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**INTERNAL AND EXTERNAL
PREDICTORS OF
ADOLESCENT ANTISOCIAL
BEHAVIOUR**

A thesis presented in partial fulfilment of the requirements

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ABSTRACT

The internal and external predictors of adolescent antisocial behaviour were investigated with 132 participants from youth homes and university psychology classes. Personality was the chosen internal predictor, and family environment and peer influence were the selected external predictors. The purpose of the current study was to examine these predictors, and their relative effects. Participants were given a five- part questionnaire to complete. The questionnaire included sections from the Young Adult Self- Report, Eysenck Personality Questionnaire, and the Family Environment Scale. Total antisocial behaviour was significantly predicted by age, psychoticism, neuroticism, social conformity, peer influence and achievement orientation in the participant's family. There were limited differences regarding sex, education level and ethnicity. It is concluded that personality contributes the most to adolescent antisocial behaviour. Implications for future research and treatment strategies are discussed.

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CHAPTER I

INTRODUCTION

Recorded crime rates have risen substantially over the last four decades (Triggs, 1997), as has the number of youth committing crime (New Zealand Police & Statistics New Zealand, 1996). It is suggested that if this behaviour can be treated when the individuals are young, the behaviour can be prevented from becoming more serious in adulthood. This benefits not only the individuals and their families and friends, but society at large as well.

This study attempts to examine the relation of several internal and external variables pertaining to adolescent antisocial behaviour. Internal factors include the personality variables of psychoticism, neuroticism, and extraversion/ introversion. External factors involve family environment and peer influence.

1.1 Definitions

Some researchers and theorists are cautious when describing an individual's behaviour as antisocial. According to Kazdin (1985) such a categorisation is dependent on several factors. Whether or not the behaviour is viewed as problematic depends on the frequency, severity (Herbert, 1978, cited Davison & Neale, 1996; Kazdin, 1985), breadth, chronicity and consequences of the behaviours (Kazdin, 1985). For example an adolescent becoming involved in a single fight in one year would not be considered

problematic behaviour, whereas becoming involved in a fight every week would (Davison & Neale, 1996). Synonymously, stealing a large sum of money would be considered problematic, whereas taking a pen from the stationary shop would not (Davison & Neale, 1996).

Tolan and Loeber (1993) believe that, due to the 'universality' of antisocial behaviour, and the widespread involvement in it, levels of involvement need to be distinguished. They state that because the majority of adolescents only indulge in more minor offences for a few years, the type of involvement and the length of time spent involved (or chronicity) in antisocial behaviour additionally need to be examined.

When defining problem behaviour, the researcher will also need to decide whether to examine the problem behaviour in question in isolation or in the context of other co-occurring problem behaviours (Sprinthall & Collins, 1995). There is a high rate of comorbidity of antisocial behaviour with other disorders, such as attention deficit hyperactivity disorder (ADHD) (Frick, 1998), and posttraumatic stress disorder (PTSD) (Cauffman, Feldman, Waterman and Steiner, 1998). There may also be a large amount of similarities between conduct disorder and other disorders. For example, a 30 to 90 percent overlap has been discovered between the two classifications of ADHD and conduct disorder (Hinshaw, 1987, cited Davison & Neale, 1996). This has resulted in some researchers stating that these two kinds of behaviour are the same disorder (Quay, 1979, cited Davison & Neale, 1996). This may create further difficulties for the researcher when attempting to classify an adolescent's behaviour.

1.1.1 Antisocial behaviour

Although there is not one singularly accepted definition of antisocial behaviour, there seems to be a common thread amongst the various definitions that exist.

Antisocial behaviour has been described as disruptive, and often aggressive, acts (Dishion & Patterson, 1993; Van der Kley, 1996). Loeber (1985) describes antisocial acts as behaviours that "inflict physical or mental harm or property loss or damage on others, and which may or may not constitute the breaking of criminal laws" (cited Tolan & Loeber, 1993, p.6). This infliction of harm has been said to include stealing, lying, non-compliance (Dishion & Patterson, 1993; Van der Kley, 1996), "abuse, bullying, defiance, vandalism,..and destructiveness" (Van der Kley, p.6).

Antisocial behaviour has also been defined as behaviour that defies the rules, principles, norms and laws of society (Steiner & Wilson, 1999; Simcha-Fagan, Langner, Gersten & Eisenberg, 1975, cited Walker, Colvin & Ramsey, 1995). According to Walker et al., this definition is in agreeance with the dictionary definition for 'antisocial': "hostile to the well-being of society and aversive to others" (p.2).

