

ESSAYS IN CRIMINAL
AND FORENSIC
PSYCHOLOGY NO.10

KEVIN BREWER

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Kevin Brewer BSocSc, MSc

An independent academic psychologist, based in England, who has written extensively on different areas of psychology with an emphasis on the critical stance towards traditional ideas.

(<http://kmbpsychology.jottit.com>)

Orsett Psychological Services,
PO Box 179,
Grays,
Essex
RM16 3EW
UK

orsettpsychologicalservices@phonecoop.coop

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1. TEACHING CHILDREN TO BE DELINQUENT: THE INTERGENERATIONAL TRANSMISSION OF ANTI-SOCIAL BEHAVIOUR

- 1.1. Introduction
- 1.2. Cambridge Study of Delinquent Development (CSDD)
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1.1. INTRODUCTION

Bijleveld and Farrington (2009) stated: "It is very clear that criminal and anti-social parents tend to have criminal and anti-social children" (p77). For example, a Dutch tabloid had the headline in 2007: "Granny, mother and child on a robbery spree" after police arrested a grandmother (aged 78), mother (aged 39), and grandchild (13 years old) shoplifting together (quoted in Bijleveld and Wijkman 2009).

Farrington et al (1996), based on the Cambridge Study of Delinquency Development (CSDD), showed that a small proportion of families (around 10%) were responsible for the majority of delinquent acts (about two-thirds). Farrington et al (2001) confirmed this "crime-clustering within families" with the Pittsburgh Youth Survey (PYS) data: siblings in 12% of families committed 59% of all delinquent acts by the sample.

The question is why is there such clustering in families. It could be genetic or it could be through upbringing and social learning ¹. Because of the problems of establishing the genetics involved in the intergenerational transmission of anti-social behaviour (eg: no specific genes for such behaviour), studies have concentrated on the social variables involved, like the effect of the mother's or father's anti-social behaviour or the grandparents' behaviour.

Farrington et al (2001) proposed a number of possible reasons for intergenerational transmission of anti-social behaviour:

¹ Heritability studies account for about 40% of the transmission of anti-social behaviour, which leaves a large role for environmental factors (Thornberry et al 2009).

i) Anti-social behaviour is part of the undesirable behaviours, like poverty, deprivation, and teenage pregnancy, transmitted in the "cycle of deprivation".

ii) "Assortative mating" - "Men with a criminal history have a higher likelihood of marrying and procreating with women who also have a criminal history. These women will be less fit to raise children, putting their children at risk and increasing the chance that they themselves become involved in crime" (Van de Rakt et al 2009 p97).

iii) Direct imitation of parents' behaviour by the children.

iv) Genetics.

v) An unfavourable social environment that encourages crime.

vi) The labelling of some families as criminal by the authorities, and thus crime is a self-fulfilling prophecy.

Long-term (longitudinal) studies to find out the effects of the environment are time-consuming as well as costly when they need to cover two-three generations of families (table 1.1).

ADVANTAGES	DISADVANTAGES
<p>1. Development of specific individuals can be followed.</p> <p>2. Can observe past events and development in life.</p> <p>3. Only method to see development over long period.</p> <p>4. Following same individuals removes participant variables as in cross-sectional studies.</p>	<p>1. Time consuming and expensive to perform.</p> <p>2. Cohort effect: certain characteristics relevant to certain generations.</p> <p>3. Any mistakes at start of study cannot be removed; eg: unrepresentative sample.</p> <p>4. Participants may be influenced by attention and repeated testing.</p>

Table 1.1 - Main advantages and disadvantages of the longitudinal study.

There are a few such multi-generational studies:

i) Cambridge Study in Delinquent Development (CSDD) - started in 1961 with 411 boys in London.

ii) Rochester Youth Development Study (RYDS) started in 1988 in Rochester, New York.

iii) Oregon Youth Study (OYS) - based on 206 boys, 9-10 years old at start of the study over twenty years ago, from higher-crime areas of cities in the Pacific Northwest, USA.

iv) Criminal Careers and Life-Course Study (CCLS) in the Netherlands.

In terms of teenage criminality, Gosline (2008) quoting Moffitt (1993)² distinguished between transitory adolescent anti-social behaviour which is outgrown by 20s, and the more serious cases who show anti-social behaviour at an early age. The latter are more likely to be the "lifelong criminals", and to have neurological impairment, low IQ, poor language skills, and a diagnosis of Attention Deficit Hyperactivity Disorder. Though biological/genetic factors are more likely involved in this early-onset group, it is not the whole story.

For example, (Caspi et al 2002) found that a gene related to monoamine oxidase (MAO-A), which is involved in aggression, only predicted violent crime among New Zealand males who had been severely abused as children. Thus the role of biology and environment.

1.2. CAMBRIDGE STUDY OF DELINQUENT DEVELOPMENT (CSDD)

In 1961-2 all boys in six primary schools in an inner-city area of south London were recruited for this study. Interviews were carried out at age 8, 10, 14, 16, 18, 21, 25, 32, and 48. Of the original 411 boys, 365 were available at the last set of interviews (Farrington et al 2009).

The first set of CSDD data showed that by age 20 in 1973, 48% of the sample with convicted fathers had criminal convictions themselves compared to 19% of those with unconvicted fathers. The figures were 54% with a convicted mother and 23% with an unconvicted one (Farrington et al 1975).

A second set of CSDD data for the sample at age 40

² Moffitt (1993) divided young male offenders into four types: i) "stable early-starters" (ES) - tend to commit more crimes from a younger age; distinguished by childhood problems, and low IQ; ii) "adolescent-limited" (AL) - less violent than ES; have necessary social skills to survive in later life; iii) "adult-starters" (AS) - relatively unusual; non-violent offences mainly; no evidence of childhood problems; iv) "discontinuous offenders" (DO) - little research; eg: boys who fight a lot in middle childhood only.

found about three-quarters of convicted fathers and convicted mothers had a convicted son in the sample (Farrington et al 1996).

Because the CSDD has been running nearly fifty years, it is possible to compare the original sample (Generation 2; G2), their parents (G1), and children (G3) (figure 1.1). The strongest intergenerational transmission was found from G1 males to G2 males, and from G2 males to G3 males. There was some evidence of transmission of convictions between grandmothers and grand-daughters (Farrington et al 2009).

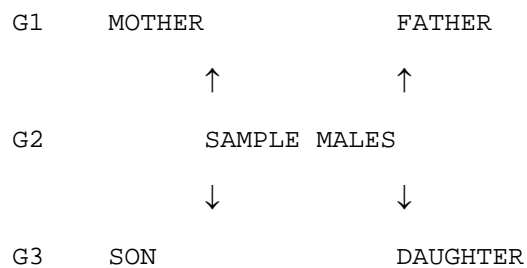


Figure 1.1 - Design of CSDD.

These findings relate to the sample nearing age fifty years old. Overall, 63% of sample males with convicted fathers were themselves convicted compared to 33% with unconvicted fathers. This is an odds ratio of 3.5. The odds ratio was 3.2 for sons of the convicted sample to be convicted (figure 1.2).

The intergenerational transmission of convictions could be direct (ie: imitation of parent) or indirect through socio-economic factors like large family size (five or more children in household), poor housing, poor parental supervision, and individual risk-taking. Statistical analysis that controlled for these factors suggested that they "may be links in the chain between parent and child offending. However, the father's convictions still predicted the son's convictions even after controlling for these risk factors" (Farrington et al 2009 p123).

