample as a Brummie accent was being investigated.

Participants listened to a two-minute recorded conversation between (two actors playing) a middle-aged police inspector and young male suspect pleading his innocence. This was based on a transcript of an interview that occurred in a British police station in 1995. Participants were randomly allocated to one of two conditions: the suspect (the same actor) spoke in either a standard or a Brummie accent. The validity of these accents were tested before the study and more than 95% were able to identify the region of the Brummie accent. Moreover, in order to confirm the accents were matched, judges rated the accents to be a similar level of loudness. However, the Brummie accent had a higher speech rate, but this is a feature of regional accent and therefore was not changed. Crime type was also a manipulated IV: the suspect was accused of either an armed robbery or cheque fraud – blue and white-collar crimes respectively. The final IV was race; this was manipulated by the inspector making reference to the appearance of the person who committed the crime. This changed in different conditions. After listening to the recording, participants rated the suspect's guilt on a seven-point scale ranging from innocent to guilty. They also rated the suspect on a language attitudes instrument.

Results: Statistical analysis showed the Brummie suspect was rated lower in Superiority than the RP suspect. A **significant effect** of speaker accent on participants' guilt ratings was also found: the Brummie suspect was rated as **guiltier** (Mean 4.27) than the standard accent suspect (Mean 3.65). The Brummie accented black suspect accused of a blue-collar crime had **significantly higher guilt ratings** than all of the other conditions. Superiority and attractiveness were **statistically significant** predictors of guilt and dynamism was not. Together, the superiority and attractiveness factors accounted for 13% of the variance in participants' guilt ratings

Conclusions: Attributions of guilt may be affected by accent: Non-standard (English) speakers are perceived as guiltier than standard speakers; those with a Brummie accent are more likely to be perceived as guilty of an offence compared to the standard accent suspects. Blue-collar crime suspects who are black with a Brummie accent are also more likely to be perceived as guilty, while a suspect's perceived superiority and attractiveness may also be a predictor of guilt.

Evaluation

Usefulness of research: This study provides significant evidence that accent, race and type of crime committed by a particular individual all have an impact on whether someone is perceived as guilty or not. It is important that judges and juries are aware of these useful findings and that they are not affected by these factors when making a decision. The findings are also useful for lawyers who should emphasise the importance of appearance on their clients in order to create a positive impression. This may be in the way that they dress and/or the way that they speak.

Validity: The **ecological validity** of the study is low: playing a tape recording of a police interview in which the race of the suspect is suggested and no other evidence is presented is not representative of the fuller picture that real life legal proceedings would present in a case. Therefore, there are clear **generalisability** issues with these findings. However, the methodology was high in **internal validity** due to careful matching of the accents.

Conducting socially sensitive research: The findings from this study have a potential impact on particular groups of people (black people, 'Brummies', and working class people) who may be treated in a discriminatory way in a legal context. This raises questions about the **reliability** of attributions of guilt because of prejudices we have. However, as the study may be lacking in the validity, we must be cautious about how we apply these findings.

Exam Style Questions

Using the research by Dixon et al. (2002), explain how juries can be persuaded by the characteristics of witnesses and defendants. (10)

Explain how the research by Dixon et al. (2002), could be used to influence jury decision making. (10)

Hall and Player (2008)

Will The Introduction Of An Emotional Context Affect Fingerprint Analysis and Decision-Making?

Background and aim: Dorr et al. (2005) gave **university research students** either good quality or incomplete, poor quality fingerprints to study and a low level or high level emotional stimuli. The results showed that students were affected by the emotional context and this interfered with their decisions, making them more likely to make misidentifications when analysing poor quality or ambiguous fingerprints.



This research raised the following **questions**:

- Would the same results be found with trained fingerprint experts?
- Are misidentifications made due to emotional bias?

Using the normal practices used by the **Metropolitan Police**, Hall and Player designed an experiment to test the effect of context on fingerprint identification by fingerprint experts. They set out to answer the following questions: Does the written report of a crime, as routinely supplied with the most recent evidence, affect a fingerprint expert's interpretation of a poor quality mark? Are the fingerprint experts **emotionally affected** by the circumstances of the case?

Method: This was a **laboratory experiment**, but designed to be as life-like as possible. The study took place during work time, in a typical **fingerprint examination room**. The **IV** was whether the participant was allocated to the low-context or the high-context group and the **IVs** were: whether the participant read the crime scene examination report prior to examining the fingerprint; whether the participant could make an identification; and whether the participant would be confident to present the fingerprint as evidence at court. The experiment used an **independent measures design**.