Walker et al. (1995) write that antisocial behaviour suggests a willingness to break rules, and claim that the behaviour patterns are not exclusive to one setting, that is, the behaviour could be seen in school, within the home and in the community.

As can be perceived from the aforementioned definitions, the common threads are breaking society's rules, expected standards and norms; and causing, or wanting to cause, harm or pain to others or oneself.

For the purposes of this study the following combined definition will be used: Antisocial behaviour is defined as behaviours that are "recurrent violations of socially prescribed patterns of behaviour" (Simcha-Fagan, Langner, Gersten & Eisenberg, 1975, p.7, cited in Walker et al., 1995, p.2). Antisocial behaviour describes disruptive, hostile and/or aggressive behaviour, and can include any of the following: stealing, lying, non-compliance, abuse, bullying, defiance, vandalism, destructiveness, inflicting physical or mental harm, causing property loss or damage to others, or any other such violations of society's norms, principles or laws. Antisocial behaviour may, but does not necessarily, refer to acts that are illegal.

1.1.2. Delinquency

In addition to the problem described above is the issue of confusion with other terms that are closely related, especially that of delinquency.

Delinquency has been viewed in different ways. Some theorists/ researchers view it as a separate and distinct form of behaviour, whilst others view delinquency as a point on a continuum of troubled behaviour, i.e. a form of antisocial behaviour (Tolan & Loeber, 1993; Dacey & Kenney, 1997).

Whilst antisocial behaviour is a psychological term (Steiner & Wilson, 1999), delinquency is more generally regarded as the legal term for this type of behaviour (Steiner, 1997, cited Steiner & Wilson; Dacey and Kenney, 1997; Sprinthall & Collins, 1995). According to Steiner (1997, cited Steiner & Wilson), the terms delinquent and delinquency "are legal terms referring to the behaviour of juveniles who have committed offences against the law" (p.48), Sprinthall and Collins (1995) go on to say

that other "problem behaviours" (p.406), of which juvenile delinquency is one, may not necessarily constitute the breaking of the law, but they would still be clearly seen as an antisocial or aggressive behaviour. This would seem to suggest that delinquency is a problem behaviour that is a subset of a larger category, namely antisocial or aggressive behaviour.

Put differently, delinquency has been said to reflect a point on an antisocial behaviour continuum, with delinquency corresponding with the more severe problem behaviours end of the continuum (Tolan & Loeber, 1993). This relationship between the two terms can also work in the opposing direction. In addition to delinquency being called antisocial behaviour, antisocial behaviour can be classified as delinquent behaviour. The majority of antisocial behaviour is illegal (Tolan & Loeber, 1993), and is therefore delinquent behaviour.

The view of delinquency reflecting a point along an antisocial behavioural continuum, will be accepted for the purposes of the current project.

1.1.3. Conduct disorder

Whilst delinquency is considered to be the legal categorisation of antisocial behaviour, conduct disorder has been considered to be the psychiatric categorisation (Sprinthall & Collins, 1995). When several antisocial behaviours co-occur in an individual before they reach the age of 15 years, the classification of conduct disorder is given (Myers & Burket, 1992, cited Sprinthall & Collins, 1995). Antisocial behaviour is the characteristic required for conduct disorder as defined by the DSM-IV (American Psychiatric Association, 1994, cited Steiner & Wilson, 1999). If an

individual with conduct disorder persists with their antisocial behaviour into adulthood they may then be classified as having antisocial personality disorder (Davison & Neale, 1996). It has been estimated that "75 to 80 percent of convicted felons meet the criteria for antisocial personality disorder" (Davison & Neale, 1996, p.272). (It should, however, be noted that individuals, that have been researched, have been diagnosed in varying ways.).

It is to be noted that the literature on antisocial behaviour talks about it in varying manners. Some authors discuss delinquency, some conduct disorder, and others just discuss antisocial behaviour in general. It is difficult to determine what research may apply to what aspect of antisocial behaviour. Therefore for the current study, all research done into any of these areas will be used in the discussion of antisocial behaviour. Distinctions will be made where possible.

1.1.4. Adolescence

Depending upon which view it is looked at from, adolescence can be defined in several different manners. Moshman (1999) believes that the simplest manner in which to define adolescence is chronologically. According to Moshman, the Society for Research on Adolescence interprets adolescence as referring to those aged from 10 years through to 19 years. This age bracket is widened by the *Journal of Adolescent Research* which, Moshman states, invite manuscripts involving those aged from 11 years to 22 years.