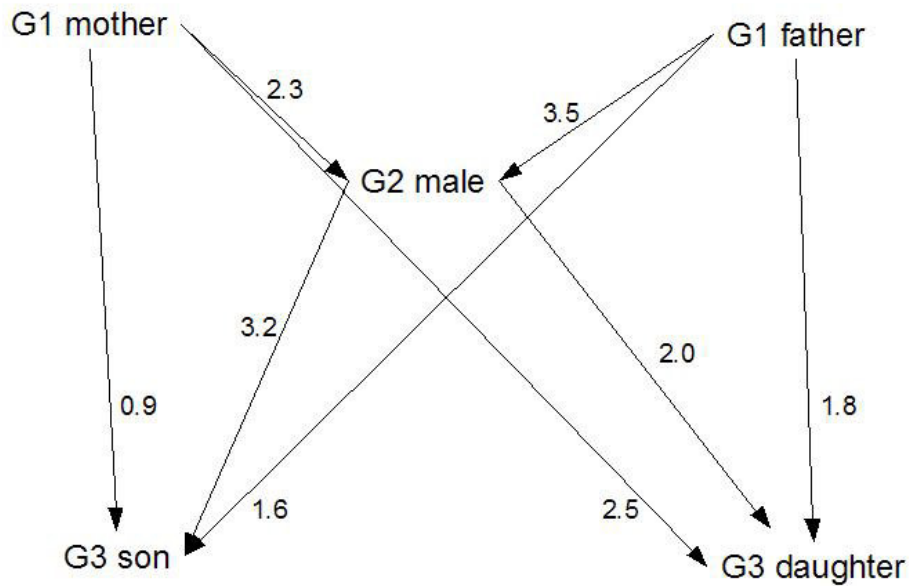


Figure 1.2 - Odds ratios of being convicted having a convicted relative.

1.3. ROCHESTER STUDIES

Thornberry et al (2009) focused on parenting behaviours as the means of intergenerational transmission. This parenting behaviour will be a product of adolescent delinquency and having the first child at a young age. "Parents who have a history of adolescent anti-social behaviour and who had a child at a young age are hypothesised to experience greater degrees of stress related specifically to the role of parent. In turn, all of these earlier characteristics are expected to lead to ineffective parenting behaviours characterised by weak affective ties to the child, poor monitoring and supervision, and inconsistent, explosive disciplinary styles" (p82). This will be more important for the mother as the primary caregiver than the father.

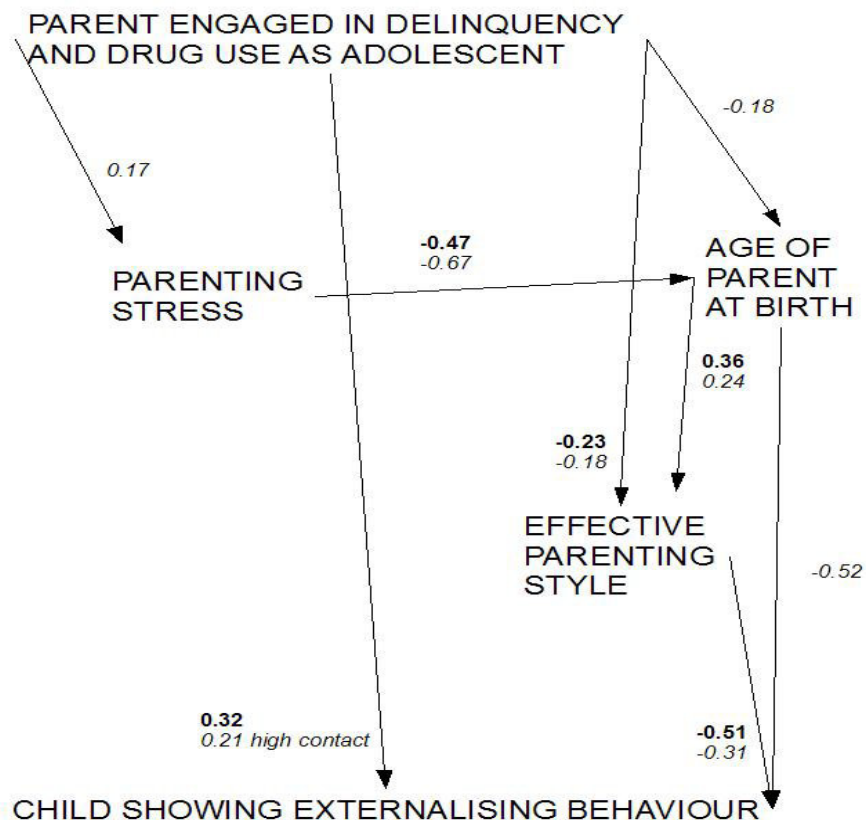
Data from the RYDS was used. This involved 1000 12-13 year-olds interviewed every six months between 1988 and 1992. Then a follow-up study began in 1999 as the Rochester Intergenerational Study (RIGS), and specifically with the children of the initial sample (543 had children).

The parents' self-reported anti-social behaviour as recorded in the RYDS (ie: as adolescents), parenting behaviour, and the children's externalising behaviour (eg: aggression) as reported by mothers collected during

the RIGS were the key measures ³.

There was a significant positive correlation ($r = 0.32$) between the mother engaging in delinquency and drug use as an adolescent and her child showing externalising behaviour at 8-9 years old. For fathers, this correlation was only significant with "high-contact" ones (those who lived with the child or had more than weekly contact). Adolescents with a history of delinquency were more likely to exhibit poor parenting styles (ie: not effective parenting), and effective parenting negative correlated with the child's externalising behaviour (figure 1.3).

This study shows that the mother's behaviour is more important than the father's on the child's externalising behaviour.



(Bold = mother; italics = father)

(After Thornberry et al 2009)

Figure 1.3 - Significant correlations between parents' behaviour and child showing externalising behaviour.

³ Parenting behaviour based on self reports on items about supervision (eg: knowing where child is and with whom), consistency of discipline, and affective ties to child.

1.4. OREGON YOUTH STUDY (OYS)

Based on data from the OYS of 206 young men and two associated studies of their partners, and children, Kim et al (2009) found gender differences in the intergenerational transmission of internalising (eg: anxiety, depression) and externalising (eg: conduct disorders) behaviours. The sample's behaviour was more influenced by their mother's behaviour (than the father's), and the sample in turn had a greater influence on their daughter's (than son's) behaviour.

The following significant relationships were found from structural equation modelling. This statistical technique predicts future behaviour from current assessments. In this case, assessment at time when boys 9-12 years old (T1) predicted when 13-18 years old (T2).

- Mother's internalising behaviour at T1 predicted sample's internalising behaviour at T2.
- Mother's externalising behaviour predicted sample's externalising behaviour.
- Father's internalising behaviour predicted sample's internalising behaviour (figure 1.4).

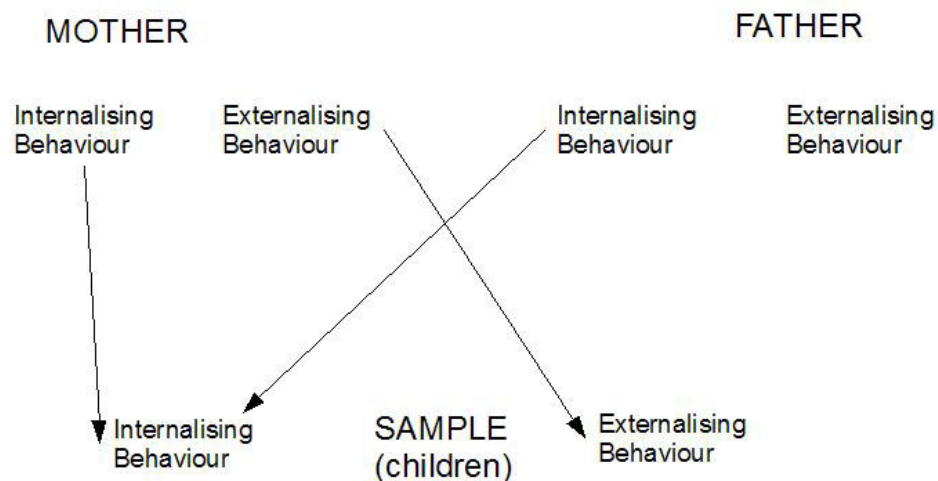


Figure 1.4 - Significant relationships between mother's and father's behaviour and sample's (children).