A volunteer's right forefinger was inked onto a piece of paper. This good quality clear mark was then scanned on to a computer and super-imposed on a scanned image of a £50 note. The finger mark was positioned so the background of the note obscured the majority of the ridge detail. The discernible detail within the finger mark was then further obscured. The finger mark and the corresponding set of fingerprint impressions were then given to participants who were asked to give their expert opinions as to whether there was a match. Each participant was allowed access to a fingerprint magnifying glass and an optical magnifying unit.

The **volunteers** were **randomly allocated** to groups and were asked to treat the experiment as they would a typical day and no time limit was put in place. The participants were assigned to either the low-emotional context or high-emotional context group. The **low-context group** of 35 participants were given a report referring to an allegation of forgery (a victimless crime). The modus operandi stated that a "Suspect entered premises and tried to pay for goods with a forged £50 note. The forgery was spotted by cashier. Suspect then decamped (left)". The 35 participants in the **high-context group** were given a report about an allegation of murder. The final wording on the report read "Suspect then fired two shots at victim before decamping". The participants completed a **demographic information sheet** detailing where they worked, how many years' experience as an expert they had and whether they had presented evidence at court. The experts were then asked to consider whether the mark was either an identification/match, not an identification/match, insufficient (not enough detail to undertake a comparison), or insufficient detail to establish identity. They were also asked to elaborate on their findings and then complete a **feedback sheet** which asked whether they had referred to the crime scene examination report and if so what information they had read and whether they felt that the information contained on the report had affected their analysis and, if so, how.

Results: Overall, 81.4% indicated that they had read the crime scene report before examining the prints. 52.6% of them were in the **high-context group** and 47.4% in the **low-context group**. 52% of those who had read the high-context scenario felt that they were affected by the information given in the examination report, compared to only 6% in the low-context scenario.

The **final decisions** made by the experts were **very similar** regardless of the emotional context and were **not statistically significant**. The only variation was whether they thought the mark had sufficient detail to undertake a comparison: 46% of experts in the low context scenario stated that they had some points in agreement but not enough to individualise, compared to 77% of the experts given a high context. 17% of those given the high context and 30% of those given the low-context scenario were **confident** enough to present the mark as a positive identification to the court; this was not a significant difference. Overall, the results showed that the manipulated finger marks lay at the boundary of making a conclusive match, confirming the mark to be **ambiguous**.

Conclusions: Although emotional context affects a fingerprint expert's analysis it **does not** have any effect on their final decisions. The severity of a case also affects analysis, but again does affect the expert's final decisions. Different crime-type contexts **do not significantly** affect experts' final decisions. When details of a crime are provided with finger marks, it is seen as **unnecessary** by experts. Fingerprint experts are **adept** at dealing with fingerprint analysis in a non-emotional, detached manner. But there may be motivating factors and bias in the collection and processing of forensic evidence.

Evaluation

Usefulness: This study found that the emotional context of a situation did not affect the decision making of finger print experts and therefore such evidence is extremely **useful** and reliable enough to be used in court. However, despite such positive results

(although the **external validity** can be questioned), we should still exercise some caution as bias is always possible and therefore such evidence should be presented appropriately. It is also useful to note that expert evidence is much more **reliable** than non-expert evidence and should be treated accordingly.

Individual/situational explanations: These findings support the **individual** explanation side of the **debate**. Experts are not influenced by situational factors such as high or low emotional context and regardless of the case accurate decision are made by fingerprint experts. However, non-experts are influenced by **situational** factors and misidentification can occur.

Sampling bias: Participants in this study were volunteer fingerprint experts. Therefore, it could be argued that these were a certain type of expert, possibly those who were confident in their ability and were less likely to be influenced by the emotional context of a crime. Furthermore, they all worked for the Metropolitan Police and may not be representative of all police forces. Therefore this study **lacks population validity**.

Exam Style Questions

Using the research by Hall and Player (1998), explain how situational factors and bias in the collection and processing of forensic evidence can occur. (10)

Explain how the research by Hall and Player (1998) could be used to reduce bias in the collection and processing of forensic evidence. (10)

Haney et al. (1973)

Study of Prisoners and Guards in a Simulated Prison.

