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H567
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Criminal Psychology Key Research Guide

Version 1

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This Core Studies guide is just a starting point for teachers and students. It is important that students understand the studies in-depth in order to answer any assessment questions. The assessment questions may ask them to extrapolate information from the studies or take their understanding of the studies and what they have taught us further.

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Brain abnormalities in murderers indicated by positron emission tomography

Raine, A., Buchsbaum, M., & LaCasse, L. (1997), *Biological Psychiatry* 42, (6), 495–508

1. Theory/ies on which the study is based

- It has long been thought that damage to or dysfunction of the pre-frontal cortex of the brain may result in impulsivity, immaturity, altered emotionality, loss of self-control and the inability to modify behaviour. All of these may increase the likelihood of aggressive acts. This notion is supported by neurological studies of patients with damage to this region of the brain (Damasio *et al*. 1990; Weiger and Bear 1988).
- The amygdala is associated with aggressive behaviour and also the recognition of emotional stimuli such as a fearful expression on someone's face. Damage to the amygdala is associated with 'fearlessness'. The part of the limbic system made up of the amygdala, hippocampus and pre-frontal cortex governs the expression of emotion. Together with the thalamus, these areas are also important in learning, memory and attention and it has been suggested that abnormal functioning may lead to problems such as not being able to form conditioned emotional responses and the failure to learn from experiences.
- The brain: The forebrain is the largest and most obvious part of a mammal's brain. The outer layer is called the cerebral cortex and consists of the cerebral hemispheres. Under the cortex are a number of other structures including the thalamus, hypothalamus, pituitary gland, basal ganglia, hippocampus and amygdala, some of which form the limbic system (involved in emotional behaviour, motivation and learning).
- Many theories of aggression have been proposed by psychologists to explain aggressive behaviour. These include:

  (a) Biological theories: genetic, biochemical, neurological.

  (b) Frustration-aggression theory.

  (c) Freudian theory.

  (d) Behaviourist theories e.g. classical conditioning, operant conditioning.

  (e) Social Learning theory.

  (f) Ethological theories.
- One particular group of violent offenders are those who plead not guilty by reason of insanity (NGRI) to a charge of murder. The hypothesis in this study is that these seriously violent individuals have localised brain damage in a variety of regions: the prefrontal cortex, angular gyrus, amygdala, hippocampus, thalamus and the corpus callosum.
- This study is based around results found through the use of PET scans - scans using positron emission tomography. This procedure involves patients being injected with a slightly radioactive glucose (sugar). The most active brain tissue uses the glucose and so attracts the radioactive substance. Radiation sensors detect where the radiation is greatest and so build up a picture of activity in the brain. The scans take between 10 to 40 minutes to complete and are painless. The data from the scan is usually presented as a coloured picture where the 'hot' colours such as orange and red are used to represent the areas where there is the greatest activity and the 'cold' areas such as green and blue represent the areas with the least activity. The scans tell us which bits are busy but not what they are doing.
- Raine et al. used PET scans to discover whether there are brain abnormalities in murderers who plead NGRI. If significant differences could be found between the patterns of glucose metabolism in the brains of such individuals compared to non-murderers, the correlation may indicate that murderers (pleading NGRI) are more prone to violence than non-murderers. Until this study, no previous brain imaging had been conducted to either support or refute this notion.

Brain abnormalities in murderers indicated by positron emission tomography

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1. Theory/ies on which the study is based . . . *continued*

- In a preliminary report on a pilot sample of 22 NGRI offenders compared to 22 'normals', Raine et al. (1994) showed support for the idea of prefrontal dysfunction in NGRIs.
- The aim of this study was therefore to build on previous research. Two hypotheses were tested:

  (1) Seriously violent individuals pleading NGRI have relatively localised brain dysfunction in the prefrontal cortex, angular gyrus, amygdala, hippocampus, thalamus and corpus callosum (areas of the brain previously linked empirically or conceptually to violence).

  (2) Seriously violent individuals pleading NGRI show no dysfunction in other brain areas i.e. caudate, putamen, globus pallidus, midbrain, cerebellum) which have been implicated in other psychiatric conditions but which have not been related to violence.

2. Research method

- This was a natural (quasi) experiment because the independent variable (IV) – whether the participant was a murderer pleading NGRI or 'normal', non-murderer (taking no medication and with no history of psychiatric illness or current significant medical illness, with the exception of six schizophrenics who were selected as matches for six schizophrenic murderers) - was naturally occurring and so could not be manipulated or controlled by the researchers. The dependent variable (DV) was whether the participant showed evidence of brain dysfunction in their prefrontal cortex and other areas such as the angular gyrus, amygdala, hippocampus, thalamus and corpus callosum which had previously been linked to violent behaviour.
- The study used a matched participants design. Participants were matched on age and gender and the six schizophrenics in the experimental group were matched with six schizophrenic controls ('normal', non-murderers) who had not committed murder.

3. Sample

- *The experimental group* consisted of 41 participants tried in the state of California (39 men and 2 women) with a mean age of 34.3 years.
- They had been charged with either murder or manslaughter (referred from here on as 'murderers') and had been sent to the University of California, Irvine (UCI) imaging centre for one of three reasons:

  (a) To obtain evidence as to whether they were NGRI.

  (b) To find out if they were competent to understand the judicial process.

  (c) To see if there was any evidence of diminished mental capacity which may affect the nature of the sentence they received.

They were referred for the following reasons:

(a) 6 had schizophrenia.

(b) 23 had head injuries or organic brain damage.

(c) 3 had a history of psychoactive drug abuse.

(d) 2 had affective disorders.

(e) 2 had epilepsy.

(f) 3 had a history of hyperactivity and learning disability.

(g) 2 had personality disorders (passive-aggressive or paranoid personality disorder).

Brain abnormalities in murderers indicated by positron emission tomography

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3. Sample . . . *continued*

In 7 of the above cases there were also unusual circumstances surrounding the crime that additionally lead to the suspicion of some mental impairment.

The control group of 41 participants (39 men, 2 women) were matched by age and gender and had a mean age of 31.7 years which was considered not significantly different to the experimental group. The six people with schizophrenia in the experimental group were matched with six with schizophrenia controls who had not committed murder. The rest of the control group were thoroughly screened and showed no history of psychiatric illness.

4. Outline of the procedure/study

- Subjects participated under protocols and consent forms approved by the Human Subjects Committee of University of California, Irvine were completed.
- Materials:
  - Thermoplastic head holder, individually modelled / molded, to hold the participant's head still while being scanned.
  - PET machine to image brain functioning.
  - Flourodeoxyglucose (FDG) tracer injected to trace brain metabolism.
  - A degraded stimulus version of a continuous performance task (CPT) which required participants to detect target signals for 32 minutes, a task which had been shown to make the frontal lobes work especially hard, together with the right temporal and parietal lobes, so investigators could see how the different areas functioned.
- Procedure:

1. All offenders were in custody and were kept medication free for the two weeks before brain scanning. No-one in the control group was taking medication.
2. Ten minutes before receiving the FDG injection, participants were given practice trials on the CPT.
3. 30 seconds before the FDG injection, participants started the actual CPT so that the initial novelty wouldn't be FDG labelled and to get their brains 'working'.
4. 32 minutes after the FDG injection, the participant was transferred to an adjacent PET scanner room. An individually molded, thermosetting plastic head holder was used to hold the head still during the scan. 10 slices (pictures) at 10 mm intervals parallel to the cantheomeatal line were recorded which provided details in relation to differences in brain metabolism in both six main cortical areas (the outside of the brain) and eight sub-cortical areas (inside the brain). This detail was precise so that the study could be replicated.

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5. Key findings

- *Brain differences:*

	Brain structure	Murderers' metabolic activity level	Interpretation
Cortex	Prefrontal cortex	Lower activity than controls	Linked to loss of self-control and altered emotion
	Parietal cortex	Lower activity than controls especially in the left angular gyrus ($p \leq .06$) and both left ($p \leq .02$)and right ($p \leq .05$) superior parietal gyri	Lower left angular gyrus activity linked to lower verbal ability, educational failure and thus crime.
	Temporal cortex	No significant difference compared to controls ($p \geq .86$)	No difference was expected
	Occipital cortex	Higher activity than controls ($p \leq .02$) (unexpected)	May compensate on CPT for lower frontal activity
Sub cortex	Corpus callosum	Lower activity than controls	May stop left brain inhibiting the right's violence
	Amygdala	Lower activity in left than right side of the brain in murderers than controls ($p \leq .02$)	These structures form part of the limbic system (thought to control emotional expression). Problems with these structures may cause a lack of inhibition for violent behaviour, fearlessness and a failure to learn the negative effects of violence.
	Medial (inner) temporal including hippocampus	Lower activity in left than right side of the brain in murderers than controls ($p \leq .006$)	
	Thalamus	Murderers had lower left than right thalamic activity compared to controls ($p \leq .05$)	
	Cingulate, caudate, putamen, globus pallidus, midbrain and cerebellum	No significant differences were found in these structures between murderers and controls	No differences were expected in these structures (which are involved in other disorders), supporting the specificity of brain areas involved in violence.

The table below shows overall findings:

Reduced activity	Areas previously linked to violence: prefrontal cortex, left angular gyrus, corpus callosum	Left side: amygdala, thalamus, hippocampus (previously linked to violence)
Increased activity	Area not previously linked with violence: cerebellum	Right side: amygdala, thalamus, hippocampus.

- 14 of the murderers were non-white but when they were compared to white murderers on PET measures there was no significant difference between them ($p \geq .14$).
- 23 of the murderers had a history of head injury, but again they showed no significant difference between non-head injured murderers except in the functioning of their corpus callosum ($p \leq .08$), and the authors accepted that this may have contributed towards a reduction in the murderers' brain activity.
- No significant differences were found for performance on the CPT or handedness (except left-handed murderers had significantly less abnormal amygdala asymmetry than right-handed murderers) ($p \leq .002$).

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5. Key findings . . . *continued*

In summary therefore murderers had:

- *Reduced activity* (i.e. reduced glucose metabolism) in some areas, notably the areas previously linked to violence (e.g. the prefrontal cortex, left angular gyrus and corpus callosum).
- *Abnormal asymmetries:* reduced activity on the left, greater activity on the right. This applied to some of the areas identified in the hypothesis as being linked to violence (e.g. the amygdala, thalamus and hippocampus).
- *No differences* in some areas, notably those structures that were associated with mental illness but not violence (e.g. the caudate, putamen, midbrain and cerebellum).

6. Possible conclusions

- Murderers pleading NGRI have significant differences in the metabolism of glucose in a number of brain areas compared to non-murderers.
- The study identifies some specific physiological processes which may predispose some criminals to violent behaviour. Reduced activity in the prefrontal, parietal, and callosal regions of the brain, together with asymmetries of activity in the amygdala, thalamus, and medial temporal lobe including the hippocampus, may be one of many predispositions towards violence in murderers pleading NGRI. This reduced activity in the prefrontal areas may explain impulsive behaviour, a loss of self-control, evidence of immaturity, altered emotionality and the inability to modify behaviour. All of these may make it easier to carry out different kinds of aggressive acts because the normal constraints on behaviour may be reduced.
- The neural processes which underlie violent behaviour can't simply be reduced to a single brain mechanism that causes violence. It seems there are several processes involved and if there are deficits in a number of these processes, the likelihood of violent behaviour occurring is much greater.
- The results do NOT show that violent behaviour is determined by biology alone. There are a number of other factors which must be taken into account. Social experiences, situational factors, psychological predispositions and learned responses will all have their part to play and perhaps the physiological elements may only produce predispositions to extreme forms of violent behaviour rather than being a cause in themselves. One should therefore be cautious about attributing the reason why individuals commit murder simply to the fact that they are found to have mental disorders.
- Results do NOT show that murderers pleading NGRI are not responsible for their actions, nor that PET scans can be used as a means of diagnosing violent individuals.
- Results do NOT show that brain dysfunction CAUSES violence. It may even be that brain dysfunction is an effect of violence.
- Results do NOT show that all violent offenders have such brain dysfunctions; the study can only draw conclusions about this kind of violent offender i.e. murderers pleading NGRI.
- Violence CANNOT be explained by the results; the results relate merely to the criminal behaviour of individuals who commit murder and then plead NGRI.

Will the introduction of an emotional context affect fingerprint analysis and decision-making?