In terms of the sample's behaviour and their children, the following significant relationships were found:

- Internalising behaviour predicted daughter's

- internalising behaviour.
- Externalising behaviour predicted daughter's externalising behaviour.
- Sample's partner's (ie: mother) internalising behaviour predicted internalising behaviour of both sons and daughters (figure 1.5).

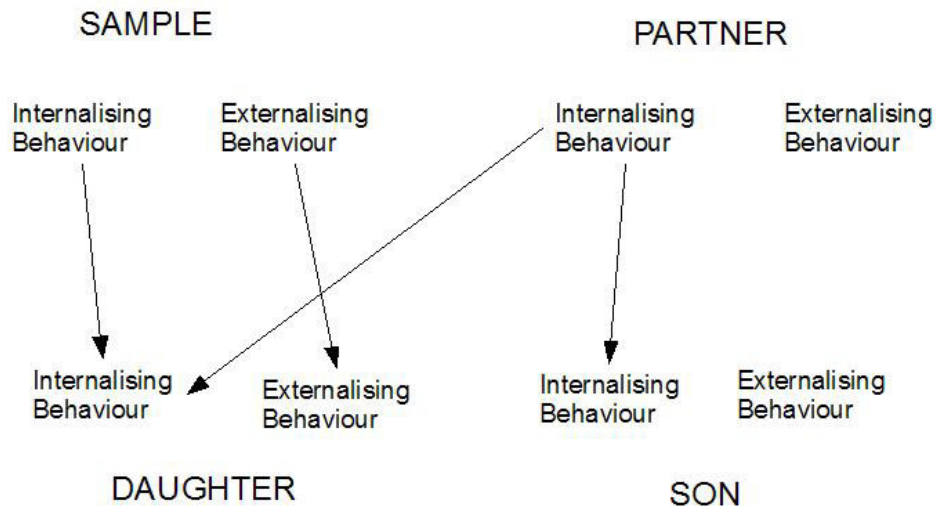


Figure 1.5 - Significant relationships between sample and partner and their children.

1.5. STUDIES IN THE NETHERLANDS

Van de Rakt et al (2009) showed, from the CCLS, that the criminal history of siblings is more important than parental convictions in the likelihood of conviction of the focal individual.

The CCLS was established by the Netherlands Institute for the Study of Crime and Law Enforcement to be able to construct the criminal careers of individuals from information held by the Public Prosecutor's Office. Van de Rakt et al concentrated on 7274 children with at least one sibling who were born to convicted fathers or matched controls (men born on the same day).

It was found, for example, that nearly three-quarters of boys convicted of an offence had sibling(s) who had committed multiple delinquent acts compared to about a quarter of boys with non-delinquent sibling(s).

In terms of the influence of the parents, one-third of children had convictions with a father with more than fifteen convictions compared to 10% with non-conviction fathers. Half the children had convictions with a

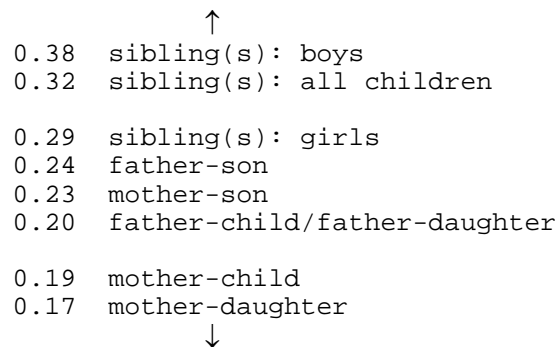
multiple conviction mother compared to about one-quarter of those with non-conviction mothers (table 1.2).

When the data is presented as correlations, the following likelihood of convictions were found: sibling-sibling +0.32, father-child +0.20, and mother-child +0.19 (figure 1.6).

	NO CONVICTIONS BY RELATIVE	MULTIPLE CONVICTIONS BY RELATIVE
Sibling:		
• All children	16.3	53.1
• Boys	25.3	72.1
• Girls	7.3	34.7
Father:		
• All children	11.1	38.5
• Boys	17.2	51.8
• Girls	4.3	25.1
Mother:		
• All children	22.9	50.7
• Boys	34.7	66.6
• Girls	11.0	31.5

(After Van de Rakt et al 2009)

Table 1.2 - Number of convicted children (%) based on convicted relatives.



(After Van de Rakt et al 2009)

Figure 1.6 - Correlations of convictions between family members.

1.5.1. Five-Generation Study in the Netherlands

Bijleveld and Wijkman (2009) collected retrospective data for five generations in the Netherlands focused on 198 adolescent males placed in a reform school in 1911-14:

- G1 - parents of focus (born in 1870s) (n = 367).
- G2 - focus (born in 1890s) (n = 198, and 207 partners).
- G3 - Children of focus (born in 1920s/30s) (n = 621, and 585 partners).
- G4 - Grandchildren of focus (born in 50s/1960s) (n = 1319, and 1130 partners).
- G5 = Great grandchildren of focus (born in 1980s) (n = 1971).

Data were amassed from archival records of births, deaths and marriages, and the police archives at the Dutch Criminal Records Documentation Service. All lifetime convictions ranging from serious traffic offences to murder were included as "any delinquency", and "serious delinquency" included only property, violent, drugs, and weapon offences.

Figure 1.7 shows the prevalence of delinquency across the generations.

G1	Father (16.2)	Mother (6.1)
		↓ (20.7/ 6.6)
G2	Focus (46.0/ 31.6)	Partner (3.9)
		↓ (43.0/ 30.8)
G3	Son (57.7/ 38.6)	Daughter (24.6/ 14.1)
		↓ (63.7/ 44.4)
G4	Grandson (53.6/ 33.7)	Grand-daughter (18.2/ 9.2)
		↓ (55.1/ 32.4)
G5	Great grandson (34.9/19.6)	Great grand-daughter (9.7/ 5.1)

(**Bold** = "serious delinquency"; *italics* = at least one delinquent parent - any/serious)

Figure 1.7 - Prevalence (%) of any and serious delinquency in each generation.

Generally, individuals were twice as likely to be convicted themselves if they had a parent with a criminal conviction than individuals with no family history, and

the influence of the delinquent father was greater than the delinquent mother. But for serious offences having a delinquent mother had a stronger effect. Convicted grandfathers were a risk for grandchildren, but probably indirectly through the parents.

Bijleveld and Wijkman then analysed the data in terms of the risk of children being convicted based on the parent(s)' conviction before or after their birth. Delinquency after the child was born increased the risk (2-4 times for serious offences) whereas delinquency before did not. This gives support to the imitation explanation for intergenerational transmission of delinquency and anti-social behaviour.

1.6. CONCLUSIONS

Longitudinal studies show that criminal behaviour is transmitted across the generations of families in different ways - through siblings having convictions, fathers influencing sons, and mothers' past history of delinquency, for example. These studies give researchers a lot of information about the intergenerational transmission of anti-social behaviours, but they are only showing general statistical patterns. They do not describe how an individual becomes involved in crime, delinquency and anti-social behaviour.