Due to the subjectivity and complex nature of cultural and social views that may differ amongst the subgroups of society, the chronological view of adolescence will be

accepted for the current study. For the present study, the age brackets described above (cited by Moshman, 1999), will be combined to compose a single adolescent age range. Therefore, adolescents are defined as: those individuals that are in the age bracket of 10 to 22 years.

1.2 History

Antisocial behaviour is an issue that has been present in society for many years. In their 1981-1982 report on behaviour in schools, Galloway and Barrett (1982) state that disruptive behaviour in schools is not a recent problem, but it is a problem that is now gaining more attention than previously. According to their report, anecdotal accounts showed that antisocial and delinquent behaviour was discouraged very little, at the beginning of the century, by the New Zealand school conditions.

Antisocial behaviour has not always been viewed in the current light. In the past antisocial behaviour has been seen to be the fault of the individual themselves, society's part in their behaviour being ignored. This problematic behaviour has been classically thought to signal a failure in the development of morals (Steiner & Wilson, 1999). For example, in 1837, Prichard (cited Steiner & Wilson, 1999) described it as "moral insanity". However, Streib and Sametz (1994) state that the 'immature' were not always held responsible, morally, for their behaviour. They cite the example of France's *Code Napoleon*, whose individuals under the age of 16 years were attributed limited responsibility.

The way in which society has responded to these behaviours has been to send the accused individuals to prison and to try to morally convert them (Steiner & Wilson,

1999). Despite the seemingly humane attitude of some towards the moral responsibility of the youths, up till the nineteenth century young offenders were often punished harshly, and in the case of the United States were treated in the same manner as adult offenders (Streib & Sametz, 1994). This did appear to change, as great literary works have indicated (for example, *Les Misérables*), as the possible role sociological factors may have in the genesis of these issues became more widely known (Steiner & Wilson, 1999).

Psychoanalytic theory and psychological thought underwent some change during the last half of the twentieth century. In 1835, Aichhorn (cited in Steiner & Wilson, 1999) researched neurotic delinquents. This study opened the door to treating delinquents in a new way, in the direction of psychotherapeutic treatment (Steiner & Wilson, 1999). Aichhorn discussed delinquent behaviour in terms of symbolism of inexpressible or unexpressed thoughts (Steiner & Wilson, 1994).

In 1944, Bowlby researched juvenile thieves and developed a theory relating delinquent character to early disrupted attachments (Steiner & Wilson, 1999). Bowlby's attachment theory was developed further in the 1950s and 1960s by object relations theorists and by Winnicott (1956/ 1958), their work aiding the change of emphasis of a lack of right- functioning morals in conduct disorder behaviour (Steiner & Wilson, 1999).

Literature on conduct disordered behaviour indicates Winnicott as being an important figure in the progress of theory on this topic. Prior to World War II, psychoanalytic theory believed (to summarise roughly) delinquency and crime to be a result of anxiety or guilt and conflicts within an individual's psyche (Winnicott,

Shepherd & Davis, 1984). Winnicott, however, whilst focusing on the inner world also acknowledged the impact of environmental factors on a child's behaviour (Winnicott et al., 1984). According to Winnicott et al., Winnicott's research also shows links between deprivation and delinquency. It also shows an attachment of "positive psychological value to antisocial behaviour in children, as a reaction both to loss of people who are loved and to loss of security, provided this found an appropriate personal response from those in charge of them" (p.11).

In the second half of the twentieth century professionals in the mental health field studied the family and the extended family's role in the development of antisocial behaviour (Steiner & Wilson, 1999). For example, in 1967 Minuchin and colleagues (cited Steiner & Wilson, 1999) linked impoverished conditions and attendant difficulties with difficulties in conduct (for example families with a lack of stability and communities that have been fragmented). There is also evidence of the acknowledgement of society's influence on antisocial behaviour. In 1975 Rutter and colleagues (cited Steiner & Wilson, 1999) found in an urban versus rural context a greater incidence of conduct disorders and problems.

Previously academics and policy makers have believed that, regarding rehabilitation and prevention of criminal behaviour, 'nothing works' (Martinson, 1974, cited Utting, 1999) and that there was little more that could be done past containment and enforcement (Utting, 1999). However, this view does appear to have changed in the last ten years for two reasons. The research on prevention amongst youth offenders has been re-examined to show that certain intervention types do work in decreasing the amount of offending. Additionally, researchers are uncovering new methods for

applying their knowledge of how a child becomes at risk for developing criminal behaviour and of how they are protected from this (Utting, 1999).