Hall, L. J. & Player, E. (2008), Forensic Science International, 181, (1), 36–39

1. Theory/ies on which the study is based

- It is accepted that an expert in any discipline, as opposed to a novice, is able to demonstrate their increased competencies and cognitive processing skills, which have been enhanced with extensive training and practice i.e. 'that practice makes perfect'.
- The analysis and comparison of fingerprints relies on the ability of an individual to recognise the differences or similarities between the ridge details of a finger mark obtained from a crime scene with one taken from a suspect. The process is open to the questioning of an expert's ability to accurately analyse and interpret friction ridges. It has been suggested that the interpretation and analysis of finger marks becomes more subjective as clarity decreases and as a consequence the expert is more vulnerable to external stimuli.
- There are parallels between the behavioural adaptations and interpretive skills of fingerprint expertise and expertise in other fields. Studies on expert radiologists demonstrated that they have developed high-visual efficiency. They were able to select, apply and modify appropriate schemata (a collection of postulates based on past experiences) allowing them to interpret images more efficiently than the novice radiologists (Haller and Radue, 2005). These past experiences and observations may lead to the creation of an internal database or framework for organizing relevant knowledge (Eysenck and Keane).
- Neurophysiological research has revealed that certain areas of the brain are able to appoint an emotional meaning to an environmental stimulus, which triggers a response and could impact on decision-making (Vicente, 1998).
- Experimental research suggests that emotional effects based on external stimuli; do impact on decision making processes during the examination of fingerprints Dorr *et al*., 2005).

2. Background to the study

- In the United Kingdom the training of a fingerprint expert involves a structured programme of formal courses, which tutor and assess a series of competencies, including the scientific theories of foetal fingerprint development and the factors that give rise to their observed individuality; methods for the recovery of latent finger marks; applied examination techniques, utilizing Analysis, Comparison, Evaluation and Verification (ACE-V) methodology. The practitioner then utilizes these competencies through practical work experience. During their progression to "expert" status the practitioner's work is constantly peer reviewed and assessed. The training process requires the achievement and demonstration of competence before a practitioner is deemed proficient to give fingerprint evidence in a court of law. It is accepted that an expert in any discipline, as opposed to a novice, is able to demonstrate their increased competencies and cognitive processing skills, which have been enhanced with extensive training and practice.
- In many cases the marks available from a crime scene are far from ideal. The marks may be incomplete, smudged, distorted, rotated or may be obscured by the substrate. In order to secure quality, it is standard operating procedure for the identification process to be conducted independently by at least two fingerprint experts.
- It has been suggested that the circumstances surrounding a crime case and the pressure experts are put under to produce results may influence the reported outcome (Risinger *et al*., 2002).

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2. Background to the study . . . *continued*

- Dorr *et al*., 2005, gave university research students either good quality or incomplete, poor quality fingerprints to study. They were also given emotional stimuli deemed low level (case details pertaining to a theft) or high level (case details pertaining to a murder). The latter was accompanied by disturbing photographic images of the victim. Some volunteers were also subjected to subliminal messages stating "guilty" or the "same", during their initial analysis. The results showed that the volunteers were affected by the emotional context and this interfered with their decisions, making them more likely to make matches or identifications when analysing poor quality or ambiguous pairs of fingerprints. This research raised the following questions:
  - Would the same results be found with trained fingerprint experts?
  - Are misidentifications made due to emotional bias?
- The protocol employed by the Metropolitan Police Service for the identification of fingerprints involves providing the fingerprint examiner with a copy of the crime scene examination report, which details the nature of the crime but it does not provide any photographic images of the crime scene. Hall and Player thought it was important to ascertain if the normal working practices employed by the Metropolitan Police Fingerprint Bureau introduce an emotional bias. They therefore designed an experiment to test the effect of context on fingerprint identification by fingerprint experts. The research set out to answer the following questions:
  - Does the written report of a crime, as routinely supplied with the fingerprint evidence, affect a fingerprint expert's interpretation of a poor quality mark?
  - Are the fingerprint experts emotionally affected by the circumstances of the case?
- The latter was addressed by a specially devised feedback questionnaire and the former by the analysis of an artificially obscured finger mark.

3. Research method

- Designed to be as naturalistic as possible participants, were being asked to participate in work time, in a typical fingerprint examination room within the New Scotland Yard Fingerprint Bureau. The task itself was artificially generated and participants were randomly allocated to one of two conditions. Furthermore, some control over the experimental conditions was preferred as in a naturalistic setting there would be no capacity to prevent the experts from asking each other's opinions.
- The independent variable (IV) was whether the participant was allocated to the low-context or the high-context group and the dependent variables (DVs) were (a) whether the participant read the crime scene examination report prior to examining the fingerprint; (b) whether the participant considered the finger mark was (i) identification – a match, (ii) not an identification – not a match, (iii) insufficient – not enough detail to undertake a comparison, (iv) insufficient detail to establish identity, some detail in agreement but not enough to individualise; (c) whether the participant would be confident to present the fingerprint as evidence at court.
- The experiment used an independent measures design.

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4. Sample

- The participants were all respondents to a request for volunteers to take part in an experiment. The request did not go into the details of the experiment.
- A group of fingerprint practitioners, chosen to represent a wide variation of experience.
- 70 fingerprint experts working for the Metropolitan Police Fingerprint Bureau took part. Their length of experience as experts ranged from less than three months to over 30 years. The mean length of experience was 11 years.
- The majority had volunteered and were active practitioners working on fingerprint teams, dealing with crimes that ranged from burglaries and motor vehicle theft through to homicide and terrorism.
- A minority of participants (12 in total) had managerial roles and although they were still on the United Kingdom National Register of fingerprint experts, they were no longer active practitioners.

5. Outline of the procedure/study

- **Materials**
  - In order to validate the decisions of the experts, a finger impression from a known source was used. A volunteer's right forefinger was inked and introduced to 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 mark was then manipulated to control the contrast and further obscure the discernible detail within the finger mark. Fourteen copies of this mark were then printed for use in the experiment. The images used were of actual size and the colour, size and detail of the image contained on the card were representative of the quality and clarity received on a regular basis.
  - All 14 copies of the mark were then compared against each other to ensure consistency.
  - The finger mark and the corresponding set of fingerprint impressions (all 10- printed fingers, donated by the same source as the mark) were then given to participants who were asked to give their expert opinions as to whether there was a match using the procedure outlined below.
  - Each participant was allowed access to a fingerprint magnifying glass and a Russell comparator (an optical magnifying unit for comparing two images).
- **Procedure**
  - In order to create an environment that was as naturalistic as possible for the volunteers, they were all asked to participate in work time, and a typical fingerprint examination room within the New Scotland Yard Fingerprint Bureau was used for the experiment.

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5. Outline of the procedure/study . . . *continued*

- The volunteers were randomly assigned in groups of eight and were asked to treat the experiment as they would a typical day, they could come and go as they pleased, and talk among themselves as long as they did not discuss the finger marks that they were analysing in the experiment, or the experiment itself. No time limit was placed on the participants and they were told to consider the experiment material as an ordinary case.
- The participants were assigned into one of two groups, low-emotional context or high-emotional context, on the day of the experiment. The *low-context group* (35 participants) was given an examination report referring to an allegation of forgery. This was chosen as it is considered a victimless crime and carries a relatively minor sentence. 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" i.e. left the scene. The *high-context group* (35 participants) was given an examination report referring to an allegation of murder. This was chosen because there is, inevitably, a victim and it carries the most severe sentence. The final wording on the examination report was altered to read "Suspect then fired two shots at victim before decamping" i.e. leaving the scene.
- One of the researchers stayed with each group at all times to answer any questions.
- 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 research was conducted anonymously and all candidates were given a unique reference number to endorse each of their question sheets.
- The participants were given an envelope containing one of the test marks, the relevant 10-print fingerprint form, the relevant scene examiner's examination report and a sheet of paper advising participants of the contents which also stated that the mark was made by the right forefinger. These were all typical case reports that a fingerprint expert may receive when given a finger mark to study for the first time, except for the paper advising participants that the mark was made by the right forefinger which was only included to save time so the experts could get straight into the analysis, rather than spend time making comparisons. (This process replicated the verification stage of the identification process, where the initial examiner, who may not be a fully qualified fingerprint expert, annotates the documentation with their decisions, directing the verifier to the area of ridge detail that they have concluded is a match or is insufficient to establish identity. The verifier may agree or disagree with this initial conclusion).
- The experts were then asked to consider whether the mark was

  (i) identification (a match)

  (ii) not an identification (not a match)

  (iii) insufficient—not enough detail to undertake a comparison, or

  (iv) insufficient detail to establish identity, some detail in agreement but not enough to individualise.

  They were also asked to elaborate on their findings by providing observations and opinions.

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5. Outline of the procedure/study . . . *continued*

- Finally, when they had finished the experiment, they were given a feedback sheet which asked whether or not they had referred to the crime scene examination report prior to their assessment of the marks and to indicate what information they had read, i.e. the allegation, modus operandi, date, venue, victim and the details of examination. If they had referred to the crime scene examination report they were also asked whether, in their own judgment, they felt that the information contained on the examination report had affected their analysis and if so how?

6. Key findings

- A total of 57 of the 70 participants (81.4%) indicated that they had read the crime scene examination report prior to examining the prints. 30 of the 57 were in the high-context scenario group showing that 52.6%) compared to 27 (47.4%) of the low-context group.
- Therefore 18.6 (19%) of experts stated on their feedback forms that they did not read the crime scene examiner's report presented with the finger marks (so were unaware of the crime type context when making their judgements).
- 52% of the 30 who had read the high-context scenario felt that they were affected by the information given on the examination report which is significantly greater than the 6% who had read and reported that they were affected by the low-context scenario ($x2 = 17.920$, d.f. = 1, $p < 0.0001$). This indicates that there is a relationship between the type of context and the perceived effect on the experts.
- To establish whether this perceived effect altered the final decision of the expert, the difference between the decisions made between the two groups was compared. These findings are displayed in the table below.
- The experts' final opinions of the finger mark comparison for the low and high contexts:

Number of experts giving final opinion as				
	Identification	**Insufficient not suitable for comparison**	**Some detail in agreement but not sufficient to identify**	**No identification**
High context	6	15	13	1
Low context	7	12	16	0

- The table shows the final decisions made by the experts to be very similar regardless of the emotional context. Chi-square analysis of the table was carried out and no significant difference was found ($x2 = 1.72$, d.f. = 7, $p < 0.05$).
- The only variation between the two groups occurred in whether they thought the mark had insufficient detail to undertake a comparison or some detail in agreement but not enough to establish identity. Within the low-context scenario 46% of experts stated that they had some points in agreement but not enough to individualise as opposed to 37% of the experts given a high context.

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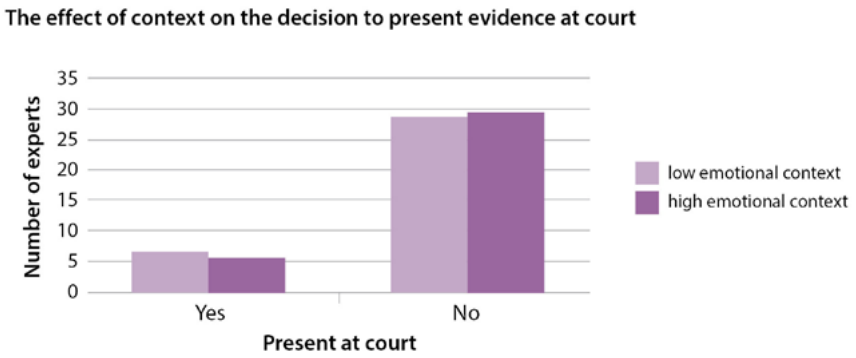
6. Key findings . . . *continued*

- The experts were also asked if they would be prepared to present the mark in court. These findings are displayed in the graph below :



The graph shows that 17% of those given the high context and 20% of those given the low-context scenario were sufficiently confident to present the mark as a positive identification to the court. A Pearson Chi-square test showed there was no relationship between an emotional context and presenting the mark as evidence for judicial proceedings ($x2 = 0.94$, d.f. = 1, $p = 0.759$).

- Overall, the results showed that the manipulated finger marks lay at the boundary of making a conclusive match. This confirmed the mark to be ambiguous, i.e. of poor quality and open to different interpretations.

