

ESSAYS IN CRIMINAL
AND FORENSIC
PSYCHOLOGY NO. 4

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1. JUVENILE DELINQUENCY AND THE MORAL VIEWPOINT

- 1.1. Introduction
- 1.2. Moral reasoning
- 1.3. Tarry and Emler (2007)
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1.1. INTRODUCTION

Juvenile delinquency involves aggression towards others, theft, and wilful property damage (Tarry and Emler 2007). There has been much interest in the link between it and the "moral viewpoint" of perpetrators. One general view is that there is a lack of moral concern, while others suggest that delinquents have a different moral point of view to non-delinquents.

The first problem to address is what is meant by a "moral viewpoint". It includes socio-moral attitudes, moral values, and moral reasoning (Tarry and Emler 2007). The former two include promise keeping, truth-telling, and attitudes towards authority.

1.2. MORAL REASONING

This refers to the ability to think about moral questions, and, according to theorists like Kohlberg, develops in a series of stages (appendix 1A).

In Kohlberg's (eg: 1963) theory, each successive stage is a distinct way of reasoning about morality, and with each stage the individual is more likely to do what they judge to be morally right.

Stage 2 of the theory focuses on personal needs, and is predicted as most likely to be associated with delinquency (Kohlberg 1978). Some studies support this relationship (eg: as reviewed by Gibbs 2003; Palmer and Hollin 1998; table 1.1), while others do (eg: as reviewed by Smetana 1990).

- AIM: To compare moral reasoning between male delinquents, and male and female non-delinquents.
- METHOD: 126 convicted offenders in Young Offenders Institution, 122 male and 210 female non-offenders. All from the Midlands, and all aged 13-22 years old. All participants given Socio-Moral Reflection Measure-Short Form (SRM-SF).
- RESULTS: The delinquent group showed less mature moral reasoning

than the non-delinquent group. For the male groups, there was a significant difference on 10 of the 11 questions, and the female non-delinquents on seven of the questions.

- CONCLUSION: There are clear differences in moral reasoning between delinquents and non-delinquents.

Table 1.1 - Details of Palmer and Hollin (1998).

Tarry and Emler (2007) suggested three problems with the studies which accounted for the differences in findings:

i) Failure to match delinquents and non-delinquents for age, gender, IQ, social class, and ethnicity.

ii) The use of indirect measures of delinquency, like teacher ratings, which usually focus on what is said rather than what is actually done. Self-reporting, though not perfect, is a more direct measure.

iii) The influence of the environment, particularly if individuals are placed in juvenile offender institutions.

Another problem is that offending covers a wide variety of offences: offences for financial gain (like theft) or not (like sexual offences). While Kohlberg's theory is based upon how individuals respond to hypothetical moral dilemmas not real-life situations (Brewer 2000).

The concept of moral development itself is not without problems. It can include many different facets, like moral reasoning, but also the development of the conscience, and actual pro and anti-social behaviour. Hollin (1989) also made the distinction between the content and process of moral reasoning. The former involves the beliefs about right and wrong, and the process is how the individual decides what to do. Thus many people know something is wrong, but will still do it. Carroll and Weaver (1986) argued that the likelihood of being caught is more important than morality before a crime is committed.

1.3. TARRY AND EMLER (2007)

Tarry and Emler (2007) investigated the relationship between aspects of the moral viewpoint and delinquency among 789 12-15 year-old boys drawn from three all-male comprehensive schools in London. The Socio-Moral Reflection Measure - Short Form (SRM-SF; Gibbs et al

1992) was used to measure two aspects of the moral viewpoint. It involves eleven items related to areas like promise keeping, truth, and legal justice, which are rated as "not important" (0), "important" (1), or "very important" (2). This was the rating of moral values, and a higher score was more "moral".

Seven of the items were used to establish the stage of moral reasoning based on previously collected means. A higher score meant a higher stage of moral reasoning on Kohlberg's theory.

Delinquent behaviour was self-reported from twenty-four items (table 1.2) in the last twelve months, and scored from "never" to "several times" (0-3). A higher score reflected more delinquent behaviour.

- (1) Thrown stones at cars, trains, buses or other vehicles.
- (2) Purposely destroyed, damaged or defaced people's private property or belongings.
- (3) Smashed, slashed or damaged things in public places, eg: in streets, cinemas, pubs, clubs, trains, buses, etc.
- (4) Sold illegal drugs to other people.
- (5) Purposely annoyed, insulted or taunted strangers in the street.
- (6) Thrown things, such as stones, at other people.

- (7) Struggled or fought to get away from a police officer.
- (8) Written on walls in public places with spray paint.
- (9) Drunk alcohol whilst not at home and not in a pub, eg: in a park.
- (10) Trespassed in places you were not supposed to go, e.g: railway lines, goods yards, private gardens, empty houses, factories, etc.
- (11) Broken the windows of empty houses.
- (12) Stolen school property worth more than about £1.00.

- (13) Driven a car on the roads when under the age of 17, or driven a motor bike or motor scooter on the roads when under the age of 16.
- (14) Stolen money from slot machines, juke boxes, public telephones, etc.
- (15) Deliberately littered the street or pavement by smashing bottles, tipping over dustbins, etc.
- (16) Stolen property from a deserted house or flat
- (17) Purposely annoyed, insulted or taunted one of your teachers.
- (18) Found property belonging to other people and failed to return it.

- (19) Been involved in a group fight.
- (20) Got money by lying.
- (21) Purposely annoyed, insulted or defied a police officer.
- (22) Set fire on purpose to something not belonging to you.
- (23) Threatened someone with a weapon.
- (24) Refused to tell a police officer or other official what you knew about a crime.

(Source: Tarry and Emler 2007 appendix 1 p183)

Table 1.2 - Measure of delinquent behaviour.

After controlling for variables like age, IQ, ethnicity, and social class, the following relationships were found between the measures (figure 1.1):

- Significant negative correlation ($r = -0.47$) between self-reported delinquency and attitudes towards authority. Thus, individuals reporting delinquent behaviour had less positive attitudes towards authority, and vice versa.
- Significant negative correlation ($r = -0.27$) between self-reported delinquency and moral values. Thus, higher delinquency went with lower moral values, and vice versa.
- No significant correlation ($r = -0.04$) between delinquency and moral reasoning level.

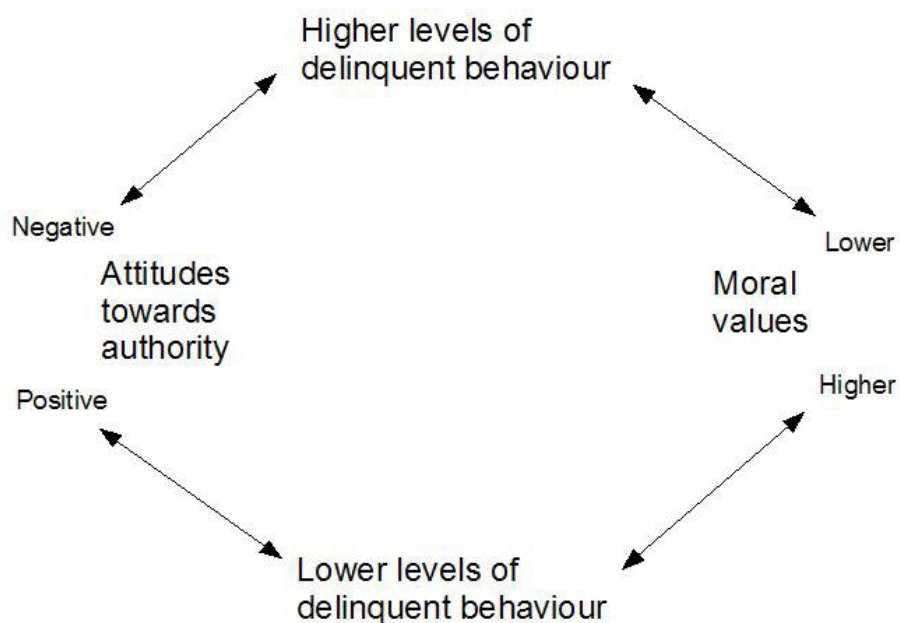


Figure 1.1 - Significant correlations found by Tarry and Emler (2007).

Self-reported measures of delinquency depend upon the honesty and accuracy of the respondents as there was no verification of the answers given. The boys may have lied (ie: knowingly given a false answer) to hide their "crimes" or exaggerated for their "image" (though the questionnaire was anonymous), or forgotten the information ("honest liar"). The questionnaires were administered in the classroom by teachers, which, for some individuals with negative attitudes towards authority, may have encouraged a falsifying of answers.