1.7. REFERENCES

Bijleveld, C.C.J.H & Farrington, D.P (2009) The importance of studies of intergenerational transmission of anti-social behaviour Criminal Behaviour and Mental Health 19, 77-79

Bijleveld, C.C.J.H & Wijkman, M (2009) Intergenerational continuity in convictions: A five-generation study Criminal Behaviour and Mental Health 19, 142-155

Caspi, A et al (2002) Role of genotype in the cycle of violence of maltreated children Science 297, 851-854

Farrington, D.P et al (1975) The familial transmission of criminality Medicine, Science and the Law 15, 177-186

Farrington, D.P et al (1996) The concentration of offenders in families Legal and Criminological Psychology 1, 47-63

Farrington, D.P et al (2001) The concentration of offenders in families, and family criminality in the prediction of boys' delinquency Journal of Adolescence 24, 579-596

Farrington, D.P et al (2009) Family factors in the intergenerational transmission of offending Criminal Behaviour and Mental Health 19, 109-124

Gosline, A (2008) When kids go bad New Scientist 12/4, 38-41

Kim, H.K et al (2009) Intergenerational transmission of internalising and externalising behaviours across three generations: Gender-specific

pathways Criminal Behaviour and Mental Health 19, 125-141

Moffitt, T.E (1993) Adolescent-limited and life-course-persistent anti-social behaviour: A developmental taxonomy Psychological Review 100, 674-701

Thornberry, T.P et al (2009) Intergenerational linkages in anti-social behaviour Criminal Behaviour and Mental Health 19, 80-93

Van de Rakt, M et al (2009) Association of criminal convictions between family members: Effects of siblings, fathers and mothers Criminal Behaviour and Mental Health 19, 94-108

2. PSYCHOSIS AND VIOLENCE: RETROSPECTIVE AND PROSPECTIVE STUDIES

- 2.1. Introduction
- 2.2. Milton et al (2001)
- 2.3. Appendix 2A - Arseneault et al (2000)
- 2.4. References

2.1. INTRODUCTION

High profile cases of homicides by psychotic individuals has created the belief in the public consciousness that all individuals with psychosis are dangerous ⁴. Is this the case? Are individuals with psychosis, like schizophrenia, more likely to be violent than individuals without mental illness? ⁵

If you look at the prison population and violent offences, most of them are not suffering from mental illness or were not suffering from psychosis at the time of their violence. Taylor and Gunn (1984) found that 60% of those in Brixton prison, south London for homicide had no mental illness compared to 10% with schizophrenia, while the figures were 67% and 9% respectively for other violence against the person.

So the simple answer to the question is no - psychotic individuals are no more violent. But this type of study has limitations (eg: it is a retrospective study). A more appropriate method of research to answer the question would be a prospective study (table 2.1). This would involve following a group of individuals for a period of time after diagnosis with mental illness. This is what Milton et al (2001) did.

⁴ For example, Christopher Clunis's killing of a stranger (Jonathan Zito) on the London Underground in 1993.

⁵ Legge (2002) argued that "The 'dangerous mental patient' is in fact nothing more than a social stereotype. It fulfils the same role that the 'lazy, ignorant negro' did in the southern states of the USA or that the 'sly, dishonest jew [sic] did in nazi Germany. It is a piece of politically motivated bigotry" (p9). Spandler (2002) goes further: "The demonisation of many mental health patients is part of a wider strategy of social regulation and oppression" (p13).

TYPE OF STUDY:	RETROSPECTIVE	PROSPECTIVE
ADVANTAGES	<ul style="list-style-type: none"> • Cheap and quick. • Small samples better. 	<ul style="list-style-type: none"> • Less bias as information recorded before outcome. • No risk of recall problems.
DISADVANTAGES	<ul style="list-style-type: none"> • Recall accuracy of participants. • Risk of bias as outcome already known. 	<ul style="list-style-type: none"> • High cost and time for large sample over long period. • Periodic examination of participants may influence their behaviour.

Table 2.1 - Comparison of retrospective prospective studies.

2.2. MILTON ET AL (2001)

Milton et al (2001) followed up, three years later, on 168 patients with a diagnosis of psychotic illness who first attended psychiatric services in Nottingham, England between 1st June 1992 and 31st May 1994. Details of violence were based on self-reports, psychiatric records, and official offending data from the Criminal Records Office.

Just under one in ten of the sample (9.6%) committed at least one act of "serious aggression" (weapon use, sexual assault, or victim injury) and nearly one-quarter (23.5%) committed any act of aggression during a psychotic episode.

Table 2.2 lists the main strengths and weaknesses of the study.

STRENGTHS	WEAKNESSES
<ol style="list-style-type: none"> 1. Prospective study - looking forward from beginning of study. 2. Studied a community-based sample rather than in-patients or specialist "high risk" groups as in other studies. 3. The diagnosis of individuals was based on standard criteria (ICD-10). 	<ol style="list-style-type: none"> 1. No comparison group from general population. 2. Problems of accurately measuring aggression (eg: some individuals did not give consent to access their criminal records). 3. Overall figures hide the variations within the data. For example, two individuals were responsible for 44 aggressive incidents out of 166.

Table 2.2 - Main strengths and weaknesses of Milton et al (2001).

Another method for studying the question of psychosis and violence is the birth cohort. This follows a group of individuals from birth to see who develops psychosis, and who commits violence (eg: Arseneault et al 2000; appendix 2A) (figure 2.1).

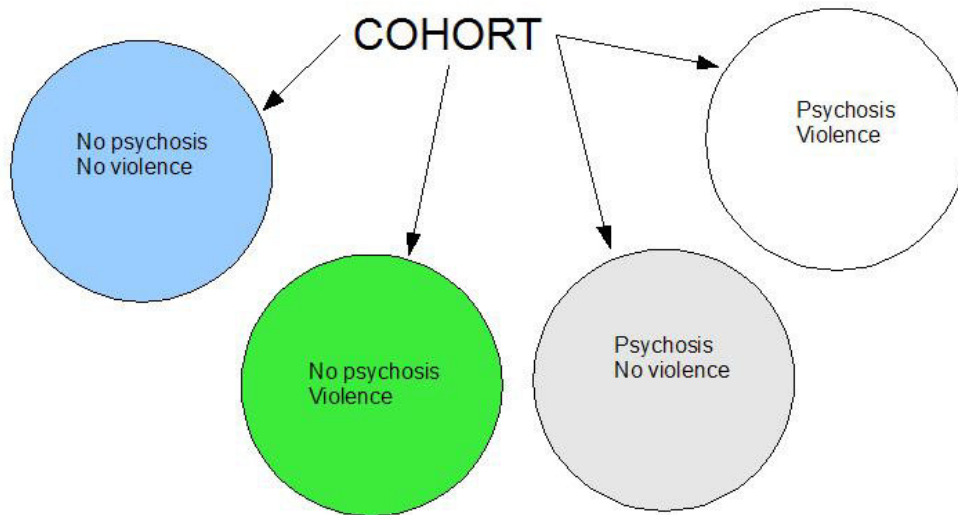


Figure 2.1 - Groups in a birth cohort study.

2.3. APPENDIX 2A - ARSENEAULT ET AL (2000)

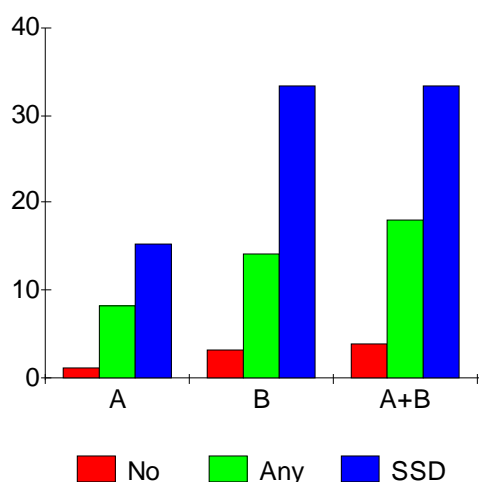
Arseneault et al (2000) reported on the Dunedin cohort at age twenty-one years. This cohort is 961 individuals born in Dunedin, New Zealand between 1st April 1972 and 31st March 1973.

At the time of the study, 2.5% of them had a diagnosis of schizophrenia-spectrum disorders, but this group accounted for 10% of violence in the past year. This is an odds ratio of 4.6 compared to individuals with no psychiatric disorder (figure 2.2) ⁶.

The authors concluded: "Not all individuals with mental disorders living in the community engage in violence; among young adults, the link is limited to 3 diagnoses: alcohol dependence, marijuana dependence, and schizophrenia-spectrum disorder" (p984) ⁷.

⁶ There was an odds ratio of 5.8 for any psychiatric disorder and violence.

⁷ 1.9% of the cohort had a diagnosis of alcohol dependence and 3.8% of marijuana dependence.



A = court convicted violence

B = self-reported violence

A+B = number of different individuals as some people will show both or either

No = no psychiatric disorder (n = 572)

Any = any psychiatric disorder (n = 389)

SSD = schizophrenia-spectrum disorders (n = 39)

Figure 2.2 - Rates of violence (%) in previous year.