Another view has been that antisocial behaviour is mainly a male problem (Pajer, 1998). Female antisocial behaviour has been seen as a rare thing, and a stage they temporarily go through and will "grow out of" in a short time (Pajer, 1998). Pajer believes that this may be the reason that prior to recent times, research on adults who were antisocial in their youth has mainly concentrated on males.

1.3 Normality of antisocial behaviour

One of the difficulties in studying antisocial behaviour is the normality of the behaviour. Some form of antisocial behaviour is usually displayed by most youth at some stage of their adolescence. Adolescence in general has been described as a period when more risks are taken by adolescents (Robins & Bowler, 1997). This appears to indicate that antisocial behaviour might be considered to be a normal part of growing up. According to Rutter (1996), if we define antisocial behaviour as behaviour that goes against that which society approves of in almost every society, then we shall have to realise that this is then a referral to a behavioural tendency all humans display to some extent. Several surveys have indicated that most boys, at some stage, display behaviour that is illegal and, on discovery, could have resulted in prosecution (Rutter & Giller, 1983, cited Rutter, 1996). In Farrington's (1995, cited Rutter, 1996) longitudinal research with inner-city males in London, 96% of his sample reported that they had committed at least one out of ten common offences.

However normal this behaviour may be, antisocial behaviour is a problem due to the fact that not all children grow out of this behaviour. Whilst "the vast majority of those who engage in crime in adolescence have given up by their early to mid-20s" (Smith, 1995, p.428), not all adolescents grow out of this behaviour. The fact that there are people that exist that are termed 'adult offenders' would seem to indicate that some adolescents continue their antisocial behaviour into their adulthood. According to Smith, the small numbers of individuals that persist in committing crime are responsible for a large portion of offences. Those that do persevere in committing crimes commit more serious crimes with time (Sprinthall & Collins, 1995). If antisocial behaviour is exemplified by crime and its levels are indicated by those of the crime rate, then it can be said that those who persist with their antisocial behaviour may display more serious antisocial behaviour as time goes on.

This is, in fact, the case. Persistence with antisocial problems can result in more serious and harmful behaviour and possibly into a disorder of some kind. The path antisocial youth and children follow has been called a "developmental trajectory in which the antisocial acts they engage become more serious" (Walker et al., 1998, p.3). Those individuals who persist in their antisocial behaviour can develop antisocial personality disorder. The DSM-IV (American Psychiatric Association, 1994, cited Virkkunen, Goldman & Linnoila, 1996) states that of male adolescents, between 6 and 16 percent have conduct disorder, and 3 percent of male adults develop an antisocial personality. Silberg et al. (1996) concluded from his research those adolescents who were multisymptomatic or displayed a hyperactive- conduct disturbance had the worst prognosis for this. At the more extreme end of the scale, people displaying antisocial

behaviour earlier on in life can develop into adult psychopaths later in life (Davison & Neale, 1996).

A possible reason for chronic involvement, or persistence, in the behaviour is that this represents a particular, clear pattern thought by clinical psychologists to reflect disturbances lying beneath the surface of the individual (Sprinthall & Collins, 1995).

The difficulty lies in the lack of a clear- cut threshold below which those individuals displaying minimal antisocial behaviour carry no risk for the development of some sort of disorder later on in life (Rutter, 1996). (This finding needs to be considered cautiously due to the measurement limitations in the applicable research (Rutter, 1996).) Hence it could be difficult to predict when an individual's antisocial behaviour will fade out and when it will escalate into something more serious. Prevention, and treatment for, all antisocial behaviour in adolescents, therefore, is of great importance due to the inability to predict which individuals will develop into the rare cases of a psychopath. Such an individual can potentially affect society in general to its detriment.

1.4 Negative and positive aspects

Whether antisocial behaviour is viewed negatively or positively depends on one's point of view. Whilst society almost definitely views adolescent antisocial behaviour as a negative thing, the antisocial individual may view it quite positively.

Adolescent antisocial behaviour has several negative aspects for society. Antisocial behaviour has been defined as acts that break society's norms and rules, hence individuals displaying this behaviour can cause a lot of harm to society. The

continual breaking of society's laws and regulations, it is suggested, can then contribute to the general degradation of society.