Some respondents may also be suspicious about the anonymity, and believed that the researchers (authorities) could find out who said what. Also certain

items used are ambiguous, or, at least, open to interpretation - eg: "purposely annoyed, insulted or taunted one of your teachers" or "found property belonging to other people and failed to return it".

1.4. APPENDIX 1A - KOHLBERG'S THEORY OF MORAL DEVELOPMENT

Kohlberg describes six sequential stages (or three levels) of moral development. Based on the responses to a problem like the "Heinz dilemma" (table 1.3), Kohlberg ascertained individuals' level of moral development.

- A woman is dying from a special kind of cancer and only one drug would save her. The drug is not expensive, but is priced ten times higher than its price to manufacture. Heinz, the woman's husband, cannot get enough money to buy it, and the chemist will not sell it cheaper. Should Heinz steal the drug? Why?

Table 1.3 - Heinz dilemma.

From the analysis of the answers, Kohlberg identified thirty aspects, which were developed into the six stages (table 1.4).

Level 1 Preconventional Morality

- Stage 1: punishment and obedience orientation - rules are kept in order to avoid punishment; there is no internalisation of moral standards.
- Stage 2: instrumental relativist and naive-hedonistic orientation - the "right action" performed to gain rewards for the self; there is consideration of others only when it benefits the self.

Level 2 Conventional Morality

- Stage 3: "good boy/nice girl" orientation - socially acceptable standards important; winning the approval of others dominates moral thinking.
- Stage 4: "law and order" orientation - respect for authority and the values of society are what matters here; also important is "doing one's duty".

Level 3 Post Conventional Morality

- Stage 5: social-contract legalistic orientation - the majority opinion of society is important; this stage can be summarised as "the greatest good for the greatest number".
- Stage 6: universal principles of convenience - self chosen ethical guidelines based on equality and respect for all.

Table 1.4 - Kohlberg's stages of moral development.

Subsequent research suggested that stages 5 and 6 are more hypothetical, and only a few individuals achieve that level of morality.

The lower levels are concrete in thinking, and then they become more abstract, based around ideas of "justice" and "rights".

Kohlberg believed that offenders have had a delay in the development of their moral reasoning, so that when there is temptation offered, they cannot resist it. They do not have the appropriate internal moral reasoning to do so.

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2. MORAL PANIC AND PAEDOPHILE STRANGER-DANGER

- 2.1. Introduction
- 2.2. "News of the World" campaign 2000
- 2.3. Fear of the risk to children
- 2.4. References

2.1. INTRODUCTION

Cohen (1973) noted that "societies appear to be subject, every now and then, to periods of moral panic. A condition, episode, person or group of persons emerges to become defined as a threat to societal values and interests; its nature is presented in a stylised and stereotypical fashion by the mass media" (quoted in Critcher 2002 p527). The process of moral panic can be summarised in six stages (Critcher 2002):

- i) Emergence and naming of a new problem;
- ii) Sensational treatment by the media;
- iii) Construction of a "folk devil";
- iv) Moral condemnation of the threat by this "folk devil";
- v) Support of pressure groups and experts to confirm validity of problem;
- vi) New laws to deal with the problem.

The important points about a moral panic is that the problem has not really suddenly appeared, it is that the media has now focused upon it, and that the reaction to it is out of proportion to the risk.

2.2. "NEWS OF THE WORLD" CAMPAIGN 2000

Critcher (2002) highlighted the example in the summer of 2000 of the "News of the World's" (NOW) ¹ campaign to change the law on "paedophile crime" after the murder of an eight year-old girl in England. The focus of the campaign was upon the "stranger danger" (which statistically is the lesser risk for sexual abuse than the family). The murder that sparked the campaign

¹ High circulation British "tabloid" Sunday newspaper.

produced the media response, whereas little media coverage was given to the equivalent cases in the early 1990s (Critcher 2002) ².

In July 2000, a few days after the young girl's body was found (and with no clear cause of death or evidence of sexual assault officially established), the NOW presented it as a "paedophile murder" ³, and began a campaign to "name and shame" known paedophiles ⁴. This included the photographs, offences, and current location of forty-nine convicted child sex offenders ⁵.

This campaign produced "monsters" - "Should you require a definition, monsters are people who, because of their abominable behaviour, cannot be redeemed. They have forfeited all rights to be treated as human beings... Just as important, anyone who shows even the least understanding or compassion for them is either mad or bad, or both" (Greenslade 2000 p70).

Subsequently, the NOW campaign focused on literal "life sentences" for convicted child sex offenders, and public access to the local Sex Offenders Register. Soon afterwards, vigilante attacks were reported in, for example, Portsmouth (Hampshire - southern England) on a named child sex offender ⁶.

Writing around the time, a columnist in another British tabloid summed up the fears:

² Greenslade (2000) noted that the first tabloid references to paedophiles in the 1950s in Britain equated it with homosexuality (which was illegal at the time).

³ Issue on 23rd July 2000.

⁴ "Paedophilia" is a technical category of mental illness from the DSM-IV which focuses upon the sexual attraction towards children. In everyday life, this term has come to mean "child sex offender" (ie: individuals who abuse children and break the law). "As far as paedophilia is concerned, the term - which has only recently come into common use - has come to mean whatever newspapers have wanted it to mean. It has been extended in tabloid use to cover a whole range of activities — from abduction and murder to the viewing of pornography and indecent exposure — which has enlarged the number of possible offenders and, naturally, the number of possible 'monsters'. But the widening of the net has also served to narrow the public debate and concealed an unpalatable truth: that most strictly paedophile activity is a form of incest, in which fathers — and, more usually, common-law stepfathers - force themselves on a child. But this uncomfortable fact does not fit with the press's refrain about the importance of family values, and conflicts with its desire to play on fears of the itinerant bogeyman who represents a potential threat to the life of every child. To run a campaign against the monster lurking in the home would probably cause a boycott of the paper" (Greenslade 2000 p74).

⁵ McAlinden (2005) argued that "disintegrative shaming", of which this type represents, is more likely to increase stigmatisation, ostracism, and a return to offending behaviour. While "reintegrative shaming", which affirms the offender's membership of society, does show evidence of reducing recidivism.

⁶ Bell (2005) argued that the issue was more about the high risk of re-offending rather than child sexual abuse in general. The NOW (23rd July 2000) quoted an "expert on cases of child abduction" who said that "once a paedophile starts to offend they have urges that don't go away" (quoted in Bell 2005). This emphasised the incurability and dangerousness of such individuals.

Paedophiles are cunning, devious, ruthless and incurable.. There are large paedophile rings in every town. There are paedophile killers living in safe houses at the expense of the state. Police officers and social workers are forced to protect men who only want to defile unformed bodies. Our prisons are overcrowded and overburdened with perverts who are a danger to the outside world. Through the internet, their numbers are growing and their sick desires are being inflamed. They're arrogant, vile and believe they are above the law (Lynda Lee-Potter, "Daily Mail" quoted in Critcher 2002 p531).

This a nice example of the view that "if only 'evil strangers' could be banished then the sun would shine on childhood once more" (Scott et al 1998 p690) ⁷. Three-quarters of the perpetrators of violence against children are parents and other relatives. The children most at risk from murder are those in the first year of life, and those at least risk are 5-15 year-olds. In the UK, in most recent years, approximately six children under fourteen are killed by strangers compared to 600 per year who die in accidents (Scott et al 1998).

2.3. FEAR OF THE RISK TO CHILDREN

Moral panics usually relate to crime and delinquency in some way, and the object of the panic becomes the focus on anxiety. "Because anxiety is diffuse, it is free-floating; lacking a specific object, it can come to be pinned to items, traits or situations which have an oblique (although unconsciously precise) reaction to whatever originally provoked it" (Giddens 1991). The NOW campaign in 2000 linked to a sense of anxiety around the risks to children in the modern world (and more precisely, the children's innocence).

"A number of key antinomies have emerged in relation to children and childhood in late modernity: in particular, contradictions between recognising children's autonomy and the increasing emphasis on child protection; the paradoxical perception of children as both at risk and as a potential threat to other children and to social order. These contradictions may be expressed as tensions between two conceptualisations of children: as active, knowing, autonomous individuals, on the one hand, and as passive, innocent dependants, on the other" (Scott et al 1998 p689).

⁷ The headlines in the NOW played on the fears of parents; eg: "There are 110 000 child sex offenders in Britain, one for every square mile.. Does a monster live near you?" (23rd July 2000; quoted in Bell 2005).