7. Possible conclusions

- Emotional context affects a fingerprint expert's analysis but this does not have any actual effect on their final decisions.
- The severity of a case affects a fingerprint expert's analysis but this does not have any actual effect on their final decisions.
- Different crime-type contexts in which a finger mark is presented has no significant effect on the final decisions presented by experts.
- Details of an individual crime provided with finger marks may be considered surplus to requirements.
- Fingerprint experts appear adept at dealing with fingerprint analysis in a non-emotional, detached manner.
- There may be motivating factors and bias in the collection and processing of forensic evidence.

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7. Possible conclusions . . . *continued*

Note: It must be recognised that this was a single experiment within a wider study of the process by which fingerprint experts make identifications. It does not reflect the final product presented in evidence to the courts. The fingerprint evidence is not only a product of the individual decisions of experts but also the use of a range of technical and imaging processes that would maximise the information from a latent finger mark and a highly detailed multilevel checking process that has been shown to provide reliable fingerprint identifications for over 60 years.

A review of the cognitive interview

Memon, A. & Higham, P. A. (1999), *Psychology, Crime and Law*, 5, (1–2), 177 – 196

1. Theory/ies on which the study is based

- Interviewing techniques should incorporate basic psychological findings about memory. Research in cue-dependent forgetting has shown that memory traces contain many different types of information: some internal factors such as mood and psychological state and some external cues such as smell and colour of surroundings. According to the encoding specificity principle, the retrieval of a memory trace is more likely if the information in a cue overlaps with the information in a memory trace. Retrieval can be improved by using as many cues as possible. The implication for police procedure is that a witness interview should use cues to stimulate memory whilst, at the same time, avoiding leading questions. (Cited in Putwain and Sammons, 2002).
- According to the encoding specificity principle (Tulving and Thomson, 1973), a cue will be effective in retrieving information in memory to the extent that it was specifically encoded with the to-be-remembered information.
- Many factors influence effective communication, the key element of an interview. According to Gorden (1975), these include: inhibitors that make effective communication less likely e.g. an unwillingness to give information; facilitators that make effective communication more likely e.g. appealing to the interviewee's sense of altruism.
- Questioning produces much better recall if it follows the chronological order of events rather than asking questions in any order.

2. Background to the study

- The traditional technique used by the police for witness interviews is known as the Standard Interview. This involves a period of free recall followed by specific questions asked by the police officer. According to Gudjonsson (1992), the Standard Interview has four stages:
  - Orientation.
  - Listening.
  - Questions and answers.
  - Advice.
- Geiselman et al. (1985) developed the Cognitive Interview (CI) as an alternative to the Standard Interview. It takes into account psychological findings about cue-dependent forgetting and has four stages designed to stimulate as many cues as possible in order to maximise different retrieval routes:
  - Stage 1: Reinstate the context
  - Stage 2: Recall events in reverse order
  - Stage 3: Report everything they can remember
  - Stage 4: Describe events from someone else's point of view.
- Geiselman et al. (1968) compared a cognitive interview with a standard police interview and a hypnotic interview. The standard interview produced on average 29.4 correct witness statements, the cognitive interview an average of 41.1 correct statements and recall under hypnosis produced an average of 39 correct statements. The cognitive interview produced a 30% improvement in recall with no increase in incorrect responses. Although this was laboratory-based research, it did suggest that the cognitive interview can produce more correct details without increasing witness error. (Cited in Putwain and Sammons, 2002).

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2. Background to the study . . . *continued*

- In a real-life test, Fisher et al. (1990) trained detectives from the Miami Police Department to use the cognitive interview. Police interviews with eyewitnesses and victims were videotaped and the total number of statements was scored. A second eyewitness was then asked to confirm whether these were true or false. Compared to the standard procedure used, the cognitive interview produced 46% increase in recall and 90% accuracy. The findings suggested that the cognitive interview is more effective than the standard interview, producing higher recall and reducing errors. (Cited in Putwain and Sammons, 2002).
- Research in America showed that after one hour's training in the use of the CI, sixth-formers were able to find more details than experienced police officers using the standard interview (Graham Davies speaking in Science Now, 1991; cited in Brewer, 2000).
- Fisher and Geiselman (1992) used a revised version of the CI and found a 45% improvement on the original standard interview. (Cited in Harrower, 1998).
- Milne (1997) showed that context reinstatement yields as much information as the full CI procedure.

3. Research method

- This is an article which critiques (reviews) the Cognitive Interview (CI). Discussion is organised around four themes:
  - The effectiveness of various components of the CI
  - The relationship between the CI and other interviewing methods such as the Guided Memory Interview, the Standard Interview and the Structured Interview
  - Different measures of memory performance
  - The effect of training quality on interviewer performance.
- Comments are made on some of the theoretical and methodological issues to be considered in CI research and the practical considerations relating to the use of the CI in the field.

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4. Outline of the article

Section One – Components of the Cognitive Interview

- One of the most frequently used components of the CI is for the witness to mentally reconstruct the physical (external) and personal (internal) contexts which existed at the time of the crime. The interviewer can help witnesses recreate context by asking them to form an image or impression of the environmental aspects of the original scene (e.g. the location of objects in a room), to comment on their emotional reactions and feelings (surprise, anger, etc.) at the time, and to describe any sounds, smells and physical conditions (hot, humid, smoky, etc.) that were present. Increasing the overlap between test context and the context of acquisition (i.e. contextual reinstatement) will ensure the operation of effective retrieval cues and maximise memory retrieval. There is a substantial body of empirical research on context reinstatement and memory retrieval (see Malpass, 1996 for a recent review). While some studies show context facilitates retrieval, others using similar or identical methods report no positive effects. Many researchers have agonised about the transient effects of context reinstatement (Memon and Bruce, 1985; Bjork and Richardson- Klavehn, 1989; Eich, 1995). There is some evidence to suggest that context reinstatement is a technique that witnesses spontaneously use to remember events (Memon et al.1997c; Milne, 1997).
- A second technique is to ask the witness to report everything. This may well facilitate the recall of additional information, perhaps by shifting criteria for reporting information. For instance, witnesses are encouraged to report in full without screening out anything they consider to be irrelevant or for which they have only partial recall (Fisher and Geiselman, 1992). In addition to facilitating the recall of additional information, this technique may yield information that may be valuable in putting together details from different witnesses to the same crime (see Memon and Bull, 1991).
- The third component is to ask for recall from a variety of perspectives. This technique tries to encourage the witnesses to place themselves in the shoes of the victim (if the witness is not a victim) or of another witness and to report what they saw or would have seen. The theoretical assumption is that a change in perspective forces a change in retrieval description thus allowing additional information to be recalled from the new perspective. This is compatible with several models of memory (e.g. Norman and Bobrow, 1978). Again the aim is to use multiple pathways to increase both retrieval and the amount of detail elicited. There are a number of concerns about the use of the change perspective instruction, in particular the possibility that it could lead to fabricated details and confuse the witness (Memon and Koehnken, 1992; Memon, Cronin, Eaves and Bull, 1996a). Police officers have tended not to use the change perspective instruction and some have expressed a concern about the possibility of misleading the witness with this instruction (see Kebbel and Wagstaff, 1996; Memon and Stevenage, 1996c).There is some recent evidence that when compared to the other CI techniques, the perspective instruction can produce as accurate information as the other CI techniques although it does not appear to increase the amount of information recalled any more than the other techniques (Milne, 1997).
- The fourth component of the CI is the instruction to make retrieval attempts from different starting points. Witnesses usually feel they have to start at the beginning and are usually asked to do so. However the CI encourages extra focused and extensive retrieval by encouraging witnesses to recall in a variety of orders from the end, or from the middle or from the most memorable event. This technique, like the change perspective instruction, is assumed to change the retrieval description, resulting in the recall of additional details. Geiselman and Callot (1990) found that it was more effective to recall in forward order once, followed by reverse order, than to make two attempts to recall from the beginning. So far there is no evidence that this technique yields any more information than a second retrieval attempt when used in a cognitive interview (Memon, Wark, Bull and Koehnken, 1997a) although Milne (1997) has found the instruction to be of some benefit when applied with specific prompts.

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4. Outline of the article . . . *continued*

Section Two – Isolating the Effective Components of the CI

- One way of pin-pointing how a procedure like the CI works is to experimentally isolate and test the effectiveness of each of the components yet there have been only a couple of attempts to do this (see Milne, 1997 for a recent review).
- In a study using 5 and 8 year old children as witnesses, Memon et al. (1996a Experiment 1) interviewed the children about a staged event using one of the three cognitive techniques described in the previous section i.e. Context Reinstatement (CR), Change Perspective (CP) and Change Order (CO). As a control, a fourth group were merely instructed to "try harder." The control group was included in order to test the hypothesis that the increase in recall with the CI may be a result of the additional retrieval attempts when each new instruction is applied. Reminiscence effects in which new details are elicited with each successive recall attempt are well established in the memory literature (Payne, 1987). The hypothesis was supported and there were no significant differences in recall performance across CP, CR, CO and control groups. The results were replicated in a second study (Memon et al. 1996a Experiment 2) using child witnesses aged 5-9 years. However it was noted that younger children had difficulty in using the cognitive techniques.
- Milne (1997) extended the studies conducted by Memon et al. (1996a) by comparing the full CI procedure with each of the cognitive techniques including the "report everything" (RE) instruction. She also included a control group who were merely asked to make a second retrieval attempt. The analyses looked at performance of witnesses at each stage of the interview: free recall, questioning and third retrieval attempt for various types of details: person, action, object and surrounding. Overall she found no differences in number of correct or incorrect details across the four cognitive conditions (CP, CO, CR and RE) and the control condition, thus supporting Memon et al's findings. She did however find that the full CI condition elicited more recall than the other single technique conditions except the CR condition. As indicated earlier, this leads one to conclude that context reinstatement is the most effective component of the CI.

Section Three – The Enhanced CI

- The enhanced version of the CI combines the four cognitive techniques with some strategies for improving interviewer-witness communication and flow of information in the interview. Several techniques are used to facilitate the communication including the 'transfer of control' of the interview from the interviewer to the witness. This is put into place during the rapport-building phase in several ways e.g. through the use of open questions which request an elaborated response from the witness (thereby allowing the witness to do most of the talking), by not interrupting witnesses, by timing questions carefully so that they are related to witnesses' retrieval patterns and not to a protocol that an interviewer may be using. During the course of training student and police interviewers on the CI techniques, Memon noted that the various elements of the CI work interactively. For example, building rapport with the witness: if this is done appropriately, the witness will be more relaxed and open to using the various cognitive techniques - by not interrupting a witness and pausing after questions, the interviewer can facilitate contextual reinstatement. It is possible therefore to suggest that the effectiveness of the CI is due to improved communication, improved access/retrieval of information as well as the interaction of these factors (see McCauley and Fisher, 1995).

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4. Outline of the article . . . *continued*

- Further refinements of the CI (Fisher and Geiselman, 1992) also include additional cognitive techniques for activating and probing a witness's mental image of the various parts of an event, such as a suspect's face, clothing, objects, etc. A distinction is drawn between conceptual image codes (an image stored as a concept or dictionary definition) and pictorial codes (the mental representation of an image (Paivio, 1971). The instructions to form an image are used in conjunction with the context reinstatement technique during the questioning phase of the interview (see Memon et al.1997a). When contextual reinstatement is accompanied by instructions to image and the images are probed with questions, further details (correct and incorrect) are elicited (Bekerian and Dennett, 1997; Memon et al. 1997a). The effects of imagery on the retrieval of information depends on a number of factors such as reality monitoring (Johnson, Hashtroudi and Lindsay, 1993), task demands (Foley, Durso, Wilder and Freidman, 1991) and the ease with which an image may come to mind (Sherman, Cialdini, Schwartznian and Reynolds, 1985). However, research by Marcia Johnson et al. (1993), suggests that imaging could potentially be problematic to accurate memory performance (see also Roberts, 1996). For example, Johnson et al. (1979) found that participants who imagined a picture repeatedly were more likely to report falsely that they had actually seen the picture.
- Further research has demonstrated that reality monitoring is affected by the characteristics of imagined events that are rehearsed. For example, Suengas and Johnson (1988) found that participants who later thought about apperceptive characteristics of imagined events (e.g. what the event made them feel like or think about), became more likely to confuse these imagined events with experienced events. In other words, rehearsing thoughts and feelings associated with an event that was only imagined made that event seem more like it really happened.
- Additionally, imaging should not be accompanied by interviewer suggestion because of the danger of creating false memories. Some of these source confusions may be offset at the decision stage. The detailed probing and care taken by a good interviewer is likely to cause the interviewee to adopt strict source monitoring criteria (i.e. be very careful about assigning source to a given memory), which has been shown to reduce errors (e.g. Lindsay and Johnson, 1989). It has been suggested that imagery instructions should be used with some caution until a better understanding is obtained of how they influence source monitoring and corresponding decision processes (Roberts, 1996).
- To summarise: contextual reinstatement, possibly accompanied with the cautious use of imagery that (a) limits the possibility of source monitoring confusions and (b) is non-suggestive, seems to be the only effective cognitive technique employed with the CI. Instructions to change perspective or to recall in reverse order have not proven to be effective by themselves and may even introduce some problems. Research on these questions, however, is sparse and it is possible that the combination of all techniques has a synergistic effect on memory retrieval and/or monitoring. To determine this, it would be necessary to test every combination of techniques in a single experiment to discover which procedure(s), or combination of procedures, improve memory performance. It has been suggested that it would also be helpful to compare the CI technique with a situation in which the interviewee is only asked to give a free recall.