These individuals can also cause financial distress to society. Shamsie (1994), from the Institute for the study of Antisocial behaviour in Youth (IAY), states that antisocial youths cost society millions of dollars through their jailing and probation, unemployment and welfare. According to Cohen (1998) with a 2% discount rate, the cost of a typical career criminal is U.S.\$1.3 to \$1.5 million (external costs). The cost of a high drug user is U.S. \$370,000 to \$970,000, and the cost of an individual who drops out of school is U.S.\$243,000 to \$388,000. Cohen continues on to estimate the overall amount saved financially by saving a high- risk youth, taking away those duplications from crime- committing individuals who are a career criminal and use a high amount of drugs, is U.S. \$1.7 to \$2.3 million.

Knapp, Scott and Davies (1999) also studied the cost (indirect and direct) to families of children who were referred to mental health services for children and adolescents. The cost calculated included those costs resulting from the child's antisocial behaviour outside and within their home, ranging over multiple domains. The results from the 10 participating families showed that the average cost was 15,382 pounds per year. The cost range was 5,411 pounds to 40,896 pounds. Knapp et al. found that the largest amount of the financial responsibility was given to the families, which amounted to an approximate average of 5,000 pounds per year, and to the educational authority, which came to the same approximate amount of money. Additionally they found that there were significant costs for the social services, health services, and the Benefits Agency.

It is also of concern that the rate of growth of the number of behaviour disordered children and the seriousness of their behaviour is too much for the resources in some communities' schools for school based interventions (Van der Kley, 1996). Teachers may need to put additional time and effort into antisocial children and they may need to develop different strategies to cope with them. This would, presumably, place additional pressure on the already limited resources of the teacher. Van der Kley suggests that there is too much reliance on schools to provide the interventions for these youths. An alternative treatment plan is clearly needed.

One of the main negative aspects of antisocial behaviour, for the adolescents themselves, is the comorbidity with other disorders. It has been said that the most commonly diagnosed disorder amongst antisocial youths is attention-deficit hyperactivity disorder (ADHD) (Frick, 1998), thus creating academic difficulties for these individuals. It has been found that individuals with ADHD that were aggressive in childhood have a greater chance of developing psychiatric problems during their adolescence (Claude & Firestone, 1995). These individuals were also found to be at a significantly greater risk for developing subsequent behaviours of an antisocial categorisation (Claude & Firestone, 1995). Claude and Firestone found this group of children to show higher comorbidity, in their early to mid adolescence, of conduct disorder/ antisocial personality disorder with other disorders. When tested again during their later adolescent years this group was the only group in Claude and Firestone's study that displayed persistent drug use disorders. Learning disability, in addition to ADHD, has been said to increase the risk for children developing antisocial behaviour

(Gregg, 1995). Gregg states that the risk for developing antisocial behaviour is increased when there are multiple factors present.

A high incidence of posttraumatic stress disorder (PTSD) has also been found in delinquents. Cauffman, Feldman, Waterman and Steiner (1998) studied female juvenile offenders for PTSD. Their results show 48.9% of their subjects, that were in jail at the time, were experiencing PTSD symptoms during the study, and 65.3% of female offenders had experienced these symptoms at some stage during their life. (Cauffman et al. noted that, compared to male juvenile offenders, female offenders are 50% more likely to have PTSD.) The subjects that had PTSD were discovered to be showing less ability to restrain themselves and greater distress. Cauffman et al also suggested that higher impulsivity may result from PTSD. This would seem to compound the problem- greater distress and impulsivity, and lower self- restraint would, theoretically, increase the likelihood of performing antisocial acts.

Anxiety disorders have been found in up to 25 percent of youths with conduct disorder, however, this finding can be viewed positively. (Loeber and Keenan, 1994, cited Steiner & Wilson, 1999). Anxiety disorders, found more often in females, seem to protect against conduct disorder, the effectiveness of this depending on an onset at an earlier age (Steiner & Wilson, 1999).

Hence it can be seen how those individuals with adolescent antisocial behaviour not only experience the problems associated with this behaviour alone, but are also quite likely to suffer the difficulties associated with other disorders.

This presence of other disorders along with conduct disorders can have serious consequences. It is predicted that male individuals with both conduct disorder and

ADHD will be violent (Steiner & Wilson, 1999) and show a greater incidence of dependence on substances (Crowley & Riggs, 1995, cited Steiner & Wilson, 1999).