2.4. REFERENCES

Arseneault, L et al (2000) Mental disorders and violence in a total birth cohort: Results from the Dunedin study Archives of General Psychiatry 57, 979-986

Legge, G (2002) The mythology of "the high profile case" Asylum 13, 2, 8-10

Milton, J et al (2001) Aggressive incidents in first-episode psychosis British Journal of Psychiatry 178, 433-440

Spandler, H (2002) Risky strategies? A response to Ken McLaughlin Asylum 13, 2, 13-14

Taylor, P.J & Gunn, J (1984) Violence and psychosis I - Risk of violence among psychotic men British Medical Journal 30/6, 1945-1948

3. HEAD INJURY AMONG YOUNG OFFENDERS

- 3.1. Introduction
- 3.2. Williams et al (2010)
 - 3.2.1. Evaluation of Williams et al (2010)
- 3.3. Reference

3.1. INTRODUCTION

Head injury (or traumatic brain injury, TBI, more correctly) has been linked to offending behaviour. It could be linked through direct damage to areas in the frontal lobe, for example, which normally inhibit impulsivity or control executive functions, or through problems with attention and memory.

Moderate to severe TBI is defined as loss of consciousness (LOC) of at least ten minutes, and mild TBI as LOC for less than ten minutes (Williams et al 2010).

Rates of TBI in adult males is between 5-24%, and in the adult prison population varying from 25% to 87% depending on the study (Williams et al 2010).

3.2. WILLIAMS ET AL (2010)

Williams et al (2010) found that nearly half of 186 male offenders aged 11-19 years old ⁸ at a Young Offender Institute in England reported a LOC from a head injury, and one-third had experienced multiple occasions. The frequency of self-reported TBI ⁹ was associated with more convictions ¹⁰, greater violence in offences ¹¹, more mental illness problems ¹², and cannabis use ¹³.

⁸ Exclusion criteria included: "severe mental health disorder (eg: psychosis, depression with suicidal ideation); severe intellectual disability (those with specific learning difficulty, eg: attention deficit hyperactivity disorder were not excluded); and any medical health condition that may affect cognitive functioning, eg: stroke, epilepsy and diabetes" (p804).

⁹ TBI was measured by the questions: "Have you ever had a blow to the head causing you to be knocked out, and/or dazed and confused, for a period of time?". Participants were then asked to estimate the length of time they experienced a loss of consciousness (LOC), (Mild = LOC <10 minutes, Moderate = LOC 10 minutes to 6 hours, Severe = LOC >6 hours). They were also asked: 'How many times have you been knocked out and/or dazed and confused?'. They were also asked what the causes of their injuries were, and their age at their 'worst' injury" (p805).

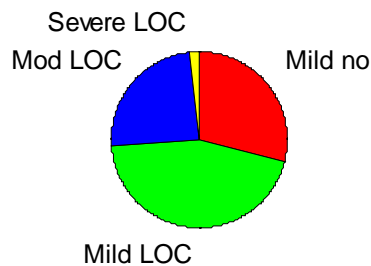
¹⁰ Those with TBI had a mean of 7.52 convictions compared to 5.89 for non-TBI respondents (p = 0.02).

¹¹ An Index of Violence Offending was created based on self-ratings of violence related to convicted (from 0 to 6).

¹² Measured using the General Health Questionnaire (GHQ-12) for last month.

¹³ The frequency of five drugs was self-rated from 0 (never) to 5 (every day).

Any TBI was reported by 65.1% of the sample, but the researchers felt that only 19.1% were "possible TBI" with no LOC. Of the sample, 46% had a TBI with LOC, 29.6% mild TBI with LOC and 16.6% moderate to severe (figure 3.1). The most common causes were fights (58% of head injuries), falls while on drugs (10%), and related to offending (eg: joyriding accident) (8%).



Mild no = mild head injury with no LOC (29%)
Mild LOC = mild head injury with LOC (<10 mins) (45%)
Mod LOC = moderate head injury with LOC (10 mins - 6 hrs) (24%)
Severe LOC = severe head injury with LOC (>6 hrs) (2%)

Figure 3.1 - Frequency of types of head injury.

3.2.1. Evaluation of Williams et al (2010)

- (-) No comparison group of non-offenders.
- (-) Based on self-reports with no independent verification of facts (ie: risk of deliberately false information).
- (-) Retrospective data (ie: risk of memory errors).
- (+) Asked individuals themselves about their experiences, and they would know of cases not reported to authorities (eg: head injury without hospital treatment or offences undetected by police).
- (-) Not able to establish that the TBI caused neuropsychological problems. This would require standard tests.
- (-) Did not control for factors like severe abuse in childhood which could have caused both offending and brain injury.

- (+) Dealing with ethical issues - parental permission sought for those under sixteen, and it was "explicitly stated that information provided would not be used by the prison authorities" (p804).
- (+) Offenders were provided with an incentive to participate and to take the questionnaires seriously, namely £4 and having their name put into a lottery for a small digital music player.
- (-) Not able to establish causal direction of head injury and convictions - head injury before conviction (which suggested causation) or vice versa.

3.3. REFERENCE

Williams, W.H et al (2010) Self-reported traumatic brain injury in male young offenders: A risk factor for re-offending, poor mental health and violence? Neuropsychological Rehabilitative 20, 6, 801-812

4. THE ARRIVAL OF CYBER CRIMES

- 4.1 Introduction
- 4.2. Online dating
- 4.3. Cyber-stalking
- 4.4. Other anti-social behaviours
- 4.5. Recruitment to terrorism on the Internet
- 4.6. Appendix 4A - Deindividuation
- 4.7. References

4.1. INTRODUCTION

The growth of information and communication technologies (ICTs) and the Internet in recent years has had a great influence upon life, including as a new arena for criminal and delinquent behaviour: "the Internet, with its infinite size and previously unimaginable capabilities, has a dark side in that it has opened windows of previously unknown criminal opportunities that not only challenge, but also transcend all physical boundaries, borders, and limitations to detect, punish, and diminish what appears to be a growing social problem of global proportions" (Pittaro 2007 p180). This article explores some examples of the research on such behaviour ("cyber crimes").

Rege (2009) defined them as "any crime (i) where ICTs may be the agent/perpetrator, the facilitator/instrument, or the victim/target of the crime and (ii) which may either be a single event or an on-going series of events" (p495). Cyber-criminals are individuals who "(i) are driven by a range of motivations, such as thrill, revenge, and profit, (ii) commit and/or facilitate cyber crimes, (iii) work alone, in simple partnerships, or in more formalised settings, and (iv) have varying levels of technical expertise" (Rege 2009 p495).

4.2. ONLINE DATING

Finding a romantic partner through online dating is a growth industry, but there is the risk of romance scams and identity fraud.

Romance scams (or "sweetheart swindles"), which have existed before the Internet, make the victims believe that they are loved in order to commit another crime, like requesting money with a tragic narrative. "Given the amount of time and effort undertaken by the scammer to set the groundwork and establish trust, many victims do not realise they are being scammed, making this activity profitable for the scammer" (Rege 2009 p498).

Limited information is known about the scammers except when they are taken to court. For example, Patrick Giblin was charged in 2005 with swindling 130 women in the USA out of over \$300 000. He claimed to be a law enforcement officer for credibility, cultivated a telephone relationship with the victim over several weeks, and requested money to help pay for his relocation to their area. If the woman wired him the money, he disappeared (Rege 2009).

In romance scams by organised groups, "enforcers" will apply pressure and/or emotional blackmail against unwilling victims: "scammers often said, 'you don't have any feelings for me', 'I thought we had a real relationship here', or 'you're heartless' to lure the victim back into the scam... In cases where scammers were exposed, they swore that they fell in love with the victim. This technique was effective because victims already had a strong bond with their scammers... In scams where webcams were used by victims, fraudsters recorded webcam videos and later used these to extort money to prevent releasing films and pictures to porn sites" (Rege 2009 p503).