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4. Outline of the article . . . *continued*

Section Four – Comparison Interviews

- In attempts to evaluate the efficacy of the CI, it has been compared with other interview procedures such as the typical police interview (standard interview), the Guided Memory Interview, the Structured Interview, and hypnosis. This article does not focus on hypnosis because of the lack of clear evidence that it can facilitate recall (e.g., Dinges *et al*., 1992), the controversy surrounding the use of hypnosis (Pinizzotto, 1989) and the ambiguity about exactly what techniques are used in an hypnosis interview. Instead, recent reviews by Fisher (1995) and Das Gupta *et al*. (1995) which compare the cognitive interview with hypnosis are considered.
- *The standard interview:*
  - In early studies, results from using the CI were compared to results using the standard police interview. This was a sensible research strategy given that few other interview techniques were widely used when the CI was first introduced.
  - However, the term "standard interview" is somewhat of a misnomer given that such interviews are highly variable and are far from standardised. There are also a number of undesirable characteristics associated with the standard interview, such as rapid-fire questions and frequent interruptions (Fisher, Geiselman and Raymond, 1987; George, 1991). From the practical point of view, the CI offers a clear advantage over the standard interview as these undesirable elements are absent (Fisher and Geiselman, 1992; Memon and Bull, 1991). However, for the purposes of memory research, the disadvantage of the standard interview is that it differs from the CI in many ways and so does not provide a tight experimental control against which to measure the effectiveness of the cognitive techniques employed specifically with the CI e.g. there is no control over the effects of training and interviewer motivation. Any observed advantage of the CI over the standard interview may be attributable not to the cognitive techniques, but to the fact that CI interviewers are trained in the use of special techniques and additional time and attention is devoted to their interview style. Such added attention might mean that CI interviewers are more likely to be motivated to perform well in contrast to the standard interviewers who are not given any special training or attention. The situation is worsened by the fact that, as mentioned above, there are large individual differences in the interviewing styles of standard interviewers.
  - The standard interview was a useful comparison group in the early days of research on the CI. The issue at first was simply to evaluate whether the CI, as a complete procedure, was any better than the interview procedure that was used by the majority of police officers at that time. However, research today is rightfully more specific i.e. it is focused more on determining the efficacy of particular techniques and procedures within the CI rather than the efficacy of the interview as a whole. Consequently, Memon and Higham recommend against using the standard interview as a comparison group to evaluate the efficacy of the CI, especially when the research is focused on determining the specific effects that CI techniques might have on memory.
- *Guided memory interview (GMI):*
  - The GMI interview draws upon principles of contextual reinstatement as does the CI and by encouraging the witness to mentally reinstate contexts guides their memory.

4. Outline of the article . . . *continued*

- The role of the GMI in eyewitness identification was first studied by Malpass and Devine (1981). They staged an act of vandalism during a classroom demonstration and requested students who had witnessed the event to view a photo-line up five months later. Some witnesses were administered a GMI, during which they were guided through each step of the incident and probed for a full description of the environment in which the incident took place and their emotional reactions to it e.g. witnesses were asked to describe where they were seated, who they were with and to visualise how the room looked. Witnesses were encouraged to visualise each sequence of the event, to describe what had taken place and how they felt at the time. They were also asked to form an image of the perpetrator, describe his appearance and their impressions of him. Malpass and Devine found that recognition accuracy was enhanced with the GMI, relative to a simple instruction condition (i.e. a prompt with line up instructions), without biasing the witnesses' recollections.
- Techniques employed in the GMI resemble the context reinstatement and imagery components of the most recent version of CI. However, in contrast to Malpass and Devine's (1981) results using the GMI, previous research has indicated that the CI does not enhance eyewitness identification from line ups (e.g., Fisher et al.,1990). One possible reason for the discrepancy between CI and GMI results could be that the components common to both interviews are only effective in increasing recognition accuracy when certain conditions are met. It is worth noting that studies investigating the effect of the GMI on eyewitness identification employing somewhat different procedures have failed to replicate the memory enhancement reported by Malpass and Devine e.g. Memon (1985) who did not probe her witnesses in as much detail as Malpass and Devine (1981) and failed to find memory enhancement. Because both the CI and GMI require that the interviewer provide a great deal of guidance for the witness, interviewer variables are likely to be very important.
- With regard to the contextual reinstatement component employed with both the GMI and the CI, a critical variable determining its effectiveness might be the delay between the incident and test. Malpass (1996) has pointed out that if the to-be remembered event is readily available and the witness has a clear, accurate memory for the "focal" element of the event (or the part of the event about which the interviewer is trying to elicit information), then additional contextual cues are not likely to be useful (Smith, 1988). However, if memory for the focal element is weak, as when the representation has faded with time, contextual reinstatement should be beneficial.
- To summarise: because the CI is made up of a number of different techniques (e.g., changed perspective, change order, report everything) as well as context reinstatement, the GMI may be a reasonable comparison group for determining whether the CI effects can be attributed to context reinstatement alone or whether a combination of cognitive techniques are responsible for the effects. However, there is more to the CI than the cognitive techniques; the enhanced CI relies on the ability of the interviewer to communicate effectively in an interview. Perhaps a more appropriate control would be a procedure that achieves good rapport with the witness without the use of any special mnemonic techniques.

• *The structured interview (SI):*

- Koehnken and colleagues (e.g., Koehnken et al.1994) first used the SI as a comparison interview in CI research.
- SI interviewers are persuaded to build rapport with the witness, to allow the witnesses the opportunity to give narrative descriptions and to provide ample time for interviewees to respond. Additionally, the SI is non-interruptive, expansive, confidence building and fosters the use of good questioning techniques e.g., active listening, use of open questions, appropriate non-verbal behaviour.

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4. Outline of the article . . . *continued*

- Many of these positive aspects of the SI are also present in the enhanced CI. However, the SI and CI are different in that the cognitive techniques e.g. contextual reinstatement, are only employed with the CI. Therefore, the amount of information elicited in a CI exceeds that which is elicited by interviewers trained in the SI, even though both procedures produce comparable accuracy rates.
- Memon et al. (1997b) have noted that, with appropriate training, both CI and SI interviewers can be effective.
- Because the sole difference between the SI and CI is the use of the cognitive techniques in the CI, the SI provides a reasonably good control group for determining the role of these techniques within the CI.

• Measures of memory

- Although one of the strong points of the CI is its employment of well-established laboratory principles, researchers of CI effectiveness have not typically been as concerned with measures of performance as have their laboratory counterparts. In practically all studies, performance is measured in terms of the percentage of interview statements that are correct or the absolute number of correct and incorrect statements. One potential problem of limiting research to these measures is that it ignores the amount and the nature of unreported information, which is as important to determining the efficacy of any interview procedure as is the reported information.
- Without this unreported information, it is impossible to determine hit and false alarm rates which are necessary to calculate measures of sensitivity and bias. However, there is a clear need for the incorporation of analogous ideas into measures of interview performance. One reason for this need is that the CI may affect an interviewee's report criterion e.g. the instruction to "report everything" may cause people to lower their response criterion and report more information than they might normally. Indeed, many studies indicate that overall output (amount of information reported) is greater for the CI than the SI. Without appropriate methods and a framework to incorporate such criterion shifts into measures of interview performance, it is difficult to determine what the effects might be.
- In a recent series of articles Koriat and Goldsmith (1994), have presented a formal model that outlines the effect of retrieval, memory monitoring and output control on memory performance. According to the model, a person retrieves candidate answers from long-term memory in response to an input question (retrieval). The probability that the best candidate answer is correct is then assessed (monitoring), and this probability is then compared to a response criterion probability set by situational demands and payoff (control). If the assessed probability that the best candidate answer is correct is greater than the response criterion, then the candidate answer is reported. If not, it is withheld (performance).This model makes the important distinction between retrieval and meta memory issues such as memory monitoring. It also makes some clear predictions about the effect of shifts in response criterion on interview accuracy measures. In general, it predicts that as the response criterion becomes more conservative, accuracy should improve.
- If accuracy is compared between the SI and the CI, output is generally greater for the CI, but there is no associated loss in accuracy. This finding runs counter to Koriat and Goldsmith's model which predicts poorer accuracy with increased output (all other factors held constant). One possible reason for this is that the cognitive techniques employed with the CI improve retrieval, monitoring or both, relative to the SI, and so the loss of accuracy due to the criterion shift is compensated for. The important point is that Koriat and Goldsmith's model allows researchers to make some formal predictions about CI performance, many of which are not obvious or intuitive, and these predictions can be tested to determine what effects, if any, the CI has on retrieval and memory monitoring. This would clearly be an advance over the reliance on solely percentage correct and/or absolute number correct and incorrect statements as indices of interview efficacy.

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4. Outline of the article . . . *continued*

- Quality of training
  - A criticism of early studies of the CI was that the amount and quality of training that interviewers were given was not specified. Based on the description of the interview protocol, it seems that interviewers were merely provided with a set of instructions to follow and were not 'trained' in any depth.
  - In some studies, interviewers were required to read the CI instructions to the interviewees verbatim, thus possibly obviating the need to have properly trained interviewers. The original CI procedure was perhaps easier to communicate to witnesses than the enhanced version. It appears to be the case that the enhanced version places far greater demands on the interviewer. Post-interview discussion with the student interviewers in the various Memon studies yielded the following observation: the cognitive interviewers reported that they found the procedure more demanding and exhausting as compared to the structured interviewers.
  - It is likely that differences in the attitudes, motivation and prior experience of the interviewers play a big role in determining the kind of results obtained with the CI. Memon et al. (1994) found that the police showed considerable resistance to the training, failed to follow instructions and used poor questioning techniques in both the CI and SI. This resistance, however, may depend partly on who is doing the training. Veteran police officers may be less likely to contest the training techniques of a superior officer on the force than an external researcher from a university setting.
  - It would be useful to establish baseline measures of interviewer performance prior to training. This could be used to make 'before' and 'after' comparisons. Pre-training measures may also establish how motivated and interested candidates are about embarking on a training programme. The work of Memon et al. (1994), also suggests that unless they are provided with feedback on their interview methods, police officers will continue to slip into bad practice. Thus one solution to this problem is more extensive practice in the use of CI techniques. According to Koehnken (1995), when interviewers have achieved a level of expertise that allows them to conduct a CI without having to constantly check guidelines regarding interview procedure, the cognitive load on the interviewer is likely to be reduced, enabling the techniques to be used more efficiently. Geiselman and Fisher (1997), in a review of 10 years of research on cognitive interviewing, also stress the importance of providing feedback on interviewer's performance.
  - Memon and Kelling therefore make the following suggestions for training:

    (a) Interviewers should be given adequate training in CI techniques – a two day training programme is recommended.

    (b) A possible strategy would be to direct training to a select group of officers. Fisher (1995) suggested that police forces ought to guide candidates who have the potential to make good interviewers toward the role of investigative detective and poor interviewers toward other aspects of police work. Although this would allow human resources to be employed more efficiently, it assumes poor interviewers won't benefit from training and that training individuals who are already good interviewers will make them even better.