Antisocial youths may also experience social impairments. Such individuals have been found to display poorer conflict resolution, inappropriate responses and difficulty with restraining themselves when they are emotionally distressed (Steiner & Wilson, 1999). It has been found that early conduct problems influence the formation of deviant peer affiliations (Fergusson & Horwood, 1999). They have also been found to influence any further associations, between early problems in peer relationships and a greater risk for developing future problems in behaviour (Woodward & Fergusson, 1999). Hence, early more severe antisocial behaviour has the potential to effect peer associations, which in turn may influence future antisocial behaviour. It is suggested that without proper treatment early on in life, the antisocial adolescent may become trapped in a harmful circle of behaviour.

1.5 Common views of antisocial behaviour

In the view of the general public problematic behaviour amongst youth and its continual rise, exemplified by crime, is seen to be a issue that society needs to deal with. Reports of antisocial and criminal behaviour are seen frequently in the media (Van der Kley, 1996). Whilst many in the general public may know about the presence of this issue, many do not understand why this behaviour occurs (Shamsie, 1994). Some of the generally held beliefs regarding antisocial behaviour amongst youth are outlined by the Institute for the study of Antisocial behaviour in Youth (IAY) (Shamsie, 1994). They believe that people think that youth displaying antisocial

behaviour simply want all the good things that life can offer without working towards them. Another commonly held belief, according to IAY (Shamsie, 1994) is that these young adults can help the way they behave, and if they chose to, they could change their behaviour to be like other non- antisocial youth.

Another view amongst the general public is that antisocial behaviour is mainly a male problem (Pajer, 1998). Pajer (1998) believes that female antisocial behaviour is seen as a rare thing, and a stage they temporarily go through and will "grow out of" in a short time. He also believes that this may be the reason that, prior to recent times, research on adults who were antisocial in their youth has mainly concentrated on males. The large amounts of research focusing on the psychopathology of male juvenile offenders, and lack thereof in females (Cauffman et al., 1998), would seem to sustain this belief in the general public and amongst professionals. As the following section will show, this view is a misguided one.

1.6. The prevalence of antisocial behaviour.

Kazdin (1985) believes that the most prevalent issue amongst those adolescents and children who are referred for treatment of a psychiatric or psychological nature is that of antisocial behaviour. As defined above, antisocial behaviour does not necessarily constitute illegal behaviour, however, Tolan and Loeber (1993) point out that most antisocial behaviour is classified as such. Hart and Hare (1989, cited Davison & Neale, 1996) found that 75 to 80 percent of convicted criminals meet the requirements for a diagnosis of antisocial personality disorder. Hence, it is suggested that the actual prevalence of antisocial behaviour can be ascertained by the level of

criminal activity in society.

There are a variety of ways with which to view the level of crime. Triggs (1997) composed a study on the recorded crime rates in New Zealand from 1962- 1995. This included all of those offences the New Zealand Police officially record in their statistical collection. This figure also includes those offences that the police detect, but excludes those that are reported to the police but not officially recorded (Triggs, 1997). The following statistics are taken from Triggs report.

Over the last four decades the recorded crime rate has substantially risen. This rise in crime, however, has not been a steady rise. There have been times when the growth has been markedly high, and there have been times when the recorded crime rate has grown very little, or even decreased. Triggs (1997) suggested that this rise and fall of the crime rate, in the 1962-1995 time frame, is most closely associated with fluctuations in the economy and alterations in women's employment.

As can be seen in Figure 1, the crime rate during 1962-1995 has tripled. Additionally Triggs (1997) states that the amount of offences recorded has risen by more than four times in this time period. The crime rate is the number of offences recorded per head of population. New Zealand Police & Statistics New Zealand (1996) show that the total number of offenders apprehended rose from 139, 665 in 1986, to 199,517 in 1995, with a decrease in 1990 to 137,955.