Rege (2009) noted the common characteristics of such scammers, including those working in organised groups in countries like Nigeria (Dixon 2005 quoted in Rege 2009):

i) Patient in grooming their victims (for several months sometimes).

ii) No need for technological knowledge about ICT, like hackers, but highly socially skilled ("smooth-talking").

iii) Disciplined in approach with routines, like doing a "day's work", particularly if more than one victim is cultivated at a time.

iv) Subscribe to "scam-culture" which shares information and tools, like formats for letters.

v) Evidence of neutralising techniques ¹⁴ to rationalise the scam - "denial of victim" (victim deserves it), "denial of injury" ("nobody really got

¹⁴ Sykes and Matza (1957) have proposed five techniques of neutralisation which allows criminals to deny their actions are wrong or harmful;

i) Denial of responsibility (eg: blaming their upbringing).

ii) Denial of injury to victim.

iii) Denial of victim (ie: victim deserves it).

iv) Condemnation of condemners (ie: critical of criminal justice system).

v) Appeal to higher loyalties (eg: peers).

hurt"), and "appeal to higher loyalties" (the organisation).

Identity fraud occurs in these situations as the scammer is usually pretending to be someone else, either in sending false photographs or a complete biography. "The absence of in-person interaction and other sensory cues (visual appearance, sound, and so on) available in the real world to authenticate identity contribute significantly to the potential for protecting, modifying, or otherwise misrepresenting identity" (Rege 2009 p501). While financial fraud (eg: stolen credit card details) may be used to pay for membership of the sites.

At the extreme end of this, Sullivan (2005 quoted in Rege 2009 ¹⁵) reported the scenario where dating victims in the USA were used as "middle-men" to re-ship merchandise purchased on stolen credit cards to Nigeria.

4.3. CYBER-STALKING

Pittaro (2007) defined a cyber-stalker as "an offender who uses the Internet as a tool or weapon of sorts to prey upon, harass, threaten, and generate immense fear and trepidation in its victims through sophisticated stalking tactics" (p180). Bocij et al (2003) preferred a more detailed and wider definition:

A group of behaviours in which an individual, group of individuals or organisation uses information technology to harass one or more individuals. Such behaviour may include, but are not limited to, the transmission of threats and false accusations, identity theft, data theft, damage to data or equipment, computer monitoring and the solicitation of minors for sexual purposes. Harassment is defined as a course of action that a reasonable person, in possession of the same information, would think causes another reasonable person to suffer emotional distress (p29).

How does cyber-stalking compare to traditional offline stalking? In the main, it is the same, but varies in geographical proximity (ie: cyber-stalker does not have to live near the victim). The Internet has reduced the traditional barriers to information about a victim gained by offline stalkers (eg: access to address and telephone number).

"Cyber stalking, like traditional offline stalking,

¹⁵ See version of story at <http://www.msnbc.msn.com/id/8704213/print/1/displaymode/1098>.

is fuelled by rage, power, control, and anger that may have been precipitated by a victim's actions or, in some cases, the victim's inactions. The research suggests that the number of cyber stalking incidents will continue to mount, in part, because the Internet provides a safe haven in which an offender can theoretically hide and conceal one's identity behind a veil of anonymity" (Pittaro 2007 p181).

Bocij et al (2003) described a case study of "Mr.X" who routinely harassed women on the Internet using different identities to gain information about the victim - one identity was a woman similar to the victim, another was a sympathetic, mature male, and then, a young male who flirted with the victims and made sexual innuendos.

In some cases, authorities can minimise cyber-stalking as a nuisance only. There are extreme and rare examples to show that it can be a very serious issue. For example, in 1999 in New Hampshire, USA, Liam Youens killed Amy Lynn Boyer, who he had known from school. For two years he had maintained a website called "Amy Boyer", with details of his feelings (of rejection by her), his stalking, and the wish to kill her (Spencer 2000 quoted in Pittaro 2007).

Revenge and retaliation appear to be key elements of cyber-stalking through behaviours like cyber-smearing (the posting of negative information about the victim in chat rooms), and using websites that promote such behaviour (eg: "payback" websites that hide an email sender's name) (Pittaro 2007).

McFarlane and Bocij (2005) distinguished between four types of cyber-stalkers based on interviews with twenty-two women and two men:

i) Vindictive cyber-stalkers - These individuals harass the victim with excessive spamming, "email bombing", and identity theft. There may be mental illness present.

McFarlane and Bocij observed: "They threatened their victims more than any other group and in the majority of cases they actually stalked their target offline. A third of the perpetrators were known to have had a previous criminal record, and two-thirds were known to have victimised others before. In half the cases the participants stated that the harassment started over a trivial debate or discussion, which blew up out of all proportion. In a third of cases there was no apparent reason and the rest of the victims commented that there was an active argument involving both parties".

ii) Composed cyber-stalkers - This type has the calm desire to cause distress through threatening behaviours.

McFarlane and Bocij commented: "It is difficult to draw a comparison with the composed cyber-stalker - there is simply nothing comparable in the literature dealing with offline stalking. The major question here is why would an individual engage in cyber-stalking? One possibility may be that because of the anonymous nature of the Internet they are disinhibited in their communication and in their actions. Why not use more vicious methods to attack their victims, eg: Trojans or viruses? Perhaps they would perceive that using such methods would be 'overkill'. This kind of cyber-stalker needs to be further researched" ¹⁶.

iii) Intimate cyber-stalkers - This type were motivated by the desire to establish a relationship with the victim.

iv) Collective cyber-stalkers - This involved two or more individuals who pursue the same victim. For example, the "perpetrators perceived that they had been 'wronged' and wished to 'punish' the victim".

4.4. OTHER ANTI-SOCIAL BEHAVIOURS

Two particular behaviours in the cyber-world that can be destructive, if not annoying and anti-social, are hacking and trolling.

Hacking is the deliberate changing of information on the Internet by individuals who are not owners of that information (eg: websites or computer code). Hackers can be divided into those for financial gain, self-gratification ¹⁷, or political motivation ("hacktivism") (Falk 2005).

Turgeman-Goldschmidt (2005) interviewed fifty-four Israeli hackers finding motivations related to fun and excitement, curiosity, display of computer talents, revenge, and economic gain.

Herring et al (2002) described trolls in online discussion forums as showing outward signs of sincerity while trying to "flame bait" (provoke aggressive exchanges) and/or encourage futile arguments. As one troll, Andrew, said: "The object of recreational trolling is to sit back and laugh at all those gullible idiots

¹⁶ The anonymity of the Internet could lead to a process called deindividuation (appendix 4A).

¹⁷ In Internet jargon, a hacker for this reason is a "script kiddie" - "someone who downloads existing code and executes commands to cause harm" (Shachaf and Hara 2010 p367).

that will believe anything" (quoted in Herring et al 2002), particularly catching "newbies" (inexperienced users).

Trolling is like a game of deception where most players are not aware of the nature of the game (Herring et al 2002). So a troll will write something provocative, but not too much, to gain the maximum number of responses. These "career trolls" seek to disrupt groups rather than just to gain attention (Herring et al 2002).

The loss of trust and the emotional consequences of a troll within a discussion group can easily be overlooked, particularly if the discussion group involved sensitive topics. Herring et al (2002), referring to a case study of a troll on an online feminist forum, likened the behaviour to harassment.

Shachaf and Hara (2010) explored the behaviour of five trolls in the Hebrew language version of Wikipedia. The trolls tended to use argumentative writing styles, and were aggressive and threatening towards system administrators (sysops). For example, "troll 5": "Most of the articles he edited were related to wrestling. They were often poorly written and included numerous grammatical errors. When one of the sysops asked troll 5 to improve his editing, troll 5 responded with strong anger; then, troll 5's account was blocked, which he aggressively protested. He used vulgar language in all of his comments and physically threatened the sysop who blocked him, and this sysop's family, more than once, with physical violence" (p363).