Risk is viewed differently today not because "day to day life is inherently more risky than was the case in prior eras" (Giddens 1991), but that the perception has changed. For example, a greater awareness of the amount of and different types of risks around the world, the increased reporting of risky events in the globalised media, the fact that many of these risks cannot be entirely removed, and the conflicting nature of risk (eg: child immunisation reduces the risk of the illness versus the risk of damage from the vaccine). Add to this, the increasing construction of individual choice, control and autonomy over life (whether this may be true or not) resulting in an expectation of zero risk and 100% safety. The upshot is that risk is something that individuals must manage.

Specifically, in relation to children, "Parents are not only responsible for caring for children they are also held responsible for their children's well-being and conduct and are thus accountable if their children are victimised or if they victimise others" (Scott et al 1998 p702).

2.4. REFERENCES

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3. PERSONALITY DISORDERS AND MEASURING (CRIMINAL) PSYCHOPATHY

- 3.1. Personality disorders
- 3.2. Psychopathy
 - 3.2.1. Criticisms of PCL
- 3.3. Research on psychopathy
- 3.4. Social construction of psychopathy
- 3.5. References

3.1. PERSONALITY DISORDERS

"Personality disorders cannot be considered an illness in its narrow sense. In fact, this class of disturbance is considered as an anomaly of the psychological development.., which includes disharmony in affectivity, excitability, and impulse integration deficiency in their attitudes and conducts, all expressing themselves in interpersonal relationships and thus blocking the appropriate social integration in a continuous and persistent way" (Penteado Morana and Portela Camara 2006 p539).

More formally, ICD-9 (WHO 1978) defined personality disorders as:

Deeply ingrained maladaptive patterns of behaviour generally recognisable by the time of adolescence or earlier and continuing throughout most of adult life, although often becoming less obvious in middle and old age. The personality is abnormal either in the balance of its components, their quality and expression, or in its total aspect.

And in DSM-IIIIR (APA 1987): "Behaviour or traits that are characteristic of the individual's recent (past year) and long-term functioning (generally since adolescence or early adulthood). The constellation of types of behaviour or traits causes either significant impairment in social or occupational functioning, or subjective distress".

Subsequent definitions in ICD and DSM have moved closer together. Personality Disorders are defined in DSM-IV and ICD-10 as "an enduring pattern of inner experience and behaviour that deviates markedly from the expectations of the individual's culture" (Farmer et al 2002 p153).

APA (2000) is more precise: "enduring patterns of perceiving, relating to, and thinking about the

environment and oneself that are exhibited in a wide range of social and personal contexts" (p685).

The sufferer is seen as differing in terms of:

a) Cognition - how they perceive and understand the world, events, and themselves;

b) Affectivity - emotional responses: in terms of the range, intensity, and appropriateness;

c) Interpersonal functioning - interactions with others;

d) Impulse control.

Personality disorders are estimated to occur in 10-13% of the general population (Penteado Morana and Portela Camara 2006).

In 1999, the British Government introduced the term "dangerous and severe personality disorder" to aid management of such individuals involved in crime and to protect the public from them. It was seen as a "political diagnosis" (Vollm 2009). Such individuals are more likely than not to commit offences that produce serious physical or psychological harm, to have a high PCL-R score, and two or more personality disorders (Ministry of Justice and Department of Health 2008).

The terms "severe" and "dangerous" are problematic. Firstly, the problem of how to define or measure "severe". While "the term 'dangerousness' may be misleading as individuals are not dangerous per se but rather present as a risk in specific circumstances and towards particular victim groups" (Vollm 2009 p502).

Violent behaviour can be associated with any personality disorder, but Stone (2007) emphasised the specific link to narcissism among serious violent offenders. The exact nature of the link is unclear, and it may be mediated by other factors. For example, alcohol abuse reduces the frontal lobe activity and increases impulsivity (and violence) (Vollm 2009).

"Whether any of the new initiatives for public protection has any effect in terms of a reduction of risk or will just lead to more individuals being detained for longer periods of time without realistic prospect of release is uncertain. Although there has been an increase in research activity on treatment for those with severe personality disorders who pose a risk to others, the actual evidence base remains severely limited and future

good quality evidence is urgently needed. In this context, practitioners have to be aware of the ethical implications of detaining offenders without real knowledge of what to offer them to improve outcome" (Vollm 2009 p505).

In terms of treatment, Quinsey and Lalumiere (1995) reported the negative effects of therapies involving insight for psychopaths, particularly as they do not recognise the need to change. Compared to non-psychopaths, such individuals were twice as likely to relapse into crime and three times as likely to be violent. Such therapies also aided the skill of psychological manipulation of others.

3.2. PSYCHOPATHY

Robert Hare (1970) distinguished between three groups of psychopaths, of which only the first category of "primary psychopath" is truly psychopathic. "Secondary psychopaths" commit crimes because of severe emotional problems, while "dyssocial psychopaths" have learnt violent behaviour from their environment.

The "primary psychopath", on the other hand, is prone to sudden explosive violence, yet, on the other, is outgoing, charming and socially skilled. Many do not commit crimes, or if they do, it is impulsive. The most important characteristic is a lack of concern for the consequences (or others), which means they do what they do without fear (and necessarily forethought). Some would say they are ultimately cynical and manipulative.

Cleckley (1941) called psychopathy the "mask of sanity" as negative behaviours, like superficial charm and egocentricity, emotional characteristics like guiltlessness, and anti-social behaviour are hidden under "apparently good functioning" ⁸.

Hare (1980) listed the main characteristics as superficial charm; a grandiose sense of self worth; a low frustration tolerance; pathological lying and deception; a lack of sincerity; lack of remorse; a lack of empathy; promiscuous sexual relations; impulsivity; and a failure to accept responsibility for own actions.

Psychopathy is defined by the Psychopathy Checklist-Revised (PCL-R) (Hare 1991, 2003)) as diminished capacity for remorse, poor behaviour control, and anti-social behaviour. It is not completely the same as anti-social

⁸ Cleckley's explanation of psychopathy concentrated on a deficit in emotions (emotional reactivity deficit).

personality disorder. Hart and Hare (1996) reported an overlap on only one-third of individuals diagnosed with anti-social personality disorder.

Hare (1980) developed the Psychopathy Checklist (PCL), which was revised in 1991 (PCL-R). This revised version contains 20 items (table 3.1), and the individual is scored as either 0,1 or 2 on each item. A score of 30 or more is assessed as a "primary psychopath".

1. Glibness/superficial charm
2. Grandiose sense of self worth
3. Need for stimulation/proneness to boredom
4. Pathological lying
5. Cunning/manipulative
6. Lack of remorse/guilt
7. Shallow affect
8. Callous lack of empathy
9. Parasitic lifestyle
10. Promiscuous sexual behaviour
11. Poor behaviour controls
12. Early behaviour problems
13. Lack of realistic, long term goals
14. Impulsivity
15. Irresponsibility
16. Failure to accept responsibility for own actions
17. Many short term marital relationships
18. Juvenile delinquency
19. Revocation of conditional release
20. Criminal versatility

(Source: Shine and Hobson 1997)

Table 3.1 - Items in PCL-R.

Factor analysis of the correlation between individual characteristics produced two global factors:

i) Interpersonal and affective characteristics:

- Glibness/superficial charm
- Grandiose sense of self worth
- Pathological lying
- Cunning/manipulative
- Lack of remorse/guilt
- Shallow affect
- Callous lack of empathy
- Failure to accept responsibility for own actions.

ii) Impulsive/anti-social/unstable lifestyle:

- Need for stimulation/proneness to boredom
- Parasitic lifestyle
- Poor behaviour controls

- Early behaviour problems
- Lack of realistic, long term goals
- Impulsivity
- Irresponsibility
- Juvenile delinquency
- Revocation of conditional release

The others three items had no loading.

3.2.1. Criticisms of PCL

1. There are a few dissenting voices who question the construct of psychopath generally, like Cavadino (1998): "'psychopathy' remains a stereotype or an ideal-type personality rather than an accurate description of any real individual. There are probably few if any pure specimens with the total lack of normal human empathy and moral sense which supposedly characterises the psychopath".

2. The PCL-R confuses two distinct constructs - namely, personality disorder and criminal behaviour (Lilienfeld 1994).

3. Scores on the PCL-R are confused with the construct of psychopathy (Cooke et al 2007). The PCL-R is a way of measuring observable aspects of an underlying theoretical construct (psychopathy). Underlying theoretical constructs cannot be directly observed, only observable behaviours which are mapped onto the construct.