Background and aim:

Psychologists suggested that the shocking condition of the American penal system and its **dehumanising** effects upon prisoners and guards was due to the nature of the people in prisons. The **dispositional hypothesis** proposes that both prisoners and guards have personalities that make conflict inevitable. Prisoners lack respect for law and order, while guards have to be domineering and physically forceful to control aggressive inmates. Haney et al. claimed that this hypothesis could not be studied in existing prison settings 'because such naturalistic observation necessarily confounds the acute effects of the environment with the chronic characteristics of the inmate and guard populations.' Therefore we must separate the effects of the prison environment from the dispositions of those who are imprisoned. If behaviour in a mock prison is not aggressive, this would support the dispositional hypothesis. However, if the same behaviour is shown by 'normal' individuals then the environment is clearly influencing behaviour.



The aim of the study was to investigate the effects of a prison environment on a group of students, and to see if the role they were randomly assigned to play would significantly influence their behaviour. This study also investigates the possible effects of imprisonment and possible ideas for prison reform.

Method: Although it was designed to be as much like a real prison as possible, this study was a **laboratory experiment**. The location was a 35-foot section of the basement corridor in the psychology building of **Stanford University** which was transformed into three small cells (6x9 ft.) and a prison yard. There was also a small closet for solitary confinement, while in the adjacent wing there were guards' quarters, a bedroom for the 'warden' and 'superintendent' and an interview room. 22 males participated in the study, who were chosen from the 75 who answered a **newspaper advertisement** asking for male volunteers to take part in a psychological study of 'prison life' in return for a payment of \$15 a day for up to two weeks. **Questionnaires** were completed and the 24 considered to be the most **physically and mentally stable**, most mature, and least involved in antisocial behaviours were chosen. They were all college students, were mainly white middle-class and did not know each other, and were randomly allocated to their role in the study. One participant withdrew before the start of the study and the two standbys were not called. This left 10 prisoners and 11 guards (**the IV**) and the **DV** was their behaviour in the 'prison' which was observed from behind an observation screen. An **independent measures design** was used.

Prisoners remained in the prison 24 hours a day, while guards worked on three-man, eight-hour shifts, going home between shifts. All volunteers were paid \$15 a day for up to two weeks and prisoners agreed that some of their human rights would be suspended. With the help of Palo Alto City Police Department, prisoners were unexpectedly **arrested** from their homes on the day before the study was due to start. They were charged on suspicion of burglary or armed robbery, handcuffed and taken off in a police car. After being fingerprinted and put in a detention cell at the police station, they were blindfolded and driven to the mock prison where they were stripped and deloused and after standing naked for a while were given a prisoner's uniform, had an ID photograph taken, put in their cell and ordered to remain silent. Prior to this, guards attended an orientation meeting where they met Zimbardo (one of the authors) who played the role of '**Superintendent**' and a research assistant who was the '**Warden**'. They were not told how to behave, only to 'maintain a reasonable degree of order for effective functioning' **without** using any physical punishment or physical aggression. To help the guards get into their roles they assisted in the final stages of completing the prison complex.

Identical uniforms were provided to create anonymity. Prisoners wore loose fitting muslin smocks with an **ID number**, a nylon stocking cap, a muffled ear, rubber sandals and a light lock and chain around one ankle. Working equipment and bed linen was also provided. Guards wore plain khaki shirts and trousers and reflective sunglasses and were given a wooden baton and whistle. Once all prisoners were in their cells, they were greeted by the warden, who read them the prison rules. Prisoners were allowed three bland meals, three supervised toilet visits and two hours for reading or letter writing a day; work assignments were issued. Two visits a week, movie rights and exercise periods were also allowed and three times a day they lined up for a count.

Results: The experiment was **terminated** after only 6 days due to the pathological reactions of the participants. Interactions between guards and prisoners became increasingly negative, hostile, punitive and dehumanising. Almost from the start, prisoners adopted a generally **passive role**, while the guards took on a very active initiative role. **Indirect aggressive behaviour** was frequently shown by the guards, particularly in comments towards the prisoners. Five prisoners had to be released because of 'depression, crying, rage and acute anxiety.' When the experiment finished early, all of the remaining prisoners were delighted and most of the guards seemed to be distressed by the decision; they were reluctant to give up their roles. None of the guards were ever late for their shift and on several occasions, some remained on duty voluntarily for extra hours without additional pay.