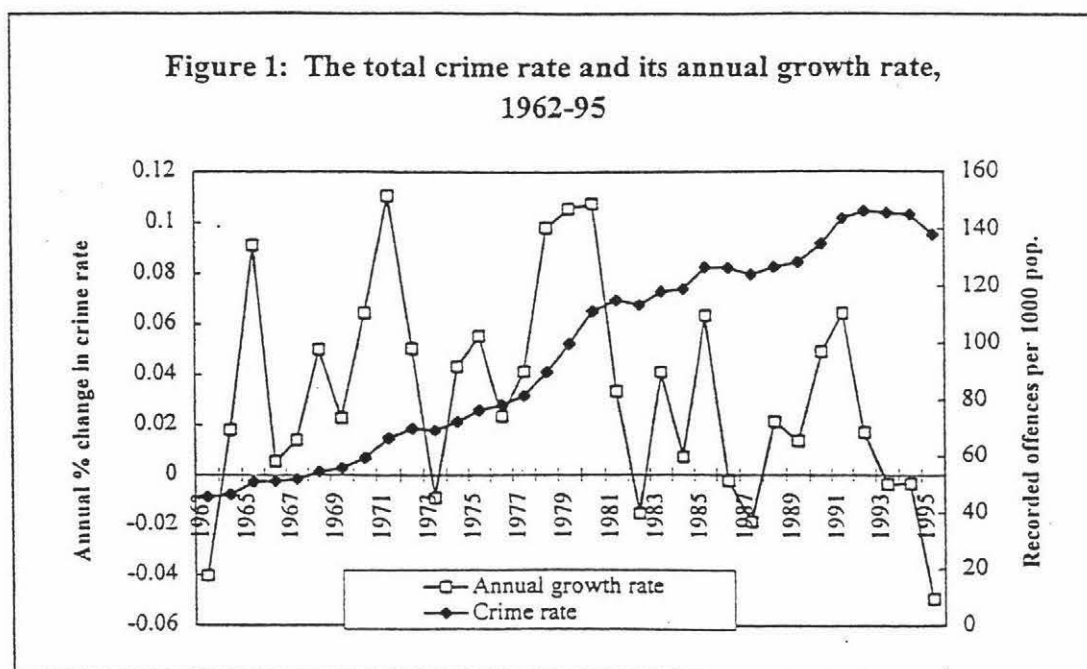


Figure 1. The total crime rate and its annual growth rate, 1962-95 from *Interpreting Trends in Recorded Crime in New Zealand* (p.17), by S. Triggs, 1997, Wellington: Ministry of Justice.

This increase in crime can also be specifically seen in adolescent crime. In 1996 the New Zealand Herald published statistics from the police, which showed a 21% increase in major criminal activities committed by adolescents throughout the previous

three years (Robins & Bowler, 1997). Juvenile offenders showed a 63% increase in crime committed during those same three years (Robins & Bowler, 1997). Smith (1995) makes the comment that the large rise in the crime rate since World War II is "essentially an increase in misconduct among young people up to the age of 29" (p.389). Smith also states that probably the most significant fact relating to crime is that mostly young adults and teenagers commit it and continues on to comment that the crime rate is at its height between the 15 and 17 year old period, and declines gradually as the individuals get older.

The growth of the crime rate is not simply restricted to New Zealand. Recorded crime rates in all developed countries around the world, with the exception of Japan, have risen substantially since World War II (Smith, 1995).

There are certain issues to take into consideration when assessing statistics. According to Young, Morris, Cameron and Haslett (1997) the general consensus on official statistics is that they give a limited portrayal of the extent and character of crime. Official statistics show only those offences that are either detected by the police, or are reported to them by witnesses or victims (Young et al., 1997), thereby neglecting to show many other offences that take place. The actual level of criminal activity may be far from the picture that official statistics give us. Consistent statistics on the actual level of offending within New Zealand are unavailable, according to Triggs (1997). Triggs states who that there is an absence of consistent information regarding the changes in the level of recording and reporting offences compared to the changes in the level of actual offending.

Until recently, antisocial behaviour has been assumed to be predominantly prevalent amongst adolescent males. Research now shows that this is an issue that encompasses adolescent females as well. According to Pajer's (1998) review of previous research, studies show that the criteria for conduct disorder, the second most used diagnosis amongst adolescent females, are found in 7.5 to 9.5 percent of females. This is only slightly lower than the corresponding statistic for males, which is 8.6 to 12.2 percent. According to Pajer, it has been found that adolescent females simply exhibit their behaviour in a different manner from adolescent males. Whilst males are likely to display a progress from delinquent behaviour in their youth to criminal behaviour in their adulthood, females will more probably show a progress of delinquent behaviour to disturbed behaviour in a differing manner. Whilst some may further their antisocial behaviour into their adult life by committing offences with a developing seriousness and frequency, others may simply continue a norm violation into their adulthood. (Shamsie warns that the aforementioned findings should be noted cautiously due to shortcomings and limitations in the studies reviewed.)

1.7. Factors associated with antisocial behaviour.

There has been several suggested associated factors and causes for adolescent antisocial behaviour. The depth of this topic is beyond the scope of the current project, however the main issues, as cited by researchers and theorists, will be outlined.

Shamsie (1994) states that it is several risk factors that make a young person likely to develop antisocial behaviour, rather than one factor. It has been said that the grounds for the most persistent and severe antisocial behaviour can be found in an

individual's early childhood (Rutter, 1996). There may not be, however, a particular formula that relates to all adolescents. The roots of one child's problematic behaviour may be different from the roots of another child's, different factors influencing children in different ways (Van der Kley, 1996).