4. Cooke and Michie (2001) argued that three "superordinate traits", ascertained by factor analysis, exist in psychopathy instead of two:

i) Arrogant and deceitful interpersonal style - glibness/superficial charm, grandiose sense of self-worth, pathological lying, and conning/manipulative;

ii) Deficient affective experience - lack of remorse or guilt, shallow affect, callous/lack of empathy and failure to accept responsibility for own actions;

iii) Impulsive and irresponsible behavioural style - need for stimulation/proneness to boredom, irresponsibility, impulsivity, parasitic lifestyle and lack of realistic, long-term goals.

Hare (2003) responded with a "four factor" model which added "criminal behaviour" (poor behavioural controls, early behaviour problems, juvenile delinquency, revocation of conditional release and criminal versatility) to the three superordinate traits. Cooke et al (2007) challenged its inclusion as core to psychopathy because "it represents significant construct drift".

5. This is debate about whether the superordinate traits are hierarchical or correlated (figure 3.1) (Cooke et al 2007).

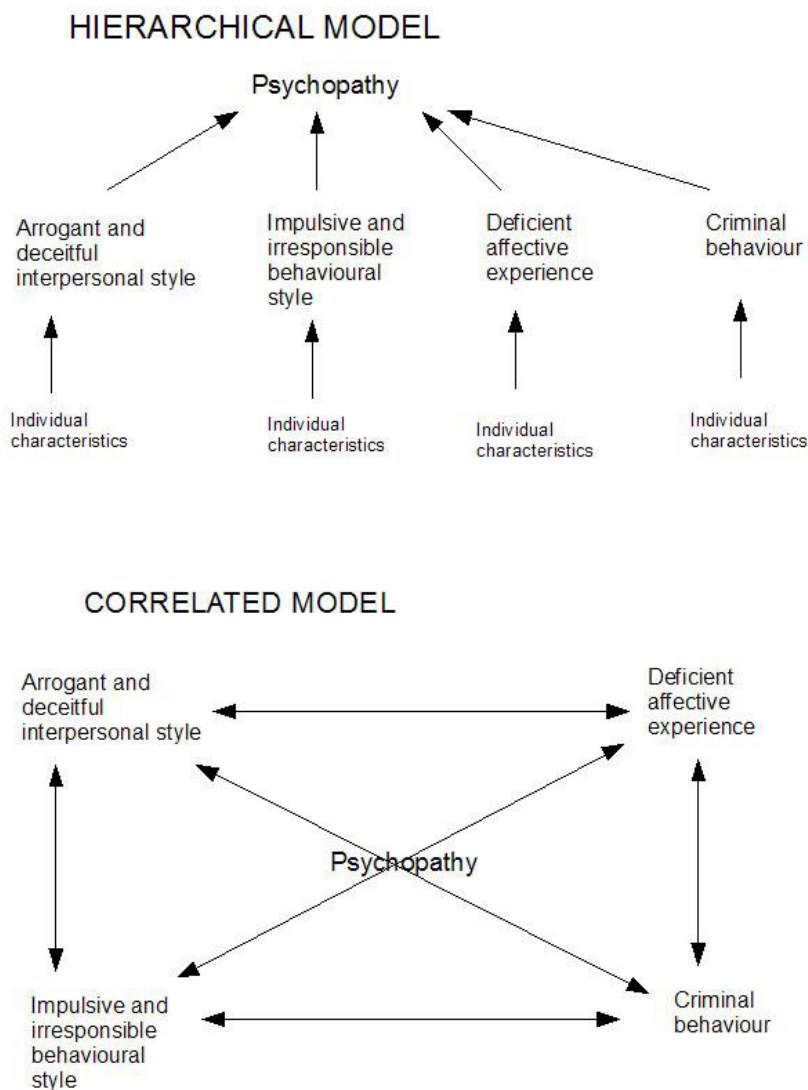


Figure 3.1 - Hierarchical and correlated models of PCL-R.

A completely different way to conceptualise the characteristics of the psychopath is as separate.

Everybody is somewhere on each characteristic (continuum), but psychopaths are at the high end (towards the middle) on most of them (figure 3.2). This is a theoretical conception, and moves away from the pre-occupation with factor analysis and groups of characteristics and superordinate traits which occurs in relation to the PCL-R.

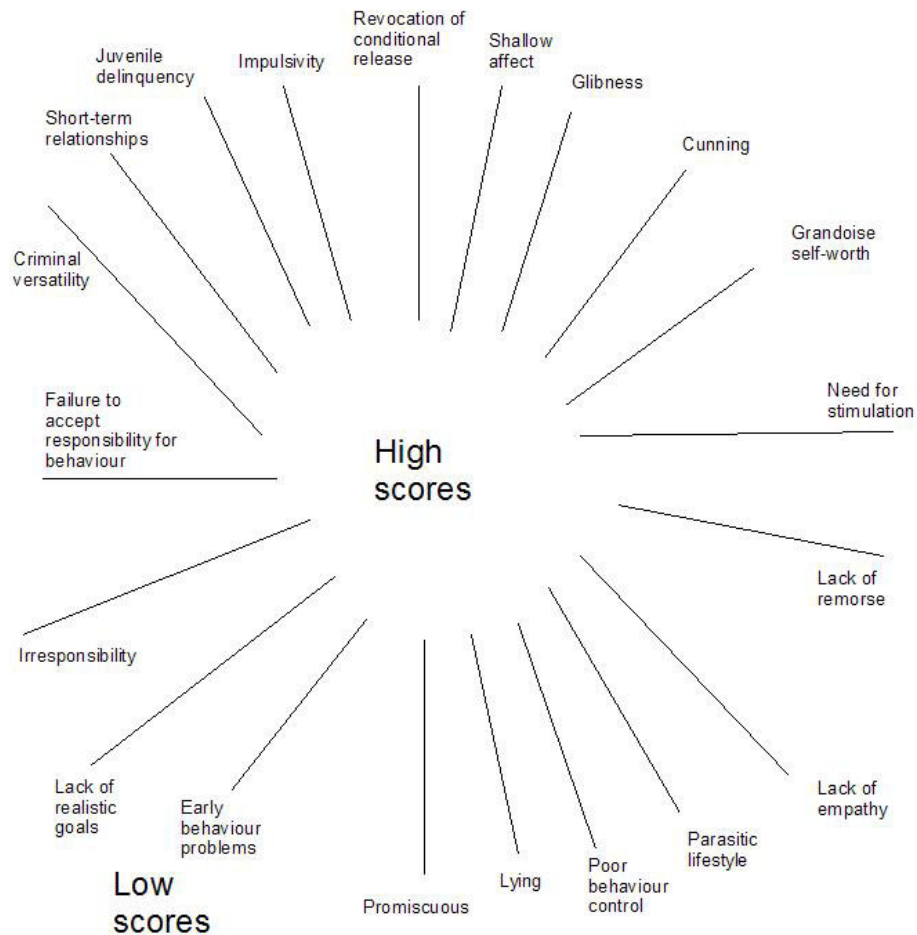


Figure 3.2 - Conceptualisation of psychopathy/PCL-R as individual characteristics.

3.3. RESEARCH ON PSYCHOPATHY

Research has established two key aspects of psychopathy (Blair 2003):

- Difficulties in aversive conditioning (ie: problems with learning from past punishments). Lykken (1957) presented this idea in the form of a lack of fear. Normally behaviour is inhibited by fear of punishment,

and if this does not exist, then there is no brake on behaviour.

- Difficulties in processing fearfulness and sadness of others. Individuals with psychopathy appear not to recognise facial (and vocal) expressions of fear and sadness, which leads to a lack of empathy and a failure to stop behaviour that distresses others. The processing of other facial expressions like happiness seems unaffected (Deeley et al 2006).

Deeley et al (2006) compared six criminal psychopaths (based on PCL-R score of 25 or above) and nine healthy volunteers using functional magnetic resonance imaging as facial expressions of happiness and fear, and a neutral face were shown.

The psychopaths showed significantly less activation in certain areas of the brain (eg: fusiform gyrus) in response to the fearful face compared to the neutral face, and compared to the controls. They also showed no difference in response between the neutral face and the happy one, whereas the controls showed increased activation in certain areas.

Both of these difficulties can be explained by impairment to the amygdala. For example, Tiihonen et al (2000 quoted in Blair 2003) found a negative correlation between amygdala volume and PCL-R score, and Kiehl et al (2000) a negative correlation between amygdala responsiveness to emotional words and PCL-R score (table 3.2).