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5. Possible conclusions
• Research into the effectiveness of the CI remains inconclusive.
• There is a need for further research investigating the particular effects the CI has on memory.
• Further research is needed on how the various elements of the CI work.
• It is not yet clear how the CI relates to other interviewing procedures and what would make a suitable control group.
• Interviewers differ in their ability and motivation to conduct a good interview.
• If research is limited to comparisons between interviews with established protocols, such as the CI and SI, the problem of interviewer variability is not alleviated.

Accents of Guilt Effects of Regional Accent, race, and Crime Type on Attributions of Guilt

Dixon, J.A., Mahoney, B., Cocks, R. (2002), *Journal of Language and Social Psychology*, 21(2), 162–168

1. Theory/ies on which the study is based

- Accents may affect listeners' impressions of speakers (Giles, Hewstone, Ryan & Johnson, 1987; Giles and Powesland, 1975).
- Accent evaluation depends on sociolinguistic context (Giles and Coupland, 1991).
- Standard accents are rated more positively than non-standard accents, especially on traits associated with competence or status. Therefore, accent use may systematically (dis)advantage speakers in such institutional contexts as job interviews, medical consultations, and classrooms (Kalin, 1982).
- "Third-class" urban accents are evaluated more negatively than either rural regional or British Received Pronunciation (RP) accents (Giles, 1970; Giles, Baker & Fielding, 1975).
- A foreign accent undermines a person's credibility. Because an accent makes a person harder to understand, listeners are less likely to find what the person says as truthful (Levi-Ari & Keysar, 2010).

2. Background to the study

- The extent to which research relating to the influence of accent can be extrapolated to legal contexts is an important issue. Appraising speakers' competence and credibility is an everyday practice within many legal settings: police interviews, lawyer-client exchanges, insanity hearings, and of course, criminal trials. The effects of accent on attributions of guilt would appear to be an issue of particular concern, yet until this study had received comparatively little research.
- Seggie (1983) investigated the effects of three local accents—British received pronunciation (RP), broad Australian, and Asian—on Australian raters' attributions of guilt. Participants listened to a recorded conversation in which an alleged criminal pleaded his innocence and then assessed his guilt. Seggie found that the suspect's accent significantly influenced raters' responses but that the nature of this influence varied as a function of crime type (blue collar vs. white collar). More guilt was attributed to the broad Australian accent when the suspect was accused of assault (a blue-collar crime), whereas more guilt was attributed to the RP accent when the suspect was accused of theft (a white-collar crime). Seggie also found that accent interacted with crime type to shape assessments of guilt, a finding that may reflect social stereotypes about the likely actions of suspects with standard and nonstandard accents.
- The Brummie accent has been featured in accent evaluation research since the early 1970s and has generally been evaluated more negatively than either rural regional or RP accents (e.g. Giles, 1970; Giles, Baker, & Fielding, 1975).
- Pfeifer and Ogloff, (1991), in a mock trial experiment found that white students rated black defendants as more guilty than white defendants, particularly when the victim was white.
- Research by Stewart (1980) found that in actual trials in the USA that black defendants received longer sentences than white defendants for the same offence. Likewise in a mock jury study, Gordon (1993) found that Black defendants who were accused of assault were evaluated as guiltier than White defendants who were similarly accused.

Accents of Guilt Effects of Regional Accent, race, and Crime Type on Attributions of Guilt

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2. Background to the study . . . *continued*

- In a South African study, Dixon, Tredoux, Durrheim, and Foster (1994) found that a "Coloured" suspect who switched from English into Cape Afrikaans speech was rated as more guilty by White English-speaking listeners than a suspect who did not exhibit speech divergence. Regardless of such accommodative shifts, however, listeners' attributions of guilt were stronger when the suspect was accused of a blue-collar crime (e.g., assault) rather than a white-collar crime (e.g., cheque fraud).
- This study aimed to further document the evaluative consequences of accent in a legal context by investigating the influence of an English regional accent, the Birmingham or "Brummie" accent, on listeners' attributions of guilt toward a criminal suspect. In light of this trend, one might expect Brummie-accented suspects, which are associated with a working-class culture, to receive higher ratings of guilt than standard-accented suspects, which was the main hypothesis of this study. The main hypothesis tested was therefore 'A Brummie-accented suspect will elicit stronger attributions of guilt than a standard-accented suspect'.
- This research also examined the effects of two contextual variables on the attribution of guilt, the suspect's race and the type of crime committed.

3. Research method

- This was a laboratory experiment. The independent variable (IV) was which of the conditions the participant was assigned to – accent type: Brummie/standard, race of suspect: Black/White, crime type: blue collar/white collar. The main dependent variable (DV) was participants' attributions of guilt.
- The experiment used an independent measures design.

4. Sample

- The study took place in the Department of Psychology at the University College–Worcester.
- The sample consisted of 119 White undergraduate psychology students (24 men and 95 women, with a mean age of 25.2 years), who participated as part of their course requirements.
- As the focus was on the reactions of individuals who did not speak with a Brummie accent, participants who grew up in Birmingham were excluded from the sample.

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5. Outline of the procedure/study

- Participants were randomly allocated to one of the conditions.
- They were then asked to listen to a two-minute recorded conversation that was based on a transcript of an interview that occurred in a British police station in 1995. The conversation featured a middle-aged male police inspector interrogating a young male suspect who pleaded his innocence to a crime of which he had been accused. Actors hired for the purposes of the study played both speakers: A standard-accented student in his mid-40s played the role of inspector; the role of suspect was played by a student in his early 20s who spoke with a standard accent. He was a natural code-switcher who grew up near Birmingham and had lived in various parts of England.
- To manipulate accent types, two matched guises of the police interview were created: a guise in which the suspect spoke with a standard accent and a guise in which he spoke with a Brummie accent. (In a pre-test designed to establish the validity of these guises, the Brummie guise was rated significantly higher than the standard guise in terms of strength of accent, $p < .001$, and more than 95% of raters ($n = 40$) were able to identify the regional identity of the Brummie speaker. Moreover, confirming the success of the matching process, the guises did not differ significantly in terms of loudness, though the Brummie guise was rated as higher than the RP guise in terms of speech rate, Because in authentic speech contexts, urban accents tend to be faster than both rural regional and RP accents (Wells, 1982), this difference was not eradicated.
- The two variables were manipulated by varying the information given to respondents as shown in the excerpt below:

Excerpt from the transcript of the taped exchange between suspect (S) and police officer (PO)

PO: Okay, would you like to just briefly tell me what your understanding is of the arrest?

S: Well, eh, I was told last night that I was arrested on suspicion of *armed robbery/cheque fraud*?

PO: Okay. Are you involved in that *robbery/fraud*?

S: No, I'm not.

PO: In any way, are you involved in that *robbery/fraud*?

S: Not in any way whatsoever. It's absolutely not true, not true at all. I speak only for myself and I am not involved in any armed *robbery/fraud*, in any way whatsoever.

PO: Well the person that carried out this crime is described as male, *White/Black* put at 5'9" tall. . . .

Note: The type of crime and race of the suspect variables were manipulated by varying the transcript as indicated.

- Crime type was manipulated by having the suspect accused of different criminal acts, either armed robbery (blue-collar condition) or check fraud (white-collar condition).
- The race of the suspect was manipulated by varying the racial cues provided to respondents. At one point in the taped interview, the police inspector provided a physical description of the person who committed the crime, and this description was systematically altered across experimental conditions.

Accents of Guilt Effects of Regional Accent, race, and Crime Type on Attributions of Guilt

Dixon, J.A., Mahoney, B., Cocks, R. (2002), *Journal of Language and Social Psychology*, 21(2), 162–168

5. Outline of the procedure/study . . . *continued*

- Having listened to their version of the tape-recorded exchange, participants completed two sets of rating scales. First, they rated the suspect's guilt on a seven-point bipolar scale ranging from *innocent to guilty*. Second, they rated the suspect more generally by completing the Speech Evaluation Instrument (SEI), an "omnibus" measure of language attitudes (Zahn & Hopper, 1985).

6. Key findings

- The researchers examined how the independent variables affected participants' scores on the SEI (this measures language attitudes on three dimensions: Superiority, Attractiveness, and Dynamism). Three-way ANOVAs conducted on each factor revealed only one significant result – a main effect for type of speaker on Superiority ratings ($p \leq .001$). Further analysis showed the Brummie suspect was rated lower in Superiority than the RP suspect.
- A significant main effect of speaker accent on participants' guilt ratings was found using a three-way ANOVA test with $p \leq .05$.
- The Brummie suspect was rated as more guilty ($M = 4.27$) than the RP suspect ($M = 3.65$) which is an effect of moderate strength.
- There was a significant three-way interaction: using Newman-Keuls tests results indicated that the Brummie accent/Black suspect/blue-collar cell had significantly higher guilt ratings than the other five cells ($p \leq .05$).
- The use of a stepwise multiple regression analysis, treating guilt as a criterion and the SEI dimensions as predictors, showed that the suspect's Superiority ($p \leq .05$) and Attractiveness ($p \leq .05$) significantly predicted guilt but that Dynamism did not ($\geq .05$). Together, the Superiority and Attractiveness factors accounted for 13% of the variance in participants' guilt ratings ($p \leq .002$).

7. Possible conclusions

- Attributions of guilt may be affected by accent in a British context.
- Nonstandard (English) speakers are perceived as guiltier than standard speakers.
- Suspects speaking with a Brummie accent are more likely to be perceived as guilty of an offence than RP suspects.
- Suspects accused of a blue-collar crime who are Black and speak with a Brummie accent, are likely to be perceived as guilty.
- A suspect's perceived Superiority and Attractiveness may predict whether they are guilty or not guilty.

Note: attributions of guilt are generally made in a far richer evidentiary context than provided through this study, and it is likely that strength of evidence will moderate any effects of accent on legal decision making. (Moreover, accent may interact in complex ways with other social markers (e.g. a suspect's gender and age) to shape legal judgments.

The police and neighbourhood safety: Broken windows

Wilson, J. Q. & Kelling, G. L. (1982), *Atlantic Monthly*, 127, 29–38

1. Theory/ies on which the study is based

- It has been proposed that public opinion in relation to the value of foot- patrolling by police reflects a desire for a *style* of policing. What the public finds attractive about foot patrols is that they are: *non-threatening*, they do not engage the public exclusively in confrontational situations and they serve to reinforce the local community's values and standards, rather than imposing alien norms (Wakefield 2006). http://www.police-foundation.org.uk/uploads/catalogerfiles/the-value-of-foot-patrol/foot_patrol.pdf
- Wilson and Kelling's (1982) eponymous "Officer Kelly", or Skogan and Hartnett's "Officer O'Leary" strolling down the avenue, holding an apple in one hand and twirling a nightstick in the other, shooing away the pesky street urchins as he warmly greets passers-by (1997:12), images which Americans sometimes describe as "Officer Friendly" serve to give the public confidence in their own safety and the safety of their surrounding environment. Community policing is therefore seen as 'reassurance policing'.
- The public's expectations of foot patrol suggest that it is commonly associated with a range of expected outcomes (most frequently, crime prevention and reassurance), and a set of specific policing interventions or activities that the police "should do more of" (such as gathering local intelligence, dealing with disturbances, providing advice on crime prevention or more proactive targeting of criminals). (Wakefield 2006).
- Citizens often associate foot patrol with the "good old days" when crime rates were low and they felt safe in their neighbourhoods. Most citizens like frequent, close contact with the police; they may feel more secure when officers are visible and on the street. http://www.policefoundation.org/content/newark-foot-patrol-experiment

2. Background to the study

- Previous research has shown how features of a community can influence crime rates. Newman (1972) compared the rate of crime in two New York housing projects. Brownsville was designed in small blocks around a courtyard and housed five or six families whilst Van Dyke consisted of high-rise buildings set a distance apart with parkland between. Although the same number of residents lived in both housing complexes, the crime rate was 50% higher in Van Dyke. Newman suggested that four factors were important in explaining the different crime rate: zone of territorial influence, opportunities for surveillance, image, and milieu.
- The debate over the value of police foot patrol as a way to reduce crime rates has raged, virtually unabated, since the 1960s, not only in Britain but throughout much of the developed world.
- In the new millennium, foot patrol has been elevated to the fore of British policing policy, driven by governmental and police concerns about the "reassurance gap" associated with public demand for "more visible, accessible and responsive policing". Five thousand civilian "police community support officers" (PCSOs) have been employed across the police forces of England and Wales, carrying out their foot patrol duties alongside a growing number of police officers and civilian support staff. The Home Office announced plans to provide every area of the country with multi-agency "neighbourhood policing teams" by 2008, designed to be "citizen-focused" and promote local "reassurance". (Wakefield 2006).