The main behaviour on Wikipedia by trolls were repetitive and harmful actions including:

'repeatedly inserting text that violates policies, registering derogatory usernames, blanking (removing all content of) articles, renaming articles to random names, and inserting intentionally misleading, wrong, or irrelevant information' (interviewee 3). These actions reduce the accuracy and reliability of the Wikipedia project. The difficulties that a troll creates by 'ignoring policy.. and [for example] adding "illegal" porn-related articles' (interviewee 8) are serious. Likewise, the troll 'often creates silly articles (eg: "Yosi is a very cute kid!"), articles without content or full of nonsensical speech (eg: "hdgfsakjhgf")...or add[s] curse words' (interviewee 2) (p364).

Three sets of motivations were identified by the researchers:

- i) Boredom, attention-seeking, and revenge;
- ii) Fun and excitement;
- iii) Damage to the "community" and other people.

Overall, Shachaf and Hara felt that the motivations of trolls resembled many of those of hackers, using Mulhall's (1997) eight criteria:

- Intellectual curiosity.
- Excitement.
- Revenge.
- Access to information.
- Power.
- Prestige.

But not greed/wealth or challenge.

4.5. RECRUITMENT TO TERRORISM ON THE INTERNET

Freiberger and Crane (2008) observed:

While many face-to-face interactions are initiated due to demographic characteristics (gender, race, ethnicity, and attractiveness), the Internet can bring individuals together based on their personal interests and values. The result is a relationship that begins development at a less superficial level. This is especially beneficial for individuals whose ideas, experiences, and beliefs are not main stream and that often incite negative judgments from the majority. The Internet allows them to seek out others more easily with the same beliefs and views. Furthermore, the Internet can offer these individuals a source of support and allow them to connect with each other, giving them an outlet where they can become part of a sympathetic group. Unfortunately, however, these advantages also have come with negative consequences. The Internet has become an important tool for illegitimate users, such as paedophiles and terrorists, allowing them to benefit from this innovative form of communication (p310).

Practically all terrorist groups have a presence on the Internet including their own websites (Weimann 2004). This is important, Freiberger and Crane (2008) argued, because deviant behaviour is learned from others, according the Social Learning Approach of Akers (1985)¹⁸. There are four main processes involved:

¹⁸ This is based on the differential association theory of Sutherland (1939). The differential association theory is seen as a specific version of Behaviourism applied to crime. Sutherland (1939) stated a number of assumptions to show how crime is learnt. Most importantly, learning is through the association with other people, and the individual learns the behaviour, attitudes, and motives of crime that way. Jeffery (1965) added the concept of past reinforcements and punishments to account for who actually becomes a criminal in this theory. The individual experience of reinforcement and punishment can explain why some individuals from the same background become criminals and others do not.

i) Differential association - Individuals and groups with whom a person associates gives meaning to the person's behaviour.

ii) Definitions - Differential association is involved in defining behaviour as right or wrong, acceptable or unacceptable etc. Well designed websites can justify the violence used by presenting the terrorist group as the "real" victims while dehumanising the targets of attacks through videos. "Shaping their beliefs in a milder and righteous manner can make it easier for youths to accept definitions favourable to terrorist activities. When violent terrorist acts are presented as self-defence and the victim is depicted as evil and artificial, the use of violence can be more easily justified as they are less likely to incite strong contradictions to the youth's existing belief system. This more easily allows the youths to incorporate definitions favourable to violent terrorist activities" (Freiburger and Crane 2008 p315).

iii) Differential reinforcement - Individuals engage in behaviour that they believe will be rewarded by those that matter to them. Terrorist group websites present the rewards of the violence, like the glorifying of suicide bombers.

iv) Imitation - The copying certain behaviours.

This process can be particularly strong with marginalised individuals, and may cause them to act in real-life. For example, McKenna and Bargh (1998) reported that individuals with stigmatised sexual identities or ideological beliefs were more willing to tell those around them in the offline world if they had online support. "Therefore, given the power of the Internet to elicit action from individuals, it is reasonable to predict that terrorist's members who are recruited and groomed through the Internet will be more willing to resort to violent action quicker than terrorists of the past" (Freiburger and Crane 2008 p314).

4.6. APPENDIX 4A - DEINDIVIDUATION

One explanation for anti-social behaviour is deindividuation. This is where group members are not seen as individuals, and the consequent state of deindividuation lowers restraints on behaviour (Festinger et al 1952).

Deindividuation can occur in other situations than group membership, most importantly for its relevance to the Internet is anonymity.

In a classic social psychology experiment, Diener et al (1976) manipulated certain variables as 1352 children in Seattle, USA, went around the city during Halloween Trick-or-Treat (31st October). It was a field experiment based around twenty-seven houses. The dependent variable of anti-social behaviour was the children stealing candy or money.

Inside the front door of each house was a table containing candy bars, and pennies and nickels which could be covertly observed by a researcher. As the children approached the house, a female experimenter greeted them saying: "You (or each of you) may take one of the candies. I have to go back to my work in another room" (p180).

There were three independent variables being tested in relation to deindividuation:

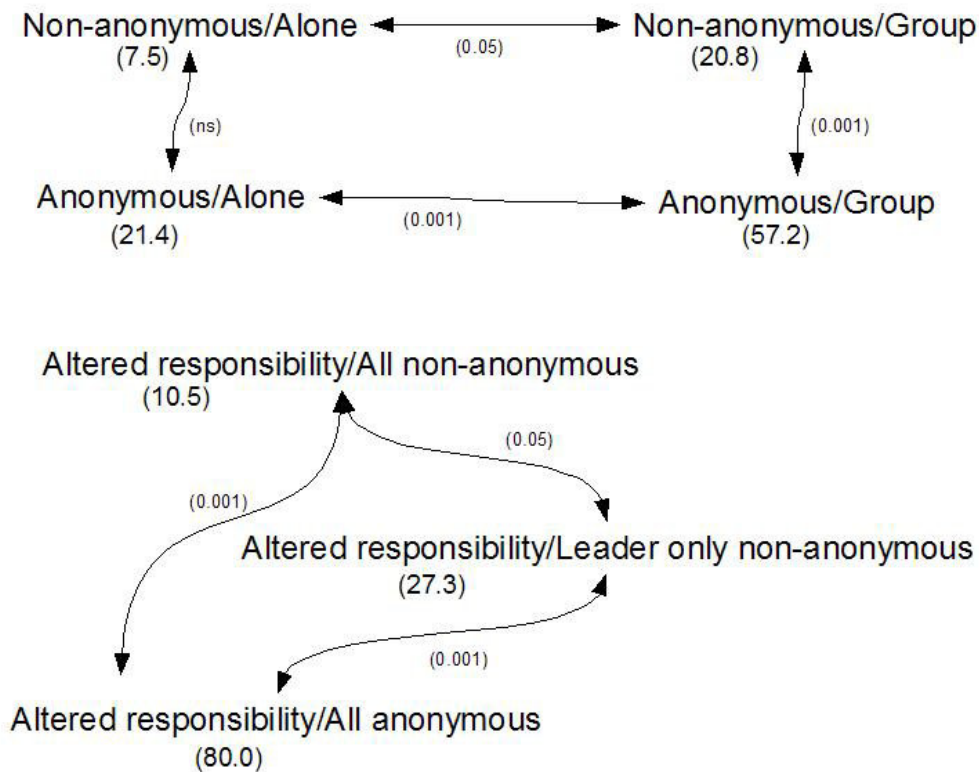
i) Anonymous versus non-anonymous - In the non-anonymous conditions, the experimenter explicitly asked each child their name and where they lived, but not in the anonymous conditions. The former conditions reduced deindividuation and heightened individuation. Most children were wearing costumes and masks which hid their identity and produced deindividuation.

ii) Group versus alone - The children came to the houses in small groups or alone.

iii) Altered responsibility - "After instructing each child to take only one candy, the experimenter assigned the smallest child to be responsible if any extra candy was taken. The smallest child was given responsibility because he or she could most easily be made the scapegoat by the others. He or she had the least power to influence the other children. Since we were interested in studying feelings of altered responsibility, not leadership behaviour, it seemed most appropriate to assign responsibility to the child least likely to exert strong pressures on the group. It was predicted that making one child responsible would increase stealing among the others because implicitly it suggested that they were not responsible" (p180).