PCL-R SCORE	AMYGDALA VOLUME	AMYGDALA RESPONSIVENESS TO EMOTIONAL WORDS
High (psychopathy)	Low (ie: small)	Low
Low	High	High

Table 3.2 - Two negative correlations found in psychopaths.

Interest has shifted to the reason for the amygdala differences. One possibility is genetic. A gene called "tailless" has been found in mice to be linked to amygdala size (Monaghan et al 1997). Another possibility is neurochemical - eg: noradrenaline dysfunction in the amygdala (Blair 2007).

The orbitofrontal cortex (OFC) is also thought to be dysfunctional in psychopaths (Blair 2003).

Fowles and Dindo (2009) combined the lack of fear (low-fear temperament) and lack of inhibition on behaviour (regulatory dysfunction) in a dual-pathway model of psychopathy. In other words, these are two separate deficits rather than variations on a single deficit.

The low-fear temperament (or emotional detachment in the PCL-R) associates with personality characteristics like engagement in physically dangerous and thrilling behaviour, egocentricity, and social dominance, and not with anxiety and cautious behaviour. While regulatory dysfunction (or impulsive-anti-social lifestyle on the PCL-R) is associated with anger and aggression, impulsivity, and antagonism toward other people (Fowles and Dindo 2009).

3.4. SOCIAL CONSTRUCTION OF PSYCHOPATHY

From an entirely different viewpoint, the behaviours described as psychopathy could be products of the world today (specifically the "post-modern" world).

Wetherell and Maybin (1996), taking a social constructionist position, argue that the personality is the product of social situations. It is "the sum and swarm of participation in social life" (Bruner 1990), and thus tends to change based on the situation.

The personality (or self, as preferred by social constructionists) is "always located in the situation in which the individual is existing. Identity is multi-faceted, but based on key relational settings" (Brewer 2001 p33). The concept of a stable personality is completely challenged, and so is the idea of a stable personality disorder.

"Post-modern" is a commonly used term today, but it is an "amorphous thing": "The term itself hovers uncertainly in most current writings between - on the one hand - extremely complex and difficult philosophical senses, and - on the other - an extremely simplistic mediation as a nihilistic, cynical tendency in contemporary culture" (Docherty 1993 p1).

Polkinghorne (1992) lists the themes of "post-modern thought" as:

i) Foundationlessness - there are no universals; "no sure epistemological foundation upon which knowledge can be built".

ii) Fragmentariness - reality is "a disunited, fragmented accumulation of disparate elements and events.

iii) Constructivism - there is no world "out there" to discover, all knowledge is constructed; "human experience consists of meaningful interpretations of the real".

iv) Neopragmatism - the criteria for understanding are not whether knowledge corresponds to reality, because this cannot be known in the "post-modern" world. Rather it is whether knowledge "functions successfully in guiding human action to fulfil intended purposes".

Gottschalk (2000) saw post-modern society as having aspects that "normalise, celebrate, and make acceptable psychosocial dispositions that.. are fundamentally unhealthy" (p38) including the "sociopathic" characteristics of caring for the self only.

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4. DETECTING DECEPTION ACCURATELY: THE DREAM OF POLICE OFFICERS

- 4.1. Introduction
- 4.2. Spotting deception
 - 4.2.1. Visual clues
- 4.3. Physiological measures
 - 4.3.1. Brain fingerprinting
 - 4.3.2. Problems with BF
- 4.4. Measuring brain activity
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- 4.6. Appendix 4A - Vrij et al (2010)
- 4.7. Appendix 4B - Greene and Paxton (2009)
- 4.8. References

4.1. INTRODUCTION

There seems to be a "natural" development of deception during childhood (Ford 1995). "Hence, there would appear to be an interesting tension between what is supposedly socially undesirable but normal (ie: telling lies), and that which is said to be commendable but pathological (ie: total truthfulness). Normal human social interaction may depend upon limited disclosure" (Spence et al 2004 p1755) (figure 4.1).

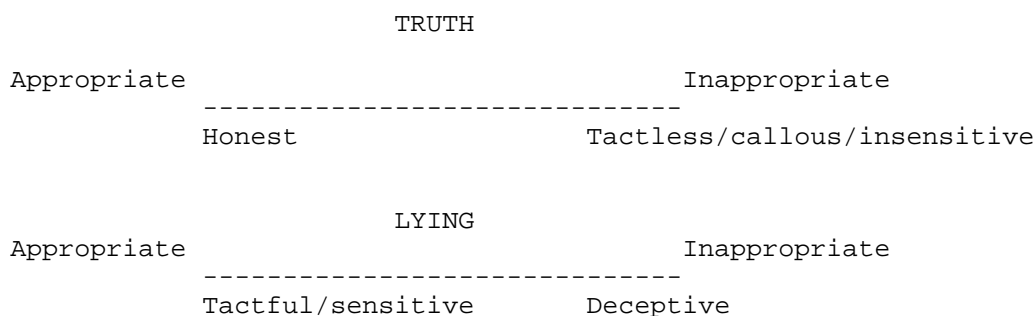


Figure 4.1 - Appropriate and inappropriate truth and lying.

If this is the case then lying (tactical deception) must have an evolutionary basis. The amount of the cortex in the brain as a whole is important in terms of the physiological attributes needed for the behaviour (Byrne 2003). While a "theory of mind" (an understanding of how others think) and "deontic reasoning" (an understanding of social rules) are the cognitive processes required (Adenzato and Ardito 1999).

4.2. SPOTTING DECEPTION

The ability to spot who is lying is a skill of great value if it is possible. A number of different approaches have been taken towards it.

The theoretical assumptions behind the techniques of detecting deception can be divided into two (Vrij et al 2010):

i) "Concern-based" techniques (eg: polygraph) - These assume that liars are more concerned about being believed than non-liars which leads to signs of their lying "leaking out" (eg: increased arousal, visual clues).

ii) "Cognitive load" - Lying is more cognitively demanding than truth telling, and this leaves less cognitive resources for other activities. Signs of cognitive load include slower speech, pauses, and less detail in the information given.

4.2.1. Visual Clues

The aim is to pick up visual signs that "give away" the liar, usually on the face.

Another possibility is to look at motor behaviours. During complex lying, there may be less cognitive capacity to perform movements - thus fewer hand and arm movements. This has been called the "motivational impairment effect" (Vrij 2001).

This is the idea of "cognitive load". Lying is mentally taxing and performing an extra task while lying will be affected. For example, participants were asked to maintain eye contact during an interrogation after being instructed to lie about a staged theft scenario. Video analysis of the interrogation found that liars showed signs of cognitive load (eg: fewer spatial details in story) (Vrij et al 2010) (appendix 4A). But these were only small signs (Krakovsky 2009).

More sophisticated techniques being developed include using infra-red photography to detect changes in temperature patterns (and thus blood flow) near the eye (Pavlidis and Levine 2002).

4.3. PHYSIOLOGICAL MEASURES

The desire to find "objective" ways to assess lie and truth is shown in physiological techniques. First, there was the psychophysiological technique which measured autonomic nervous system activity like blood

pressure and galvanic skin response (GSR) ⁹ (ie: polygraph). Then the use of electroencephalography (EEG) to measure event-related brain potentials (ERPs), and functional magnetic resonance imaging (fMRI) to show blood flow patterns in the brain. Though these three techniques are different, they all assume that different physiological states can be detected between when an individual is lying and when they are telling the truth.

Physiological techniques make use of two paradigms developed for use with polygraphs:

i) Control question test (CQT) - This compares an individual's physiological response to an already-known true question and an already-known lie. This difference is used as the baseline for comparing responses to questions where lie and truth are not known.

ii) Guilty knowledge test (GKT) - The assumption is that a guilty individual will know information that an innocent individual will not, and questions related to that information will produce a different physiological response for guilty individuals.

Any technique or test measuring behaviour needs to establish reliability and validity (table 4.1).

	DESCRIPTION
Test-retest reliability	Consistency over time - the same individual will gain the same score (guilty/innocent) for the same questions on separate occasions.
External validity	Applicability of techniques developed in controlled experiments to real-life situations.
Internal validity	The technique measure what it claims to measure.

Table 4.1 - Reliability and validity.

4.3.1. Brain Fingerprinting

Brain fingerprinting (BF) has been commercialised by the founder (Lawrence. A. Farwell) as "Farwell Brain Fingerprinting" with claims of 100% accuracy on the website ¹⁰ (Rosenfeld 2005).