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- In 1973, the New Jersey state legislature passed the 'Safe and Clean Neighbourhoods Act'. This legislation sought to create safe, clean neighbourhoods and foot patrol was specifically mandated as part of an effort to expand the presence and visibility of police protection. http://www.policefoundation.org/content/newark-foot-patrol-experiment
- So, in the mid-l970s, the State of New Jersey announced the "Safe and Clean Neighbourhoods Program", designed to improve the quality of community life in twenty-eight cities. The state provided money to help cities take police officers out of their patrol cars and assign them to walking beats. Although the governor and other state officials were enthusiastic about using foot patrol as a way of cutting crime, many police chiefs were sceptical. They believed foot patrols reduced police mobility and made it difficult for them to respond to citizen calls for service. It also weakened headquarters control over patrol officers. Many police officers also disliked foot patrol, but for different reasons: it was hard work, it kept them outside on cold, rainy nights, and it reduced their chances for making a "good pinch." In some departments, assigning officers to foot patrol had been used as a form of punishment. In addition, academic experts on policing doubted that foot patrol would have any impact on crime rates with most feeling it was little more than a sop to public opinion. However, as the state was paying for it, the local authorities were willing to go along.
- Five years after the program started, the Police Foundation, in Washington, D.C., published an evaluation of the project. Based on its analysis of a carefully controlled experiment carried out chiefly in Newark (eight foot-patrol beats in Newark were matched demographically, with foot patrol continued in four randomly selected beats and discontinued in four others. Foot patrol was also initiated in four beats where it had previously not been used), the foundation concluded, unsurprisingly, that foot patrol had not reduced crime rates. However residents of the foot patrolled neighbourhoods seemed to feel more secure than persons in other areas, tended to believe that crime had been reduced, and seemed to take fewer steps to protect themselves from crime (e.g. staying at home with the doors locked). Moreover, citizens in the foot-patrol areas had a more favourable opinion of the police than did those living elsewhere. And officers walking beats had higher morale, greater job satisfaction, and a more favourable attitude toward citizens in their neighbourhoods than did officers assigned to patrol cars.
- This study describes how features of neighbourhoods can influence crime rates, the changing role of the police in the USA, and strategies for maintaining order.

The police and neighbourhood safety: Broken windows

Wilson, J. Q. & Kelling, G. L. (1982), *Atlantic Monthly*, 127, 29–38

3. Research method

- This was an article published in The Atlantic Online in March 1982. It describes features of neighbourhoods that can be linked to high incidences of crime, and developments in policing strategies and changes in the concept of policing initiated in an attempt to reduce crime rates, focusing initially on the usefulness of foot patrols. The article also considers a variety of explanations for the fear of crime and victimisation, and how communities can help maintain order and make their neighbourhoods safe.
- The article can be seen to be composed of three main sections: safe neighbourhoods, the changing role of the police and maintaining order.

4. Outline of the article

Part One - safe neighbourhoods

- To find the answer to the question, how can a neighbourhood be "safer" when the crime rate has not gone down–in fact, may have gone up? requires an understanding of what often frightens people in public places. Many individuals are primarily frightened by crime, especially crime involving a sudden, violent attack by a stranger. This risk is very real, in Newark as in many large cities. However there is another source of fear - the fear of being bothered by disorderly people who are not violent, or, necessarily, criminals, but disreputable or obstreperous or unpredictable people: panhandlers (individuals who ask strangers for money in a public place), drunks, addicts, rowdy teenagers, prostitutes, loiterers, and the mentally disturbed. What foot-patrol officers did in the "Safe and Clean Neighbourhoods Program" was to elevate the level of public order in the neighbourhoods of Newark they patrolled. Though the neighbourhoods were predominantly black and the foot patrolmen were mostly white, this "order-maintenance" function of the police was performed to the general satisfaction of both parties.
- Kelling, himself, spent many hours walking with Newark foot-patrol officers to see how they defined "order" and what they did to maintain it. The population of one typical beat area included both "regulars" and "strangers". The officer on that beat knew who the regulars were and they knew him. As he saw his job, he was to keep an eye on strangers, and make certain that the disreputable regulars observed some informal but widely understood rules e.g. people could drink on side streets but not at the main intersection; bottles had to be in paper bags; talking to, bothering, or begging from people waiting at the bus stop was forbidden. Individuals who broke the informal rules were arrested for vagrancy. Noisy teenagers were told to keep quiet. These rules were defined and enforced in collaboration with the "regulars" on the street. Another neighbourhood might have different rules, but these were the one for this particular neighbourhood. What the officer did could be described as "enforcing the law" though some of the things he did probably would not have withstood a legal challenge. It appeared that judging from the behaviour and remarks made to interviewers, the people of Newark, assign a high value to public order, and feel relieved and reassured when the police help them maintain that order.

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4. Outline of the article . . . *continued*

- At the community level, disorder and crime are usually inextricably linked. Social psychologists and police officers tend to agree that if a window in a building is broken and is left unrepaired, all the rest of the windows will soon be broken – the broken-window theory. This is true in both nice neighbourhoods and in rundown ones. Window-breaking does not necessarily occur on a large scale because some areas are inhabited by determined window-breakers whereas others are populated by window-lovers; rather, one unrepaired broken window is a signal that no one cares, and so breaking more windows costs nothing. (It has always been fun.) Zimbardo (1969) reported on some experiments to test the broken-window theory. He arranged to have an automobile without license plates parked with its hood up on a street in the Bronx and a comparable automobile on a street in Palo Alto, California. The car in the Bronx was attacked by "vandals" within ten minutes of its "abandonment." The first to arrive were a family—father, mother, and young son—who removed the radiator and battery. Within twenty-four hours, virtually everything of value had been removed. Then random destruction began—windows were smashed, parts torn off, upholstery ripped. Children began to use the car as a playground. Most of the adult "vandals" were well-dressed, apparently clean-cut whites. The car in Palo Alto sat untouched for more than a week. Then Zimbardo smashed part of it with a sledgehammer. Soon, passers-by were joining in. Within a few hours, the car had been turned upside down and utterly destroyed. Again, the "vandals" appeared to be primarily respectable whites. Untended property therefore becomes fair game for people for fun or plunder, even for people who ordinarily would not dream of doing such things. The nature of a community makes vandalism more likely in some areas than others but vandalism can occur anywhere once communal barriers – the sense of mutual respect and the obligations of civility – are lowered by actions that seem to signal that "no one cares".
- "Untended" behaviour also leads to the breakdown of community controls. A stable, law-abiding community can easily change to an inhospitable and frightening jungle. If a property is abandoned, it will become derelict and windows get smashed. The behaviour of some of the inhabitants deteriorates, so 'nice' families move out and unattached adults move in. Teenagers start to gather in front of the corner store, the shopkeeper asks them to move; they refuse, fights occur, litter accumulates and the community continues its downward spiral. Although serious crime and violence is not inevitable, residents believe that crime, especially violent crime, is on the increase and so modify their behaviour by using the streets less often, and when on the streets will stay apart from others, moving with averted eyes, silent lips and hurried steps so they "don't get involved". Such areas then become increasingly vulnerable to criminal invasion - drugs will change hands, prostitutes will solicit, cars will be stripped and muggings will occur.
- It is however not easy to move away from such areas. The prospect of a confrontation with an obstreperous teenager or a drunk can be as fear-inducing for defenceless persons such as the elderly as the prospect of meeting an actual robber; indeed, to a defenceless person, the two kinds of confrontation are often indistinguishable. Moreover, the lower rate at which the elderly are victimised is a measure of the steps they have already taken—chiefly, staying behind locked doors—to minimize the risks they face. Young men are more frequently attacked than older women, not because they are easier or more lucrative targets but because they are on the streets more.

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4. Outline of the article . . . *continued*

- It is not only the elderly that fear disorderly behaviour. Susan Estrich, of the Harvard Law School, gathered together a number of surveys on the sources of public fear. One, done in Portland, Oregon, indicated that 75% of the adults interviewed cross to the other side of a street when they see a gang of teenagers; another survey, in Baltimore, discovered that nearly 50% would cross the street to avoid even a single strange youth. When an interviewer asked people in a housing project where the most dangerous spot was, they mentioned a place where young people gathered to drink and play music, despite the fact that not a single crime had occurred there. In Boston public housing projects, the greatest fear was expressed by persons living in the buildings where disorderliness and incivility, not crime, were the greatest. Knowing this helps one understand the significance of such otherwise harmless displays as subway graffiti (Nathan Glazer suggested that the proliferation of graffiti, even when not obscene, confronts the individual with the inescapable knowledge that the environment he must endure whilst on the subway train is uncontrolled and uncontrollable so anyone can invade it and do whatever damage they want).
- In response to fear people avoid one another, weakening controls. Sometimes they call the police. Patrol cars arrive, an occasional arrest occurs but crime continues and disorder is not abated. Citizens complain to the police chief, but he explains that his department is low on personnel and that the courts do not punish petty or first-time offenders. To the residents, the police who arrive in squad cars are either ineffective or uncaring; to the police, the residents are animals who deserve each other. The citizens may soon stop calling the police, because "they can't do anything."
- The process we call urban decay has occurred for centuries in every city. However what is happening today is different in at least two important respects: (i) mobility has become easy for all but the very poor or those who are blocked from moving because of racial prejudice; (ii) the police no longer help to reassert law and order by acting on behalf of the community. This is probably because the role of the police has slowly changed from maintaining order to fighting crimes. In the 1960s, when urban riots were a major problem, social scientists began to explore carefully the order maintenance function of the police, and to suggest ways of improving it—not to make streets safer (its original function) but to reduce the incidence of mass violence. As the crime wave that began in the early l960s continued into the 1970s, attention shifted to the role of the police as crime-fighters.
- Although a great deal was accomplished during this transition, as both police chiefs and outside experts emphasised the crime fighting function in their plans, in the allocation of resources, and in deployment of personnel, which may have made the police better crime-fighters, the link between order-maintenance and crime-prevention, was forgotten. This link is similar to the process whereby one broken window becomes many. The citizen who fears the ill-smelling drunk, the rowdy teenager, or the importuning beggar is not merely expressing his distaste for unseemly behaviour; he is also showing that serious street crime flourishes in areas in which disorderly behaviour goes unchecked. The unchecked panhandler is, in effect, the first broken window.
- Some police administrators concede that this process occurs, but argue that motorized-patrol officers can deal with it as effectively as foot patrol officers. Others, including Wilson and Kelling, are not so sure. In theory, an officer in a squad car can observe as much as an officer on foot; in theory, the former can talk to as many people as the latter. But the reality of police-citizen encounters is powerfully altered by the automobile. An officer on foot cannot separate himself from the street people; if he is approached, only his uniform and his personality can help him manage whatever is about to happen. And he can never be certain what that will be—a request for directions, a plea for help, an angry denunciation, a teasing remark, a confused babble, a threatening gesture. In a car, an officer is more likely to deal with street people by rolling down the window and looking at them. The door and the window exclude the approaching citizen; they are a barrier. Some officers take advantage of this barrier, perhaps unconsciously, by acting differently if in the car than they would on foot.

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4. Outline of the article . . . *continued*

- Most citizens like to talk to a police officer. Such exchanges give them a sense of importance, provide them with the basis for gossip, and allow them to explain to the authorities what is worrying them (whereby they gain a sense of having "done something" about the problem). An individual can approach a person on foot more easily, and talk to him more readily, than a person in a car. Moreover, anonymity can be retained more easily by drawing the officer aside for a private chat.
- The essence of the police role in maintaining order is to reinforce the informal control mechanisms of the community itself. The police cannot, without committing extraordinary resources, provide a substitute for that informal control. On the other hand, to reinforce those natural forces the police must accommodate them which is expensive in terms of both time and personnel.