One guard reported being upset by the suffering of the prisoners and claimed to have considered asking to change his role; however, this did not happen. Some guards were creative in their cruelty and harassment, while a few were passive and rarely sought control over the prisoners. 90% of prisoners' conversations were about prison life, with only 10% being about their lives outside the prison. Similarly, during breaks guards would usually discuss prisoners or prison.

Post experimental data showed that harassment was greater when out of range of recording equipment. Video analysis showed a daily escalation in aggression towards

prisoners, even after prisoners had stopped resisting and deterioration was clear. One guard even detained a prisoner in solitary confinement all night; this was against prison rules and he attempted to conceal the incident from the experimenters. When questioned about their behaviour, guards often stated they were 'just playing the role' of a tough guard, although none ever doubted the validity of the prisoners' emotional response. Prisoners referred to themselves by their prison number rather than by their names. 3/5 prisoners said they would forfeit all the money they had earned if they were to be paroled and all 5 prisoners got up quietly and were escorted by a guard back to their cell to await the parole board's decision.

Prisoners' behaviour went from disbelief to being rebellious. Once the rebellion had failed, half became 'sick' as a passive way of demanding attention and help, while the other half became excessively obedient in trying to be 'good'. This negativity shown through depression or obedience was known as the '**Pathological Prisoner Syndrome**' due to the loss of personal identity, arbitrary control shown from the guards, and feelings of dependency and emasculation. The guards showed '**Pathology of Power**', enjoying and misusing their power. This was shown through increasingly extreme sanctions, punishment and demands made on the prisoners. Rights became privileges; for example, sleeping, eating and going to the toilet became rewards.

Conclusions: Confinement to a prison environment can negatively affect prisoners and guards and the interpersonal processes between them. Pathological prisoner syndrome and pathology of power will develop in some groups. 'Normal people' can **play** given roles to extremes, but there are individual differences in the way people cope in such novel situations. Haney et al. conclude that imprisonment does not 'fit the crime' for most prisoners; in fact, it makes it worse. Finally, they suggest that the prison environment locks guards and prisoners into a dynamic, symbiotic relationship which is **destructive** to the human nature of both groups.

Evaluation

Usefulness of research: This study was extremely **useful** for our understanding of the effects of prison. In 1970s America, the purpose of prison was to **punish** offenders; therefore, guards behaved brutally towards prisoners in order to conform to the role of prison guard, while the conditions, such as guards wearing sunglasses and prisoners being given ID numbers created a sense of **deindividuation**, which further promoted the **brutality**. More recently, rehabilitation programmes have become an alternative with the goal to **reduce reoffending**, rather than to punish.

Validity: This experiment took place in the basement of Stanford University and was a mock prison. Therefore, we could question the **ecological validity** of the study and argue that participants only behaved as they did because the experiment required them to do so. The maximum sentence of two weeks and the absence of other negative aspects of prison life also made it **unrealistic**. Conversely, however, the experiment was as true to life as possible with the prisoners being arrested at home. Furthermore, there was a high level of **control** in the selection of the participants and the **random allocation** of roles, although a group of 'normal' American students is hardly **generalisable** to a wider population.

Ethical Considerations: This study can be heavily criticised on ethical grounds, from the embarrassment and **lack of consent** of being unexpectedly arrested at home to the high levels of **psychological harm** which led to the study being terminated early. However, the study was approved by **ethics committees** and it was terminated early for the wellbeing of participants. Furthermore, individual and group **debriefs** were given and participants were regularly monitored after the study.

Exam Style Questions

Using the research by Haney et al. (1973), explain punishment and reform as responses to criminal behaviour. (10)

Explain how the research by Haney et al. (1973), could be used to explain a strategy for reducing reoffending. (10)

SAMPLE

Memon and Higham (1999)

A Review of the Cognitive Interview.

Background and aim: Police have traditionally interviewed witnesses through the Standard Interview (SI). This involves free recall, followed by some specific questions. The SI has four stages: Orientation, Listening, Questions and Answers, and Advice (Gudjonsson 1992). In 1985, Geiselman et al. developed the **Cognitive Interview (CI)** as an alternative to the SI. The CI considers psychological research into cue-dependent forgetting and therefore has four stages to maximize the retrieval of memories



Method: This is an **article** which **critiques** the CI. The discussion is focused on four themes, as well as the consideration of theoretical and methodological issues and practical applications.