⁹ GSR measures the speed of a tiny electrical signal across the surface of the skin. The speed will be affected by the presence of micro-sweat.

¹⁰ <http://www.brainwavescience.com>.

BF focuses upon P300 ERPs¹¹ which give a "brain-wave index" called MERMER (Memory and Encoding Related Multifaceted Electroencephalographic Response). The exact nature of MERMER is hidden by commercial patent (Rosenfeld 2005)¹².

The GKT paradigm is used with BF (Farwell and Donchin 1991). Suspected guilty individuals will show ERPs to information about the crime scene that suspected innocents will not.

Fabiani et al (1983) was probably the first study to show P300 ERPs experimentally. Participants learned a list of rare words (which became the meaningful items). The words were presented individually to the participants which were rare, unseen ones or the previously learned words. The brain showed the P300 response to the latter but not the former. Thus, "it should be evident that the ability of P300 to signal the involuntary recognition of meaningful information suggests that the wave could be used to signal 'guilty knowledge' ideally known only to a guilty perpetrator and to police" (Rosenfeld 2005 p22).

Technically, BF is not a lie detector. It detects recognition of elements of the crime scene, say, and then the individual is asked questions about the crime. It is when the BF and the answer given do not match that deception can be detected.

Rosenfeld et al (1988) designed the typical experiment to test the accuracy of BF. Ten participants had to pretend to steal one of ten items from a box and then deny it. For nine of the participants, P300 ERPs allowed the experimenters to detect the item "stolen". But the experimenters asked the participants to say that they had stolen an item presented which had not been in the original box. This was to check that the participants were paying attention. This also produced P300 ERPs because it was meaningful.

4.3.2. Problems with BF

1. Limited peer-reviewed controlled experiments by Farwell.

Farwell and Donchin (1991) asked volunteers to

¹¹ "P300 is a special ERP that results whenever a *meaningful* piece of information is *rarely* presented as a stimulus among a random series of more frequently presented, non-meaningful stimuli" (Rosenfeld 2005 p21). For example, during the presentation of random numbers, the individual's birth date is included (meaningful item) and this produces a P300 ERP.

¹² Rosenfeld (2005) explored the technical aspects of the debate about MERMER and P300 ERPs.

participate in a mock crime espionage scenario where briefcases were passed to individuals with particular names. The participants were tested (with BF) for recognition of the names among a list of random names. The technician using the BF had no prior knowledge of the correct name. There was a detection rate of 90% with twenty participants.

Farwell and Smith (2001) is also quoted as experimental evidence for BF, but the study included only six participants. Rosenfeld (2005) viewed this number as "unacceptably low". The study also claims 100% success, but "actually five were identified with 99% confidence, and one with only 90%" (Rosenfeld 2005).

2. Contradictory findings of studies of BF.

There are controlled experimental studies which find low levels of detection with P300 ERPs (eg: 48% in Japanese police department study; Miyake et al 1993). Farwell has disputed such findings (Rosenfeld 2005).

3. Not all information about a crime is recalled.

Farwell claimed on his website: "The fundamental difference between a perpetrator and a falsely accused, innocent person is that the perpetrator, having committed the crime, has the details of the crime stored in his brain, and the innocent suspect does not" (quoted in Rosenfeld 2005 p24). However, other research on eye witness memory has shown that recall is far from perfect.

"Moreover, it is likely that an individual in the act of committing a serious crime – from murder to bank robbery to terror bombing – would be in such an excited or anxious state so as to render his/her attention to details of the crime scene close to inoperable. Also, a high proportion of crime in the U.S. is committed under the influence of drugs or alcohol, which are known to play havoc with memory" (Rosenfeld 2005 p24).

4. Problems of use in real-life.

BF was used as evidence in an appeal by a murderer in the USA, Terry Harrington. Rosenfeld (2005) was critical: "Farwell constructed a set of probes, targets, and irrelevants based on the facts of the crime, including incidental details of the murder scene, the getaway route, and so forth. When tested on these, Harrington apparently had no memory of the crime details, leading to the naive inference that being innocent, he

wasn't there and couldn't store the scenario details".

Furthermore, when the results of Harrington's tests were released, the P300 ERPs were not clear-cut and the interpretation of them has been disputed (Rosenfeld 2005).

4.4. MEASURING BRAIN ACTIVITY

Lying can be viewed as an "executive function". Executive functions include problem-solving, planning, and the control of behaviour, and the prefrontal cortex is active during them (Spence et al 2004).

But because lying requires more executive function than telling the truth, like holding the false and true information in mind, lying will produce more activity in the prefrontal cortex as observed by neuroimaging (Spence et al 2001).

The fMRI works on the principle that electrical activity in an area of the brain demands oxygen which is provided in the blood. Thus blood flow to a particular area of the brain is taken as a sign of activity (blood oxygenation level-dependent; BOLD fMRI).

Spence et al (2001) used (fMRI) with ten participants asked to reply with yes or no to questions about their day. A signal told them to be honest or not. The participants had described their day to the researchers beforehand.

The lie responses were associated with greater activity in specific areas of the prefrontal cortex, like the ventrolateral prefrontal cortex, than the truth responses. Also participants took approximately 200ms longer to answer with lies.

This latter finding is also evident with participants doing the same experiment "outside the scanner" with an observer is trying to judge truth and lies (Spence et al 2001), and with filmed convicted murderers (Vrij and Mann 2001).

Langleben et al (2002) confirmed the brain regions activated in lying using the "guilty knowledge" test. Participants were hiding a playing card that they thought the researchers did not know the identity of. Then playing cards were presented and the participants answered yes or no if it was their card.

This experiment has low ecological validity (ie: volunteer participants telling trivial lies compared to real crime situations). Also simple experimental designs comparing a lie versus truth where the experimenter knows the correct answer is not like real-life (Spence et al 2004).

Greene and Paxton (2009) (appendix 4B) found differences ¹³ in fMRI scans between honest players and cheaters in a game. Participants bet on the flip of a coin, and they could cheat by saying their choice after the coin was flipped. Honest players showed no increase in brain activity when given the chance to cheat (ie: no conscious effort for them to be honest).

Wolpe et al (2005) raised five ethical concerns related to the use of brain-imaging techniques to detect lies:

i) Premature adoption - The demand by authorities for "objective" ways of detecting deception means that technology could be adopted before the validity is established.

ii) Misapplication through misunderstanding of the technique - The techniques do not detect lies. They detect physiological changes that could be related to lying. "Separation of a deception-related signal from the host of potentially confounding signals is a complicated matter, and depends on the careful construction of the deception task rather than the measurement technology" (Wolpe et al 2005 p45).

iii) Privacy concerns - Wolpe et al (2005) asked the question whether a person had an alienable right to keep their subjective thoughts private.

iv) Collateral information - Brain-imaging techniques to detect deception may also discover other information, that is medically relevant. What to do with that information if, for example, early signs of a brain tumour were visible?

v) Forensic use - The appropriateness of using these techniques as evidence in court. "High technology tools such as brain scans can give a persuasive scientific gloss to what in reality are subjective interpretations of the data. The implied certainty and authority of science can be prejudicial to juries, and when it is accompanied by images to reinforce expert testimony it can be particularly persuasive... Brain scan images might influence juries even when the images add no reliable or additional information to the case" (Wolpe et al 2005 p47).

¹³ "The word 'differences' is critical here since it refers to the often-ignored core concept of BOLD fMRI: it is only sensitive to differences between two brain states. Thus, available studies report using fMRI to discriminate between lie and truth or some other comparative state rather than to positively identify deception" (Langleben 2008 p1).

4.5. GENERAL PROBLEMS WITH PHYSIOLOGICAL TECHNIQUES FOR DETECTING LIES

1. The techniques measure physiological changes which could be signs of deception, but they could also be signs of other things. For example, polygraphs measure autonomic nervous system changes which could be signs of lying or signs of general anxiety. "Brain fingerprinting" records the recognition of information from the crime scene, which may occur for reasons other than being guilty (eg: information acquired during police interrogation).

2. The techniques tend to perform well in laboratory experiments where the researcher knows what is true or false, or involve limited choices of information. There are concerns about the applicability of the techniques to real-life situations. "In short, lying can be a complex, situation-dependant activity, with a variety of degrees and levels of prevarication, and the ability to detect simple deceptions in laboratory settings may not translate into a usable technology in less controlled situations" (Wolpe et al 2005 p42).

3. Practical problems with the use of the techniques. For example, the expense and feasibility of using fMRI while questioning police suspects.