Part two – the changing role of the police

- Over the past two decades, the shift of police from order-maintenance to law enforcement has brought them increasingly under the influence of legal restrictions, provoked by media complaints and enforced by court decisions and departmental orders. As a consequence, the order maintenance functions of the police are now governed by rules developed to control police relations with suspected criminals.
- The role of the police as watchmen whose main objective was to maintain order has changed to one of detecting and apprehending criminals with the judicial determination of guilt or innocence determined by universal standards under special procedures as the main objective.
- Ordinarily, no judge or jury ever sees the persons caught up in a dispute over the appropriate level of neighbourhood order because most cases are handled informally on the street and no universal standards are available to settle arguments over disorder. Until recently, in many states, the police made arrests on such charges as "suspicious person" or "vagrancy" or "public drunkenness"—charges with scarcely any legal meaning. These charges exist not because society wants judges to punish vagrants or drunks but because it wants an officer to have the legal tools to remove undesirable persons from a neighbourhood when informal efforts to preserve order in the streets have failed.
- Once one starts to think of all aspects of police work as involving the application of universal rules under special procedures, one must inevitably ask what constitutes an "undesirable person" and why should vagrancy or drunkenness be "criminalised"? The commendable desire to see that people are treated fairly makes people worry about allowing the police to rout persons who are undesirable by some vague or parochial standard. A growing and not-so-commendable utilitarianism leads citizens to doubt that any behaviour that does not "hurt" another person should be made illegal. And thus people are reluctant to allow the police to perform, in the only way they can, a function that every neighbourhood desperately wants them to perform.
- Wilson and Kelling think that it is a mistake to "decriminalize" disreputable behaviour that "harms no one" as it removes the ultimate sanction the police can employ to maintain neighbourhood order. Although arresting a single drunk or vagrant who has harmed no identifiable person seems unjust, failing to arrest a group of drunks or a group of vagrants may destroy an entire community. This suggests that a particular rule that seems to make sense in the individual case makes no sense when it is made a universal rule and applied to all cases. It makes no sense because it fails to take into account the connection between one broken window left untended and a thousand broken windows.
- The concern about equity is also serious. How can one ensure that age, skin colour, national origin or harmless mannerisms will not also become the basis for distinguishing the undesirable from the desirable i.e. how can one ensure that the police do not become the mere agents of neighbourhood bigotry? There seems to be no wholly satisfactory answer to this important question.

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4. Outline of the article . . . *continued*

- The Robert Taylor Homes in Chicago is one of the largest public-housing projects in the USA, housing nearly 20,000 black citizens. Not long after it opened, in 1962, relations between project residents and the police deteriorated badly. The citizens felt that the police were insensitive or brutal; the police, in turn, complained of unprovoked attacks on them. Crime rates soared. Today, although the atmosphere has changed and police-citizen relations have improved, problems persist, primarily the presence of youth gangs that terrorise the residents. The people expect the police to "do something" about this but what can they do? Although they can obviously make an arrest when a gang member breaks the law, a gang can form and congregate without breaking the law. If an arrest is the only recourse for the police the residents' fears go unassuaged. This leaves the police feeling helpless and the residents again thinking threat the police "do nothing". What the police actually do in this housing area is chase known gang members out of the area, a strategy the residents know about and approve of. However the substantive problem remains the same: how can the police strengthen the informal social-control mechanisms of natural communities in order to minimize fear in public places? Law enforcement, per se, is no answer: a gang can weaken or destroy a community by standing about in a menacing fashion and speaking rudely to passers-by without breaking the law.
- It may be their greater sensitivity to communal as opposed to individual needs that helps explain why the residents of small communities are more satisfied with their police than are the residents of similar neighbourhoods in big cities. Elinor Ostrom et al. at Indiana University compared the perception of police services in two poor, all-black Illinois towns— Phoenix and East Chicago Heights with those of three comparable all-black neighbourhoods in Chicago. The level of criminal victimisation and the quality of police-community relations appeared to be about the same in the towns and the Chicago neighbourhoods. But the citizens living in their own villages were much more likely than those living in the Chicago neighbourhoods to say that they do not stay at home for fear of crime, to agree that the local police have "the right to take any action necessary" to deal with problems, and to agree that the police "look out for the needs of the average citizen." It is possible that the residents and the police of the small towns saw themselves as engaged in a collaborative effort to maintain a certain standard of communal life, whereas those of the big city felt themselves to be simply requesting and supplying particular services on an individual basis.
- This raises the problem of how should a police chief deploy his meagre forces? Wilson and Kelling offer the following possibilities:
  - Try further variations of the Newark Experiment
  - Have minimal police involvement and use informal methods of social control such as community rules and agreements
  - Employ citizen patrols e.g. the Guardian Angels who patrol the New York City streets.

Part three – maintaining order: the way forward

- Though citizens can do a great deal, the police are plainly the key to order maintenance. However, they cannot do this job by themselves; they need the public's support.
- Psychologists have done many studies on why people fail to go to the aid of persons being attacked or seeking help, and they have learned that the cause is not "apathy" or "selfishness" but the absence of some plausible grounds for feeling that one must personally accept responsibility. Ironically, avoiding responsibility is easier when a lot of people are standing about (diffusion of responsibility).

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4. Outline of the article . . . *continued*

- Police forces in America are losing, not gaining members with some cities suffering substantial cuts in the number of officers available for duty. Some neighbourhoods are now so demoralised and crime-ridden that foot patrols are useless and the best the police can do with limited resources is respond to the enormous number of calls for service. On the other hand some neighbourhoods are so stable and serene foot patrols are unnecessary. The key objective must therefore be to identify neighbourhoods at the tipping point—where the public order is deteriorating but not unreclaimable, where the streets are used frequently but by apprehensive people, where a window is likely to be broken at any time, and must quickly be fixed if all are not to be shattered.
- Unfortunately few police departments have ways of systematically identifying such areas and assigning officers to them. Officers are assigned on the basis of crime rates (meaning that marginally threatened areas are often stripped so that police can investigate crimes in areas where the situation is hopeless) or on the basis of calls for service (despite the fact that most citizens do not call the police when they are merely frightened or annoyed). To allocate patrol wisely, the department must look at the neighbourhoods and decide, from first-hand evidence, where an additional officer will make the greatest difference in promoting a sense of safety.
- Wilson and Kelling suggest the flowing strategies could help communities instil a sense of security and maintain order:
  - Employ private watchmen/security guards
  - Tenant organisations can hire off-duty police officers for patrol work in their buildings – such arrangements are probably more successful that hiring private watchmen and the Newark experiment helps to explain why.
  - Encourage patrol officers to go to and from duty stations on public transportation and, while on the bus or subway car, enforce rules about smoking, drinking, disorderly conduct, and the like. The enforcement need involve nothing more than ejecting the offender.
- It is time to return to the long-abandoned view that the police should protect communities as well as individuals. Just as physicians now recognise the importance of fostering health rather than simply treating illness, so the police ought to recognize the importance of maintaining, intact, communities without broken windows.

5. Possible conclusions

- Features of neighbourhoods influence crime rates.
- The role of the police has changed over recent years.
- Policing strategies are continually changing.
- Foot patrols enhance community feelings of safety.

Study of prisoners and guards in a simulated prison

Haney, C., Banks, W. C. & Zimbardo, P. G. (1973), *Naval Research Reviews*, 9, 1–17

1. Theory/ies on which the study is based

- Attempts to provide an explanation of the deplorable condition of the American penal system and its dehumanising effects upon prisoners and guards often focus on what is known as the dispositional hypothesis. In relation to this study this would mean that the state of the social institution of prison is due to the 'nature' of the people who administer it, or the 'nature' of the people who populate it, or both i.e. a major contributing cause to the despicable conditions, violence, brutality, dehumanisation and degradation existing within any prison can be traced to some innate or acquired characteristic of the correctional and inmate population. (Haney, Banks & Zimbardo, 1973). This hypothesis would propose that both prisoners and guards have personalities or dispositions that make conflict inevitable. Prisoners are, by definition, lacking in respect for law and order. As guards have to be domineering and use physical force to control aggressive inmates, they are likely to be attracted to the job because of a desire for power (an aspect of their personality). If this is so, it is obvious why conflict occurs. Both prisoners and guards are inevitably 'evil'.
- The application of the dispositional hypothesis is a simplistic view that directs attention away from the complex matrix of social, economic and political forces that combine to make prisons what they are and allows rioting prisoners to be identified, punished, transferred to maximum security institutions or shot (remember this study was conducted in the USA in 1973) and corrupt officials suspended, while the system itself goes on in essentially unchallenged. (Haney, Banks & Zimbardo, 1973).
- A *situational hypothesis* is the idea that conditions in a situation determine behaviour i.e. the social structure and conditions of an institution cause the behaviour of the people living and working in them. Individuals will therefore play their allocated roles in ways they believe is required by the social situation they are in.
- In this study therefore the situational hypothesis, as favoured by Haney, Banks & Zimbardo, proposed that the social structure and conditions of a prison cause the behaviour of prisoners and guards alike.

2. Background to the study

- Although the physical conditions within prisons have improved over the years, the social institution of prison has continued to fail. On purely pragmatic grounds, there is substantial evidence that prisons really neither 'rehabilitate' nor act as a deterrent to future crime – in America at the time this study was conducted, recidivism rates were upwards of 75%. (Haney, Banks & Zimbardo, 1973).
- Two subsequent studies came close to providing national recidivism rates for the United States. One tracked 108,580 state prisoners released from prison in 11 states in 1983. The other tracked 272,111 prisoners released from prison in 15 states in 1994. The prisoners tracked in these studies represent two-thirds of all the prisoners released in the United States for that year. An estimated 67.5% of prisoners released in 1994 were rearrested within three years, an increase over the 62.5% found for those released in 1983. The 1994 recidivism study estimated that within three years, 51.8% of prisoners released during the year were back in prison either because of a new crime for which they received another prison sentence, or because of a technical violation of their parole. This rate was not calculated in the 1983 study. (http://www.bjs.gov/content/reentry/recidivism.cfm).

Study of prisoners and guards in a simulated prison

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2. Background to the study . . . *continued*

- Another study tracked 404,638 prisoners in 30 states after their release from prison in 2005. The researchers found that:
  - Within three years of release, about two-thirds (67.8%) of released prisoners were rearrested.
  - Within five years of release, about three-quarters (76.6%) of released prisoners were rearrested.
  - Of those prisoners who were rearrested, more than half (56.7%) were arrested by the end of the first year.
  - Property offenders were the most likely to be rearrested, with 82.1% of released property offenders arrested for a new crime compared with 76.9% of drug offenders, 73.6% of public order offenders and 71.3% of violent offenders. (http://www.nij.gov/topics/corrections/recidivism/Pages/welcome.aspx).
- Prisons have also been found to fail on humanitarian grounds. The mass media are increasingly filled with account of atrocities committed daily, man against man, in reaction to the penal system or in the name of it. (Haney, Banks & Zimbardo, 1973).
- The customary explanation for the dreadful conditions of the American penal system and its dehumanising effects on both prisoners and guards is based on the dispositional hypothesis. However Haney, Banks & Zimbardo claimed that this proposition could not be critically evaluated through direct observation 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.' (Haney, Banks & Zimbardo, 1973).
- Therefore to separate the effects of the prison environment itself from the natural dispositions of its inhabitants they created a 'new / simulated' prison. This was comparable in its fundamental socio-psychological milieu to existing prison systems but was entirely populated by individuals who were undifferentiated in all essential dimensions from the rest of society. If the guards and prisoners in a mock prison behaved in a non-aggressive manner, this would support the dispositional hypothesis. On the other hand, if these 'ordinary' people came to behave in the same way that we see in real prisons, then one can conclude that the environment plays a major role in influencing behaviour.
- No specific hypotheses were proposed other than the general one that the assignment to the role of 'guard' or 'prisoner' would result in significantly different reactions on behavioural measures of interaction, emotional measures of mood state and pathology, attitudes towards self, as well as other indices of coping and adaptation to the novel situation. The aim of the study was therefore to investigate the effects of an environment on a group of students, and to see if the roles they were randomly assigned to play would significantly influence their behaviour.
- This study shows some possible effects of imprisonment and offers possibilities for prison reform.