Section One - Components of the Cognitive Interview

- **Reinstate Context (RC)** - the interviewer gets witnesses to recreate the context by asking them to form an image of the environment they were in. This may include features of the room, emotional state, and physical conditions such as heat, sounds and smells.
- **Report Everything (RE)** - involves encouraging the witness to report in full, including information that may consider to be irrelevant or only partially recalled. This leads to the recall of additional information, and can also be useful for combining information from different witnesses.
- **Change Perspective (CP)** - the witness is encouraged to put themselves in 'someone else's shoes' and consider what the victim or other witnesses may have seen. The idea is that a change in retrieval description allows additional information to be recalled from the new perspective.
- **Change Order (CO)** - the CI encourages extra focused and extensive retrieval by asking witnesses to recall in a variety of orders: from the end or the middle, or from a particular event. It is hoped that a change in the retrieval description, will lead to the recall of extra details.

Section Two – Isolating the Effective Components of the CI

To find out what CI components are most effective, **Memon et al. (1996a)** used 5 and 8 year olds as witnesses and interviewed them using only one component – either CR, CP, or CO. A control group were just told to 'try harder'. There were **no significant**

differences in recall performance across the four groups and it was concluded that the effectiveness of the CI is a result of the additional retrieval attempts when each component is applied. **Milne (1997)** compared the effectiveness of all 4 components and a control group who were asked to make a second retrieval attempt. Results supported Memon et al. as there were no differences in the number of correct or incorrect details across the five. However, the full CI led to **more recall** than any of the single components apart from the CR condition, which suggests that context reinstatement is the **most effective component** of the CI.

Section Three – The Enhanced CI

The enhanced CI combines the four components with strategies for improving interviewer-witness communication and flow of information in the interview. For example **‘transfer of control’** to the witness is done during the **rapport-building** phase of the interview by using open questions, not interrupting the witness and by timing questions so they are related to witnesses’ retrieval patterns. Furthermore, Fisher and Geiselman (1992) suggest the Enhanced CI should include further cognitive techniques to activate a witness’s mental image such as the suspect’s face and clothing. Research has found that CR with the cautious use of images is the only effective cognitive technique employed with the CI, while CP and CO are **ineffective** on their own and may even be **problematic**.

Section Four – Comparison Interviews

The **effectiveness** of the CI has been measured by comparing its effectiveness to other interviews used. The CI has been viewed **more favourably** than the Standard Interview (SI), as the SI is **not standardised** and includes **undesirable elements** such as rapid-fire questions and frequent interruptions. Unfortunately, as the standard interview differs from the CI in many ways it does not provide a tight experimental control against which to measure the effectiveness of CI. Therefore Memon and Higham suggest that the SI is **not a good comparison** especially when the research is focused on determining the specific effects that CI techniques might have on memory.

The Guided Memory Interview (GMI) uses contextual reinstatement (as does the CI) and encourages witnesses to **mentally reinstate contexts**. Malpass and Devine (1981) found that recognition accuracy was enhanced with the GMI. Since the CI is made up of three other techniques, as well as CR, the GMI may be a **good comparison group** for determining whether the CI effects are due to CR alone. However, the CI also relies on the ability of the interviewer to communicate effectively; therefore, a more appropriate control would be a procedure that achieves good rapport with the witness without the use of any memory improvement techniques.

In the **Structured Interview (SI)**, interviewers build a rapport with the witness, which enables them to give narrative descriptions and provides time for interviewees to respond. The SI is also non-interruptive, expansive, confidence building and included active listening, use of open questions and appropriate non-verbal communication. Many of these features are present in the enhanced CI, but there are clear differences such as CR is only used in the CI. Both interviews produce **similar accuracy rates**, although more information is elicited from the CI. The SI would act as a **reasonable control condition**.

Conclusions: The effectiveness of the CI is still **inconclusive** and further research is required into the particular effects of the CI on memory and how the different components work. It is **unclear** how the CI relates to other police interviews and which would be the **most suitable** control group. The effectiveness depends on the ability and motivation of the **interviewer**, which may vary. This is a particular problem if different interviews are compared on the basis on different interviewers.

Evaluation

Methodological Issues: In almost every study, performance is measured by the percentage of statements that are correct or the total number of correct and incorrect statements. This **ignores** the unreported information, which is just as important an indicator of the **effectiveness** of the interview. However, a reason for not measuring **hit and false alarm rates** is that if this was included, witnesses may **not** report everything because they do not want to give **incorrect answers**.