4. Counter-measures can be taught against these techniques, particularly for the CQT. Individuals attempt to mask their responses. For example, with the polygraph produce large reactions to true questions by biting the tongue and small reactions to the lie by counting backwards (Wolpe et al 2005). Counter-measures for the other techniques have also been reported (Wolpe et al 2005) ¹⁴.

5. The problem of false positives (eg: innocent individuals rated as guilty) and false negatives (eg: guilty individuals rated as innocent).

The level at which "pass" (innocent) or "fail" (guilty) is set is crucial. If the "fail" level is low (ie: strict or "suspicious mode"), this will catch more guilty individuals but also produce more false positives. For example, in table 4.2, in a general population of 10 000 are ten guilty individuals, and the technique of

¹⁴ Rosenfeld et al (2004) reported counter-measures for BF.

detection is 80% accurate (Faigman et al 2003).

TEST SAYS:	GUILTY INDIVIDUAL	INNOCENT INDIVIDUAL
GUILTY	8	1598 false positive
INNOCENT	2 false negative	8392

(Bold = technique correct)

(After Faigman et al 2003)

Table 4.2 - Technique set at strict level (80% accurate).

But when the technique is set at a lax level ("friendly mode"), there is a problem of false negatives (guilty individuals rated as innocent in the same example) (table 4.3).

TEST SAYS:	GUILTY INDIVIDUAL	INNOCENT INDIVIDUAL
GUILTY	2	39 false positive
INNOCENT	8 false negative	9951

(Bold = technique correct)

(After Faigman et al 2003)

Table 4.3 - Technique set at lax level (20% accurate).

4.6. APPENDIX 4A - VRIJ ET AL (2010)

Vrij et al (2010) designed two experiments to use cognitive load to distinguish liars from truth tellers in a mock crime scenario.

Experiment 1

Eighty undergraduates at a university in England were recruited to participate in the "theft" of £10. Half the participants were randomly allocated to the truth condition: "a staged event in which they played a game of Connect 4 with a confederate (who posed as another participant). During the game they were interrupted twice, first by another confederate who came in to wipe a blackboard and later by a third confederate who entered looking for his or her wallet. Upon finding the wallet, this latter confederate then claimed that a £10 note

had gone missing from it. The participant was then told that s/he would be interviewed about the missing money" (p332).

The participants in the liar condition were instructed to steal the £10 from the wallet in an empty room and deny it later, while learning a script for the interview (table 4.4).

The participants were interviewed individually by a uniformed, male, British police officer. Hew was instructed to say the following statement only: "Please tell me, in as much detail as possible, what happened when you were in the room with Sam just now? Mention all details, all conversations that took place, and give as much information as you can about everyone who entered the room, however irrelevant it may seem. I will only be asking this one question. You will have this one opportunity to give me as much information as you can possibly remember. Therefore, please tell me as much as you possibly can as I will use all the information you give me to decide whether or not I think you are telling me the truth" (pp332-333).

You enter the room to find another participant, "Sam", and the two of you play Connect 4 alone together for a while. You sat where you are sitting now and the other participant sat opposite you. You had a general conversation with the other participant as you played, until the other participant's mobile phone rang and they excused themselves and left the room, leaving you alone for a minute or so. When they returned you continued playing the game. Then someone else entered the room, made a comment about you playing the game, wiped the mathematical formulas that you can see off the board and then left. You continued playing the game when someone else entered the room looking for his/her wallet. The wallet which you can see in front of you, is found somewhere around the room (up to you to decide where - it was varied in the scenario). You continue playing the game when the experimenter came back in, with the wallet-owner, and informs you both that some money had gone missing from the wallet and you are both to be interviewed.

(Source: Vrij et al 2010 p332)

Table 4.4 - Script used in lying condition.

In addition, half the participants in each group were instructed to maintain eye contact with the interviewer throughout the interview. This was the cognitive load task, and liars will find this harder to do while lying. When needing to concentrate, it is easier to look at an information-poor aspect of the environment, like the ceiling.

There were two independent variables - truth/lie, and maintain eye contact during the interview/not (table 4.5).

	EYE CONTACT	NO EYE CONTACT
LIE	20	20
TRUTH	20	20

Table 4.5 - Number of participants in each of the four conditions of the experiment.

The dependent variable involved fourteen measures of cognitive load:

a) Verbal cues:

- visual details (ie: what seen).
- auditory details (ie: what heard).
- spatial details (ie: aspects of location).
- temporal details (ie: time).
- recall of events in chronological order.
- cognitive operations (assumptions in story; eg: "she seemed quite clever").

b) Vocal cues:

- pauses (of longer than one second).
- hesitations (eg: frequency of "mm" or "ah" between words).
- errors (eg: word repetition, slips of the tongue).
- speech rate (number of words per second while speaking).

c) Visual cues:

- eye blinks.
- hand and finger movements.
- leg and foot movements.
- illustrators (arm and hand movements to amplify what being said).

It was predicted that liars would include less details in their stories, and report it in chronological order with more cognitive operations than truth tellers, and would have more pauses, hesitations and errors while speaking, and less visual cues.

These measures were scored from videotapes and transcripts of the interviews by two trained raters blind to details of the experiment.

The instruction to maintain eye contact led to significant differences on six measures compared to no eye contact irrelevant of truth or lie telling. These were fewer auditory and temporal details, more hesitations and slower speech (signs of cognitive load), but also increased eye blinks and hand/finger movements (signs of nervousness). Maintaining eye contact was difficult and no participant maintained it for the whole

interview (average length two minutes).

In the eye contact while lying condition, there were two significant differences to the other three conditions: fewer spatial details, and a more chronologically structured story.

The results provided only partial support for the cognitive load theory of deception detection.

Experiment 2

In this experiment, Vrij et al were interested in whether ordinary observers could tell who was lying in the previous experiment. Ninety undergraduates at the same university saw and heard or just heard the interviews from experiment 1.

The participants were informed about the mock crime scenario, and about maintaining eye contact in the interview. After each interview clip, two questions were answered:

- "Do you think that the suspect is telling the truth/a lie?".
- "To what extent do you think the suspect is lying" - (1) "definitely not" to (7) "definitely".

For the first question, overall, the participants had a mean accuracy of 53% for detecting truth or lie (which was significantly above chance). However, the detection of truth was better (significantly above chance) than for lies (not significantly above chance). But the participants did detect lies in the eye contact condition better when listening to the audio only.

For the second question, overall, liars were perceived more as lying (mean 4.08) than truth tellers (mean 3.82). The perception of lying was stronger (and significant) for the eye contact condition (whether the participants saw or heard the interviews) (figure 4.2).

	DEFINITELY NOT (1)	DEFINITELY (7)
Video	ECT 3.66 NECT 3.88	ECL 4.10 NECL 4.09
Audio	ECT 3.93 NECL 3.89 NECT 3.80	ECL 4.24

(ECT = eye contact truth; ECL = eye contact lying; NECT = no eye contact truth; NECL = no eye contact lying)

Figure 4.2 - Mean perception of lying score based on condition.

Experiment 2 showed that observers could detect liars better in the eye contact condition. This is taken as support for the cognitive load approach to deception detection. However, Vrij et al admitted that the absolute level of performance for detecting liars was not that high.

The researchers concluded that maintaining eye contact during interview is not special, any task that is cognitively challenging will be difficult for liars, and clues of their deception will appear.

The question is how applicable are such techniques to real police interviews where individuals are generally nervous anyway. It would not help to make an unusual or odd request. Increasing cognitive load and/or nervousness can reduce recall ability.

4.7. APPENDIX 4B - GREENE AND PAXTON (2009)

Greene and Paxton (2009) suggested that the decision to be honest or deceptive occurs for one of two possible reasons:

i) The "Will" hypothesis - honesty as a choice to actively resist temptation;

ii) The "Grace" hypothesis - honesty is a result of automatic processes that some individuals have and others do not.

Table 4.6 summarises the predictions from the two hypotheses.

	WILL	GRACE
HONEST	Increased brain activity to resist temptation	No change
DISHONEST	No change	Different activity in the brain

Table 4.6 - Brain activity predictions when given the choice to be honest or dishonest compared to the control condition (no choice).

Thirty-five participants at Harvard University, USA, in the fMRI scanner were asked to predict the outcome of random computerised coin tosses with financial rewards for accuracy and punishment for inaccuracy.

There were two conditions:

- No Opportunity (control) - participants recorded their predictions in advance.

- Opportunity - participants made their predictions privately and recorded afterwards their success. This allowed for cheating.