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3. Research method

- This was a laboratory experiment. Although designed to be as naturalistic as possible with the 'mock' prison being designed and constructed in a similar way to a 'real' prison, it actually occupied a 35-foot section of the basement corridor in the psychology building of Stanford University, had only three small cells (converted laboratory rooms) and the prison 'yard' was a small enclosed room made to represent a fenced prison grounds. In addition the participants who played the roles of prisoner or guard were not genuine prisoners (they had committed no crime) or guards (they had undergone no training for this job).
- The independent variable (IV) was the condition participant was randomly allocated to i.e. the role of prisoner or guard. The dependent variable (DV) was the resulting behaviour.
- The study used an independent measures design.

4. Sample

- 22 males who participated in the experiment were selected from an original pool of 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. The volunteers completed a questionnaire concerning his family background, physical and mental health history, prior experience and attitudinal propensities with respect to sources of psychopathology (including their involvements in crime). Each respondent was interviewed by one of two experimenters. The 24 individuals who were deemed to be the most stable (physically and mentally), most mature, and least involved in anti-social behaviours were selected. On a random basis, half of the participants were assigned to the role of 'guard' and half to the role of 'prisoner'.

  All participants were normal, healthy male college students who were in the Stanford area during the summer. They were largely of middle-class socio-economic status and Caucasians (with the exception of one Oriental participant).They did not know each other as existing friendships may have affected the study, or may have led to the breakup of the friendship. Two standby prisoners were not called and one guard dropped out before the start of the study which left 10 prisoners and 11 guards.
  This final sample was administered a battery of psychological tests on the day prior to the simulation, but to avoid any selective bias on the part of the experimenter-observers, scores were not tabulated until the study was completed.

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5. Outline of the procedure/study

- **Physical aspects of the prison**

  The prison was built in a 35-foot section of a basement corridor in the psychology building at Stanford University. It was partitioned by two fabricated walls; one was fitted with the only entrance door to the cell block and the other contained a small observation screen. Three small cells (6 x 9 ft.) were made from converted laboratory rooms by replacing the usual doors with steel barred, black painted ones, and removing all furniture.

  A cot (with mattress, sheet and pillow) for each prisoner was the only furniture in the cells. A small closet across from the cells served as a solitary confinement facility; its dimensions were extremely small (2 x 2 x 7 ft.) and it was unlighted.

  In addition, several rooms in an adjacent wing of the building were used a guards' quarters (to change in and out of uniform or rest and relaxation), a bedroom for the 'warden' and 'superintendent', and an interview-testing room. Behind the observation screen at one end of the 'yard' (small enclosed room representing the fenced prison grounds) was video recording equipment and sufficient space for several observers.

- **Operational details**

  The prisoners remained in the mock prison 24 hours per day for the duration of the study. Three were arbitrarily assigned to each of the three cells; the others were on stand-by call at their homes. The guards worked on three-man, eight-hour shifts; remaining in the prison environment only during their working shift and going about their usual lives at other times.

- **Role instructions**

  All participants were told they would be randomly assigned to the guard or prisoner role and all had voluntarily agreed to play either role for $15 per day for up to two weeks. They signed a contract guaranteeing a minimally adequate diet, clothing, housing and medical care as well as the financial remuneration in return for playing their assigned role for the duration of the study. The contract made it clear that those assigned the role of prisoner should expect to be under surveillance (have little or no privacy) and that some of their human rights would be suspended. They were given no further information but were informed by phone to be available at their place of residence on a given Sunday when the experiment would start. Those assigned the role of guard attended an orientation meeting on the day prior to the induction of the prisoners. At this time they were introduced to the principal investigators, the 'Superintendent' of the prison (The author, Zimbardo) and an undergraduate research assistant who assumed the administrative role of 'Warden'. They were told that the aim was to simulate a prison environment and, although given no specific instructions as to how to behave, told that their assigned task was to 'maintain a reasonable degree of order within the prison necessary for its effective functioning' without the use of any physical punishment or physical aggression. The 'Warden' instructed the guards in administration details including: the work shifts, the mandatory completion of shift reports concerning the activity of guards and prisoners, the completion of 'critical incident' reports which detailed unusual occurrences, and the administration of meals, work and recreation programmes for the prisoners. To help the guards get into their roles they assisted in the final phases of completing the prison complex by putting the cots in the cells, putting signs on the walls, setting up the guards' quarters, moving furniture, water coolers, refrigerators etc.

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5. Outline of the procedure/study

- **Uniforms**

  In order to promote feelings of anonymity, participants in each group were issued with identical uniforms.

  Prisoners wore loose fitting muslin smocks with identification numbers on front and back, a cap made from a nylon stocking, no underwear, rubber sandals and a light lock and chain around one ankle. They were issued washing gear (toothbrush, soap, soap dish, towel) and bed linen but were not allowed personal possessions.

  Guards wore plain khaki shirts and trousers and reflective sunglasses (to make eye contact impossible) and carried a wooden baton and whistle.

  The khaki uniforms were intended to convey a military attitude, while the whistle and baton were carried as symbols of power.

  The prisoners' uniforms were designed not only to deinviduate the prisoners but also to be humiliating and serve as symbols of their dependence and subservience. The ankle chain was a constant reminder (even during their sleep when it hit the other ankle) of the oppressiveness of the environment. The stocking cap removed any distinctiveness associated with hair length, colour or style. The ill-fitting uniforms made the prisoners feel awkward in their movements; since the smocks were worn without underclothes, the uniforms forced them to assume unfamiliar postures, more like those of a woman than a man – another part of the emasculating process of becoming a prisoner. Dressing the guards and prisoners in this manner served to enhance group identity and reduce individual uniqueness.

- **Induction procedure**

  With the co-operation of the Palo Alto City Police Department, prisoners were unexpectedly arrested from their homes, the day before the study was due to start. A police officer charged them with suspicion of burglary or armed robbery, advised them of their legal rights, handcuffed them, thoroughly searched them (often as curious neighbours looked on) and took them off to the police station in the back of a police car. At the station they went through the standard procedure of being fingerprinted, having an identification file prepared and then being placed in a detention cell. Each prisoner was then blindfolded and driven by one of the experimenters and a guard participant to the mock prison.
  Upon arrival at the mock prison each prisoner was stripped, deloused (with a harmless deodorant!) and made to stand alone, naked for a while in the cell yard. He was then given a prisoner's uniform, had an ID photograph taken, put in his cell and ordered to remain silent.

- **Administrative routine**

  When all the cells were occupied the warden greeted the prisoners and read them the prison rules (developed by the guards and the warden). They were to memorise and follows these rules. From this moment onwards they were referred to by number only.

  Prisoners were to be served three bland meals a day, allowed three supervised toilet visits, and given two hours daily for reading or letter writing. Work assignments were issued for which prisoners were to receive an hourly wage to constitute their $15 daily payment. Two visiting periods per week were scheduled as were movie rights and exercise periods. Three times a day prisoners were lined up for a 'count' (one on each guard shift) – this was to ascertain that all prisoners were present and to test them on their knowledge of the rules and their ID numbers. The first 'count' lasted about 10 minutes but as the study progressed was spontaneously increased in duration until some lasted several hours.

- Subsequent behaviour by both guards and prisoners was observed by the researchers in the observation room and recorded on video tape.

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6. Key findings

- The experiment had to be stopped after 6 days principally because of the pathological reactions of the participants. The results were recorded by observation but were backed up by video and audio tape, dialogue, self-report questionnaires and interviews.
- In general, guards and prisoners showed a marked tendency toward increased negativity with the nature of their interactions becoming increasingly hostile, affrontive and dehumanising.
- As the experiment progressed, prisoners expressed intentions to do harm to others more frequently.
- For both prisoners and guards, self-evaluations were more deprecating as the experience of the prison environment became internalised.
- From the beginning the prisoners adopted a generally passive response mode whilst the guards assumed a very active initiative role in all interactions.
- Although physical violence was prohibited, varieties of less direct aggressive behaviour were frequently observed, especially by the guards, with verbal affronts being used as one of the most frequent forms of interpersonal contact between guards and prisoners.
- The most dramatic impact of the situation was seen in the extreme reactions of five prisoners who had to be released because of extreme emotional depression, crying, rage and acute anxiety. When the experiment was terminated prematurely, all the remaining prisoners were delighted with their unexpected good fortune whereas most of the guards seemed to be distressed by the decision to stop the experiment as it appeared they had become absorbed in their roles and enjoyed the extreme control and power which they exercised and were reluctant to give it up.
- None of the guards ever failed to come to work on time for their shift and, on several occasions, they 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 to become one of them – but never did.
- Some guards were tough but fair; some went far beyond their roles to engage in creative cruelty and harassment, while a few were passive and rarely instigated any coercive control over the prisoners.
- When private conversations of the prisoners were monitored, it was found that 90% of what was talked about was directly related to immediate prison conditions i.e. food, privileges, punishment, guard harassment etc. with only 10% of their conversations being concerned with their lives outside the prison.
- Likewise, during their relaxation breaks, the guards either talked about 'problem prisoners', other prison topics, or did not talk at all.
- There were few instances of any personal communication across the two groups of participants.
- Post experimental data showed that when individual guards were with solitary prisoners and out of range of any recording equipment, as on the way to the toilet, harassment was often greater than it was on the 'Yard'. Similarly, video-taped analyses of total guard aggression showed a daily escalation even after most prisoners had ceased resisting and prisoner deterioration had become visibly obvious. One guard even detained an 'incorrigible' prisoner in solitary confinement beyond the duration set by the guards' own rules, and then conspired to keep him in the hole all night while attempting to conceal this information from the experimenters who were thought to be too soft on the prisoners.

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6. Key findings . . . *continued*

- When questioned after the study about their persistent affrontive and harassing behaviour in the face of prisoner emotional trauma, most guards replied that they were 'just playing the role' of a tough guard, although none ever doubted the validity of the prisoners' emotional response.
- When introduced to a Catholic priest, many of the prisoners referred to themselves by their prison number rather than their Christian names.
- During a parole board hearing when each of five prisoners eligible for parole was asked whether he would be willing to forfeit all the money earned as a prisoner if he were to be paroled, three of the five said "Yes". When told the possibility of parole would have to be discussed with the members of staff before a decision could be made, each prisoner got up quietly and was escorted by a guard back to his cell to await the decision.
- After initial disbelief of how they were being treated, followed by rebellious behaviour which ultimately failed to be successful, various coping strategies were employed by the prisoners. Half the prisoners were seen to demonstrate symptoms of depression by crying, or being angry and very anxious, thus becoming 'sick' as a passive way of demanding attention and help, whilst others became excessively obedient by trying to be 'good'.
- The prisoners developed the 'Pathological Prisoner Syndrome' and became extremely negative, either shown as depression or as excessive obedience. This situation was thought to be brought about due to: the loss of personal identity, the arbitrary control showed by the guards, dependency and emasculation (reinforced by their uniforms which resembled frocks or dresses, lack of underwear etc.).
- The guards became absorbed in what has been described as the 'Pathology of Power' where they enjoyed and misused the power they felt they had been given. This was demonstrated in terms of the increasingly extreme sanctions, punishment, demands made on the prisoners e.g. after the first day, practically all prisoner rights were redefined by the guards as 'privileges' which were to be earned through obedient behaviour. 'Reward' then became granting approval for prisoners to eat, sleep, go to the toilet, talk, smoke, and wear glasses.

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7. Possible conclusions

- Being confined within a prison environment can have great, negative effects on the affective states of both guards and prisoners.
- Being confined within a prison environment can have great, negative effects on the interpersonal processes that take place between prisoners and guards.
- Incarceration can lead to prisoners developing a pathological prisoner syndrome (demonstrated through initial disbelief followed by rebellion which, after failure, is followed by a range of negative behaviours and emotions).
- Prison guards can develop a pathology of power (demonstrated through huge enjoyment and misuse of the power at their disposal)
- Ordinary individuals can play given roles to extremes.
- There are individual differences in the way people cope in novel experiences.
- The punishment of being imprisoned in a real prison does not 'fit the crime' for most prisoners – in fact it far exceeds it! (Haney, Banks & Zimbardo, 1973).
- The prison environment locks both guards and prisoners into a dynamic, symbiotic relationship which is destructive to the human nature of both. (Haney, Banks & Zimbardo, 1973).

Note: It must be remembered that ethical, legal and practical considerations set limits upon the degree to which this simulation could approach the conditions existing in real prisons. Absent were some of the most salient aspects of prison life e.g. there was no involuntary homosexuality, no racism, no physical beatings, no threat to life by prisoners against each other or the guards and the maximum anticipated 'sentence' was only two weeks.


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