In many CI studies, interviewers were not trained in any depth, but just given instructions to follow or read to the interviewee, suggesting it is easy to communicate to witnesses. With the Enhanced CI, interviewers have reported they have found the procedure to be more **demanding** and **challenging**. Furthermore, Memon et al. (1994) found that the police showed **resistance** to the training, failed to follow instructions and used poor questioning techniques both the CI and SI if trained by a researcher, rather than by a senior police officer.

Usefulness of Research: Memon and Keller have made the following suggestions for training of police officers in the use of the Cognitive Interview: attendance on at least a two-day **training programme**; police forces should **encourage** those with the potential to make good interviewers toward the role of an investigative detective and those who do not to other areas of police work.

Exam Style Questions

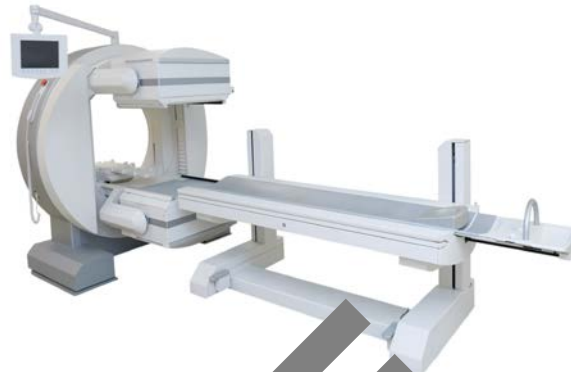
Using the research by Memon and Higham (1999), explain how evidence from suspects and witnesses is collected and used. (10)

Explain how the research by Memon and Higham (1999), could be used to explain at least one strategy for police interviews. (10)

Raine et al. (1997)

Brain Abnormalities in Murderers Indicated by Positron Emission Tomography

Background and aim: Raine et al. investigated the brains of murderers who pleaded not guilty for reasons of insanity (**NGRI**) using positron emission tomography (**PET**) scans to see whether they have brain abnormalities. If significant differences could be found between **glucose metabolism** patterns in the brains of such individuals compared to non-murderers, it may indicate that murderers (pleading NGRI) are more prone to violence than non-murderers.



PET scans show us which areas of the brain are most active (through orange and red colours) and which are less active (blue and green colours). Until this study, no previous brain imaging had been conducted in this area. Raine et al. carried out a pilot study on 11 NGRI offenders compared to 22 'normals' which showed support for the idea of **diminished mental capacity** in NGRIs.

Two hypotheses were tested:

- Violent individuals pleading NGRI show **localised brain dysfunction** in the prefrontal cortex, angular gyrus, amygdala, hippocampus, thalamus and corpus callosum (brain areas associated with **violence**).
- These individuals show **brain dysfunction** in other brain areas (i.e. caudate, putamen, globus pallidus, midbrain, and cerebellum) which are associated with psychiatric conditions, **not violence**.

Method: A quasi experiment was conducted because the **IV**, a NGRI murderer or a 'normal', **not manipulated**. The **DV** was whether the participant showed evidence of **brain dysfunction** in the aforementioned areas of the brain. The **experimental design** was **matched pairs**, with matching occurring on age, gender and diagnosis of schizophrenia in 6 members of each group. The experimental group were 39 men and 2 women with a mean age of 34.3 years. All had been charged with either murder or manslaughter, and had been referred to the University of California, Irvine (UCI) imaging centre to find out if they were NGRI, if they were competent to understand the judicial process, or if there was any evidence of **diminished mental capacity** which may affect sentencing. Furthermore, 6 had schizophrenia, 23 had head injuries or organic brain damage, 3 had a history of psychoactive drug abuse, 2 had affective disorders, 2 had epilepsy, 3 had a history of hyperactivity and learning disability, 2 had personality disorders and 7 of the above cases had particularly unusual circumstances relating to the murder.

Offenders were in custody for two weeks and were kept medication free before brain scanning; none of the controls were taking medication either. Participants were firstly

given practice trials on a **Continuous Performance Task (CPT)** in which targets need to be searched for and a button pressed when they are found. This is a concentration task which will activate the pre-frontal cortex in the brain. They were then given a **Fluorodeoxyglucose (FDG)** injection which traces glucose metabolism in the brain. PET scans show where in the brain glucose is being used which indicates activity in areas of the brain. 30 seconds later, the real CPT was given to participants. Then 32 minutes later they were transferred to an adjacent **PET scanner room** where their brain was scanned 10 times at 10mm intervals to measure activity in different regions of the brain.