The participants were told that the experiment was testing paranormal abilities, and, though honesty was preferable, it was "explained that the possibility of cheating was a necessary by-product of the experimental design".

Each participant completed 210 trials, of which 140 were Opportunity trials with rewards varying from \$0.02 to \$7.00.

Based on the responses in the Opportunity condition (ie: amount of cheating), participants were divided into "dishonest" (N = 14; self-reported wins of >69%) and "honest" (N = 14; lowest self-reported wins).

Greene and Paxton found evidence to support the "Grace" hypothesis as honest individuals showed similar brain activity when choosing to act honestly in the Opportunity condition and when forced to act honestly in the control condition. Dishonest individuals showed differences in the prefrontal cortex when choosing to behave dishonestly and when acting honestly in the Opportunity condition.

This study is based on a small number of participants in very controlled situations. But it has implications in terms of who may lie and who may not. Taken to the extreme, brain scans could be used to determine who has the brain pattern/activity of an honest person and of a dishonest person. As much as authorities may desire such a situation that is a long way off. Greene and Paxton pointed out that the study had many limitations, though the findings were intriguing.

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5. QUANTITATIVE AND QUALITATIVE METHODS, VICTIMS AND PERPETRATORS OF CHILD SEXUAL ABUSE

- 5.1. Introduction
- 5.2. Child sexual abuse
 - 5.2.1. Epidemiology
 - 5.2.2. Two key methodological problems
 - 5.2.3. Psychometric instruments
 - 5.2.4. Search for patterns
- 5.3. Research issues
 - 5.3.1. The role of the researcher
 - 5.3.2. Other issues
- 5.4. References

5.1. INTRODUCTION

Research methods fall into two separate camps (though there may be overlap between them) - namely, quantitative and qualitative methods. Quantitative methods focus upon the collection of numerical data about the object of study with the emphasis on statistical analysis. Qualitative methods seek to get at the meanings of the event or behaviour (Morant and Finlay 2001) (table 5.1).

	QUANTITATIVE METHODS	QUALITATIVE METHODS
Philosophical assumptions	Scientific	Constructionism
Basic activity	Counting/numerical	Interpretation
Focus	Surface patterns; eg: statistical significance	Underlying meanings
Most appropriate for	Detect patterns across large amounts of data	In-depth analysis of single cases or small samples

Table 5.1 - Quantitative and qualitative methods.

5.2. CHILD SEXUAL ABUSE

"Child sexual abuse (CSA) refers to the use of a child for sexual gratification" (Carr 1999 p806). Intra-familial sexual abuse occurs within the "family" (eg: stepfather-stepdaughter, father-daughter) and extra-familial is where the abuser resides outside the family home (eg: friend of family, stranger, teacher).

5.2.1. Epidemiology

Epidemiological studies seek to collect large amounts of data in order to establish the rate of a behaviour in the general population. Depending upon the definition of CSA, prevalence rates vary from 2% (narrow definition; eg: penetration) to 60% (wider definition including, for example, touching) (Carr 1999). Such quantitative data allows the establishing of patterns like gender differences among victims, age of victims and perpetrators, and types of abuse.

But such studies tend to use official reports which miss cases not reported at the time or at all, particularly by victims ashamed to admit such experiences (Glaser 2002).

5.2.2. Two Key Methodological Problems

1. Different prevalence rates of offending behaviour are produced depending on the source of the information. Helweg-Larsen and Larsen (2005) showed different rates of child sexual abuse of under fifteens in Denmark. From the National Patient Register, which contains data on individual's physical and mental health, an average incidence of 0.06 per 1000 children was calculated.

From the National Crime Register, a rate of 0.5 per 1000 was found, but when police interviews with victims were used, the figure doubled (1.0 per 1000). The latter source is self-reported by victims, and tends to be higher than official records for most crimes (Brewer 2000).

2. Honesty in the answers of offenders is a crucial area to evaluate. Details may be exaggerated or down-played as part of impression management by such individuals as well as cheating on tests.

For example, Gannon and Polaschek (2005) found that child molesters deliberately faked their answers during assessment and treatment on cognitive distortion scales. These measure distorted beliefs about sexual behaviour with children (eg: a child's normal affection towards an adult is sexual; the child wanted and initiated the sexual behaviour). The child molesters (both treated and untreated) were able to fake "good" answers to appear to disagree with the cognitive distortions, while non-sexual offenders and non-offenders naturally disagreed with such distortions.

5.2.3. Psychometric Instruments

These are structured, standardised questionnaires and interviews which can be used to assess behaviour and, based on the score, place the individual's behaviour in relation to norms. Here are two examples used with victims.

i) Interviewer-rated - eg: Child Impact of Traumatic Events Scale (Revised) (Wolfe et al 1991). This is a structured interview involving seventy-eight items to measure the effects of sexual abuse on the child including post-traumatic stress disorder symptoms, and self-blame (table 5.2).

- Some people believe that I did a very bad thing.
- This happened to me because I acted in a way that caused it to happen.
- I have difficulty concentrating because I often think about what happened.

(0 = Not true; 1 = Somewhat true; 2 = Very true)

Table 5.2 - Sample items from Child Impact of Traumatic Events Scale.

ii) Parent-rated - eg: Child Sexual Behaviour Inventory (Friedrich et al 1992). Parent(s) complete thirty-five items about behaviour problems that can arise from sexual abuse (table 5.3).

- Stands too close to people
- Touches private parts when in public places
- Uses words that describe sex acts
- Makes sexual sounds (sighing, moaning, heavy breathing, etc)
- Tries to put mouth on mother's or other women's breasts

(Response choices are "never" (0), "less than once per month (1), "1-3 times per month (2), and "at least once per week" (3))

Table 5.3 - Sample items from Child Sexual Behaviour Inventory.

5.2.4. Search for Patterns

Much research in relation to CSA (and forensic psychology generally) is interested in finding patterns and types of behaviours, and in categorising different groups of offenders.

For example, Firestone et al (2005) studied 119

incest perpetrators, and divided them into two groups based on the age of the victim - six years or younger, and adolescent. Both groups showed sexual preference for children and difficulty with normal sexual functioning. Those with young victims had more psychiatric problems including substance abuse, and a higher risk of recidivism. Traditionally, incest perpetrators tend not to re-offend compared to paedophiles generally (Bradford 2006).

There are also differences between men who molest their biological daughters or their step-daughters. Sexual arousal towards children is lower in the former group (Greenberg et al 2005).

5.3. RESEARCH ISSUES

5.3.1. The Role of the Researcher

There is concern about the researcher influencing and biasing the results, and the worry that subjectivity will be involved in the findings. This is the view of scientific and quantitative approaches. Qualitative approaches challenge such concerns, and even highlight how the researcher's experiences can become an asset to the research.

This can be seen in the work by Fox (1996), herself a victim of CSA, in interviews with a perpetrator and a victim to create a three-person account of the events. The three "voices" of Fox (researcher, abuse survivor), Sherry (victim, step-daughter) and Ben (perpetrator, step-father) are interwoven "so that a single perspective is not privileged". The two interviewees were questioned separately in an informal, unstructured style on a number of occasions.

In relation to the issue of subjectivity, Fox noted:

Although the words presented in this text are Sherry's and Ben's I chose how to present them. At first I attempted to get their stories "right", but then I realised that we are always in the process of revising ourselves.. The telling of my own abuse story has changed over time until now I question whether I ever had the story "right".. In the end, I was less concerned with "rightness" and more interested in the "practical value".. of how the account contributes to current understanding and prevention of abuse.

5.3.2. Other Issues

Quantitative approaches tend to be associated with positivism, which assumes that facts about the social

world exist "out there" waiting to be discovered by researchers. So there are acts of CSA and the aim of research is to measure them as accurately as possible. Qualitative approaches challenge positivism and the existence of facts about social behaviour: "people, unlike the objects of scientific study in the natural world, attach meanings to their actions. These meanings are products of distinct value and conceptual structures which mediate between what is in the world and how it is perceived by members of a social group.. at a given time" (Taylor 1992 p25) ¹⁵.

Pawson (1989) highlighted the "imposition problem" where the researcher, without necessarily meaning to, constructs their findings by their definition of CSA, by asking some questions and not others, and by the structure of questions and replies available. With the "correspondence problem" (Taylor 1992) respondents may interpret the questions differently to the question-setter/interviewer.

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¹⁵ This can be called relativism, where "truths about the world are produced for pragmatic reasons and not discovered" (Turner 2001).

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