The children were more likely to steal extra candy or money in the anonymous than non-anonymous conditions - alone (21.4% vs 7.5%) and in a group (57.2% vs 20.8%), and more likely in the altered responsibility conditions (figure 4.1). Overall, the deindividuation variables (anonymous, in a group, and no responsibility) lead to more stealing than the individuation variables (non-anonymous, and alone). Diener et al (1976) summarised the findings: "Although anonymity did seem to have a weak but non-significant effect on alone individuals, anonymity

for group members produced a large effect. Anonymity by itself may release some anti-social behaviour because it reduces fear of apprehension. But when anonymity occurs in a group, it may have additional effects, such as fostering deindividuation" (p181).



(ns = not significant at $p < 0.05$)

Figure 4.1 - Rates (%) of stealing in different conditions and significant differences between them.

4.7. REFERENCES

Akers, R (1985) Deviant Behaviour: A Social Learning Approach Belmont, CA: Wadsworth

Bocij, P et al (2003) Cyber-stalking: A case study of serial harassment in the UK British Journal of Forensic Practice 5, 2, 25-32

Diener, E et al (1976) Effects of deindividuation variables on stealing among Halloween Trick-or-Treaters Journal of Personality and Social Psychology 33, 2, 178-183

Falk, C (2005) Ethics of hacking: The general and the specific Norwich University Journal of Information Assurance 1, 1

Festinger, L et al (1952) Some consequences of deindividuation in a group Journal of Abnormal and Social Psychology 47, 382-389

Freiburger, T & Crane, J.S (2008) A systematic examination of

terrorist use of the Internet International Journal of Cyber Criminology 2, 1, 309-319

Herring, S.C et al (2002) Searching for safety online: Managing "trolling" in a feminist forum The Information Society 18, 5, 371-383

Jeffery, C.R (1965) Criminal behaviour and learning theory Journal of Law, Criminology and Police Science 56, 294-300

McFarlane, L & Bocij, P (2005) An exploration of predatory behaviour in cyber-space: Towards a typology of cyber-stalkers First Monday 8, 9

McKenna, K.Y.A & Bargh, J.A (1998) Coming out in the age of of the Internet: Identity "demarginalisation" through virtual group participation Journal of Personality and Social Psychology 75, 3, 681-694

Mulhall, T (1997) Where have all the hackers gone? Part 3 - Motivation and deterrence Computers and Security 16, 291-297

Pittaro, M.L (2007) Cyber-stalking: An analysis of online harassment and intimidation International Journal of Cyber Criminology 1, 2, 180-187

Rege, A (2009) What's love got to do with it? Exploring online dating scams and identity fraud International Journal of Cyber Crime 3, 2, 494-512

Shachaf, P & Hara, N (2010) Beyond vandalism: Wikipedia trolls Journal of Information Science 36, 3, 357-370

Sutherland, E.H (1939) Principles of Criminology Philadelphia: Lippincott

Sykes, G & Matza, D (1957) Techniques of neutralisation: A theory of delinquency American Sociological Review 22, 664-673

Turgeman-Goldschmidt, O (2005) Hackers' accounts: Hacking as social entertainment Social Science Computer Review 23, 1, 8-23

Weimann, G (2004) www.terror.net. How Modern Terrorism Uses the Internet Washington DC: United States Institute of Peace

5. THE USE OF STUDENTS IN EXPERIMENTS ON DETECTING DECEPTION

Students are commonly used in psychology experiments generally. Valentine (1982) believed it was over three-quarters of research. While Kimmel (1996) estimated that 70% of studies in personality and social psychology, and 90% of cognitive psychology studies used students as participants.

Sears (1986) noted how students vary from the general population:

- Their self concept may not be fully formed;
- Their social and political attitudes may be less crystallised;
- They may be more egocentric;
- They may have a stronger need for peer approval;
- They may have unstable peer relationships.

The key issue is the generalisability of the findings to the general population (or ecological validity). This is even more important in experiments in forensic and criminal psychology where the process of deception in police interviews and how to detect it is important. But using students in laboratory experiments has limitations compared to real offenders (table 5.1).

Here are two examples of experiments on aspects of deception and its detection using students.

1. Vrij (2006)

Vrij (2006) was interested to see if a particular style of interrogation could aid in spotting truth tellers and liars.

Thirty-six students (30 male/sixteen female) with an average age of 20 were recruited in the Students' Union¹⁹. They were told that the experiment was about "telling a convincing story".

While sitting alone in a classroom, a confederate enters and erases some complicated formulae off the backboard. The participants were asked to either tell the truth or lie about seeing this event in a subsequent interview. An incentive for convincing the interviewer of their story was offered (ie: £5). Failure to convince would be penalised by having to write a long essay about the event. The hit rate for the researchers was 83% for

¹⁹ Probably at the University of Portsmouth, England.

1. Motivations of students versus offenders - The students may not be motivated to take the experiment seriously, and the successful hiding of deception does not matter. Offenders face real consequences to their success or failure in doing this.
2. The situation - The laboratory environment is very different to the police station and the experience of time in the cells.
3. Age differences - Students are traditionally 18-22 years old whereas offenders are of various ages (but mainly older).
4. IQ differences - Students are probably more intelligent (and more educated) than the average offender.
5. Lying - Offenders may have more experience of deception, particularly with authorities, than students.
6. Other differences - eg: social class, ethnicity.
7. Demand characteristics of the experiment - Students may be unconsciously doing what the experimenter expects or wants (known as "demand characteristics") whereas offenders are trying to do the opposite to what the police want usually.
8. Volunteers - Individuals who volunteer for research are not typical of the general population (eg: higher need for social approval; Brewer 2005).
9. Motivations of coerced students - Some students have to participate in experiments as part of their course. They may not be willing and co-operative.
10. The ethics of research restrict what can happen compared to what might happen in a police station (eg: implicit or explicit threats).

Table 5.1 - Limitations of using students in experiments on detecting deception.

detecting truth or lies.

Specific problems with generalisability of research:

- The incentive to succeed in convincing the interviewer was small, and there was no real consequences to failure (ie: students went home whatever happened).
- Use of volunteers.
- A scenario of little emotional importance to the participants (ie: they probably did not care about formulae being erased).

2. Van Oorsouw and Merckelbach (2006)

This experiment investigated feigned amnesia for a mock crime.

Sixty undergraduate psychology students (47

female/thirteen male) with an average age of 21 years participated for two "course credit hours" ²⁰.

Participants were instructed to "rob" a "local bar", and then to feign amnesia or answer honestly in a written account of the "crime". One week later they were all asked to write an honest account of the "crime". It was found that feigning amnesia caused genuine memory problems.

Specific problems with generalisability of research:

- The experiment was really role-playing, and the question is how seriously the students took it.
- The motivation of participants for course credits produces an element of compulsion, and such individuals may be unco-operative (eg: not caring about their account of the "crime").
- Not only are the participants students, but they are undergraduates and psychology students. This is even more specific and unrepresentative of the general population.

REFERENCES

- Brewer, K (2005) The use of volunteers in psychological research Psychology Information for Students 3, 8-11
- Kimmel, A.J (1996) Ethical Issues in Behavioural Research Cambridge, MA: Blackwell
- Sears, D.O (1986) College sophomores in the lab: Influences of a narrow database on psychology's view of human nature Journal of Personality and Social Psychology 51, 513-530
- Valentine, E.R (1982) Conceptual Issues in Psychology London: Allen & Unwin
- Van Oorsouw, K & Merckelbach, H (2006) Simulating amnesia and memories of a mock crime Psychology, Crime and Law 12, 3, 261-271
- Vrij, A (2006) Challenging interviewees during interviews: The potential effects on lie detection Psychology, Crime and Law 12, 2, 193-206

²⁰ Probably at Maastricht University, The Netherlands.