Results: The murderers with a history of head injury showed **no significant difference** compared to non-head injured murderers apart from functioning of their corpus callosum, which may have contributed towards a reduction in the murderers' brain activity. **No significant differences** were found for performance on the CPT. NGRI murderers had **reduced activity** in the prefrontal cortex, left angular gyrus and corpus callosum – all linked to violence. There was reduced activity on the left side and greater activity on the right side of the amygdala, thalamus and hippocampus. There were no differences in areas associated with mental illness but not with violence such as the midbrain and cerebellum.

Conclusions: Murderers who plead NGRI have **significant differences** in the metabolism of glucose in a number of brain areas compared to non-murderers. **Reduced activity** in the prefrontal, parietal, and callosal regions of the brain, and asymmetries of activity in the amygdala, thalamus, and medial temporal lobe, may be some of the predispositions towards violence. **Reduced activity** in the prefrontal areas may explain impulsive behaviour, a loss of self-control, immaturity, altered emotionality and the inability to modify behaviour. These factors **predispose** an individual to aggressive acts due to normal constraints on behaviour being reduced. Violent behaviour therefore **cannot** be reduced to a single brain mechanism and there are several processes involved. Therefore if there are **biological deficits** in these processes, the **likelihood** of violence **increases**.

We should, however, be cautious in making further conclusions. The results **do not** show that violent behaviour is biologically determined, and we must consider social and situational factors, as well as learned behaviours. We should also be careful **not** to attribute the cause of murder as being due to a mental disorder. Furthermore, we **cannot** conclude that those pleading NGRI are not responsible for their actions, or that PET scans can be used as a way of diagnosing violent individuals. Brain dysfunction **does not** cause violence; alternatively, it may be an effect of violence. We also **cannot** conclude that all violent offenders have brain dysfunctions and violence **cannot** be explained by the results. What we can conclude though is that the results relate to criminal behaviour of murders who then plead NGRI.

Evaluation

Usefulness of research: This study provides evidence that there are a number of **risk factors** that may predispose a child to criminal behaviour. These findings can be very useful in the development of crime prevention strategies. For example, **biosocial**

intervention programmes could be implemented even before the child is born, including **health and nutrition programmes** for pregnant women.

Free will/determinism: Raine concluded that these brain dysfunctions are risk factors associated with criminal behaviour, but violence is not **biologically determined** and **free will** does play a part. There are individuals who do have brain dysfunctions in brain areas associated with violent behaviour but who are not violent because of free will.

Reductionism/holism: Biological psychologists would argue for the **reductionist** debate and that there is supporting evidence from this study. NGRI criminals have different brains in areas associated with violence. However, a more **holistic** approach may be more appropriate, as violent criminal behaviour may be learnt from experience, caused by faulty cognitions, or due to social or developmental difficulties. In reality, psychological factors triggering a biological predisposition is the most likely explanation for 'what makes a criminal'.

Exam Style Questions

Using the research by Raine et al. (1997), explain physiological explanations of criminal behaviour.

Explain how the research by Raine et al. (1997) could be used to prevent criminal behaviour. (10)

Wilson and Kelling (1982)

The police and neighbourhood safety: Broken windows.

Background and aim: In the mid-1970s, the State of New Jersey announced the “Safe and Clean Neighbourhoods Program”, designed to improve the quality of community life in twenty-eight cities by increasing the number of **foot patrols**. However, many police chiefs were sceptical that this would reduce crime. They believed foot patrols reduced police mobility and made it difficult for them to respond to calls, as well as reducing HQs control over them. Officers also disliked foot patrol as it was seen as hard work, unpleasant weather and was often used as a punishment. Academics also doubted its impact on crime levels. However, as the state was funding it, the local authorities were willing to go along.



An **evaluation of the project** was published five years later. Surprisingly foot patrol had **not reduced** crime rates. However, residents felt **more** safe in these areas, they believed crime had **reduced**, and took fewer measures to protect themselves from crime. They also had a **more favourable** opinion of the police, while the beat officers walking had **higher** morale, greater job satisfaction and a **more favourable** attitude toward citizens in their neighbourhoods than patrol car officers.

Method: This was an **article** published in Atlantic Online in March 1982 and is made up of three main sections: safe neighbourhoods, the changing role of the police and maintaining order.

Part One - Safe neighbourhoods

Many individuals are primarily **frightened** by crime, especially a sudden, violent attack by a stranger. However, there is also a fear of being bothered by people who are not violent, or criminals, but people such as strangers who ask for money, drunks, addicts and even rowdy teenagers. The purpose of the foot-patrol officers in the Safe and Clean Neighbourhoods Program was to reduce this fear and increase the level of public order in these areas. Kelling walked the streets with the beat officers; they had ‘regulars’ that were known to them and that they knew. Their job was to ensure that these disreputable regulars observed some informal but widely understood **rules**, such as alcohol bottles having to be in paper bags and begging from people at the bus stop was forbidden. If they broke these informal rules they knew they’d be arrested for vagrancy. Noisy teenagers were told to keep quiet; non-regulars and strangers were kept an eye on.

The **broken-window theory** suggests that if a window in a building is broken and is left unrepaired, all the rest of the windows will soon be broken. This is true in all areas and is supported by research by **Zimbardo (1969)**. Zimbardo arranged for a car without license plates to be parked with its bonnet up on a street in the Bronx, New York (an

area of high crime rates) and also in Palo Alto, California (a low crime area). In the Bronx the car was vandalised quickly, followed by random destructive acts such as parts being torn off and upholstery being ripped. In Palo Alto the car was untouched for more than a week. Zimbardo then intervened by smashing it with a sledgehammer; within a few hours the car was vandalized. He concluded that all areas are vulnerable to **'criminal invasion'** where there is a breakdown of community controls. Wilson and Kelling suggest that the citizen who fears the drunk and the rowdy teenager is not just expressing their distaste for this behaviour but is concerned that serious street crime flourishes in areas in which disorderly behaviour goes unchecked. The drunks and the rowdy teenagers being unchallenged are the first broken window. The foot patrol officer can **prevent** this from happening.

The changing role of the police

Two decades prior to Wilson and Kelling's research, the role of the police shifted from order-maintenance to law enforcement. The role of the police watchmen whose main objective was to **maintain order** had changed to one of **detecting and apprehending** criminals. This led to discussions about whether this was the true role of police, and the problem of how police chiefs should deploy their limited forces. Wilson and Kelling suggest the following possibilities:

- Try further variations of the Safe and Clean Neighbourhoods Programme
- Have minimal police involvement and use informal methods of social control such as community rules and agreements
- Employ citizen patrols, such as the Citizens in Action who patrol the New York City streets.

Maintaining order

Wilson and Kelling also suggest some **strategies** that could help communities increase security and maintain order including employing private security guards and the hiring of off-duty police officers to patrol work in residential buildings. Wilson and Kelling suggest these arrangements are probably **more successful** than hiring private watchmen, as patrol officers can go to and from stations on public transportation. They can then enforce rules about smoking, drinking and disorderly conduct by ejecting the offenders. Wilson and Kelling believe that police should protect communities as well as individuals - the police should recognise the **importance** of maintaining, intact, communities without broken windows.

Conclusions: Features of neighbourhoods influence crime rates. The role of the police has changed over recent years and policing strategies are constantly changing. Police foot patrols do **enhance** the community's feelings of safety.

Evaluation

Usefulness of Research: Wilson and Keeling's article is useful in highlighting strategies for crime prevention. Preventing **'broken windows'** through foot patrols, the importance of how police can maintain order, as well as the use of other resources such as security guards and community patrols are potential solutions to **reduce crime**.

Research Method: This is an article published online and is largely based on anecdotal evidence, some personal experiences and an evaluation of the project. This study therefore lacks many of the features of science, such as a lack of control of **extraneous variables, objectivity, replicability and standardisation**. Therefore, the **validity** of any conclusions should be approached with caution.

Sampling bias: This study was based on the Safe and Clean Neighbourhoods Program based in New Jersey, USA in the 1970s. Whether such a programme would have the same results in other communities and other countries is questionable. However, Zimbardo suggests that the Broken Window model is **generalisable** to different areas, although research outside of the USA would be useful.

Exam Style Questions

Using the research by Wilson and Kelling (1982), explain how the features of neighbourhoods and a zero tolerance policy can influence crime. (10)

Explain how the research by Wilson and Kelling (1982) could be used to influence crime prevention. (10)

SAMPLE