Van der Kley (1996) groups the factors that contribute to a child's behaviour into two categories- those within the child and those relating to the child's social environment. The factors within the social environment include parenting, family operations, critical events and the handling of everyday life. This separation of factors has also been done according to those that are genetic/ biological, and those that are situated in the environment. Lyons (1996) suggested from his research that "genes are likely to influence the occurrence of criminal behaviour in a probabilistic manner by contributing to individual dispositions that make a given individual more or less likely to behave in a criminal manner" (p.61). It is this individual disposition factor that many have suggested is associated with the development of antisocial behaviour.

1.7.1. Personality

The individual disposition of a person may also be termed their personality. Personality is what defines one individual as different from another. Whilst identical twins may look the same, it is their personalities that show their differences.

Personality factors are said to be inherited to a moderate degree (Bohman, 1995) and hence can be termed an internal factor. According to Bohman (1995), underlying differences in personality or temperament are traits that are more stable, and that they are involved in an individual adapting to their environment. Bohman goes on

to suggests that it is this interaction that leads to the development of criminal behaviour. This indicates that personality does not directly affect the development of antisocial behaviour.

If personality factors are inherited to a moderate degree, and these factors are associated with antisocial behaviour, this would indicate that certain individuals may have a predisposition to antisocial behaviour. Bohman's (1995) review of research on Swedish adoptees and their relatives indicates that such a predisposition may exist. He states that " the predisposition to different kinds of antisocial behaviour and alcohol abuse seems to be related in part to underlying inherited personality dimensions which are continuously distributed and interact with social and environmental circumstances" (p.108). In addition to suggesting that a predisposition to antisocial behaviour is brought about by personality factors, Bohman's comment suggests that a predisposition to antisocial behaviour may interact with personality factors to effect the development of antisocial behaviour. This notion concurs with Lyons (1996) findings, who concluded from his Vietnam military twin studies that criminal behaviour is likely to be influenced by genes in a way that is probabilistic. The genes are said to contribute to a person's disposition, which then results in a given person being more or less likely to be involved in criminal behaviour.

Heaven (1994) states that there are three personality factors or characteristics that research (for example Eysenck & Gudjonsson, 1989; Furnham & Thompson, 1991; Heaven, 1993, all cited in Heaven, 1994) shows as being particularly influential on delinquency. These three factors are emotional stability (neuroticism), extraversion-

introversion, and emotional independence (psychoticism). Furnham and Heaven (1999) describe these characteristics as the three major higher- order personality factors. Psychoticism, in particular, appears to be associated with antisocial behaviour, and is the most frequently cited factor of the three in the literature on adolescent antisocial behaviour.

One of the major contributors to research into the area of antisocial behaviour and personality is Eysenck. His system of personality is centred on the three higher-order personality factors described above. It is his views on personality, psychoticism, extraversion/ introversion and neuroticism that will be described in the course of this study due to the extent of his research into this area.

Heaven (1994) states that one view of delinquency, which includes all three personality characteristics, is that it is a result of high levels of extraversion, neuroticism and psychoticism.

1.7.1.1. Psychoticism

Psychoticism is frequently cited as a factor strongly associated with antisocial behaviour. Psychoticism, or emotional independence, is one of the three major dimensions of personality that make up Eysenck's system of personality (Eysenck & Gudjonsson, 1989). According to Eysenck's (1977) theory, antisocial behaviour and criminality are positively and causally related to high psychoticism. S.B.G. Eysenck's (cited Eysenck & Gudjonsson, 1989) research on 1301 criminals and 1392 control participants supported this theory. The results showed that prisoner participants were significantly higher on psychoticism, extraversion and neuroticism. A similar study by

MacLean (cited Eysenck & Gudjonsson, 1989) demonstrated the same results with 569 prisoners and 595 control participants. In Saklofske's (1977) study low and high antisocial behaviour groups obtained significantly different scores on the Psychoticism scale of the Eysenck Personality Inventory, as did the teacher-rated, well-behaved and badly-behaved groups. Some other more recent studies have also found psychoticism to be associated with delinquency (Putnins, 1982, cited Eysenck & Eysenck, 1985; Hare, 1982, cited Eysenck & Eysenck, 1985; Furnham, 1984, cited Furnham & Heaven, 1999; Furnham & Thompson, 1991, cited Furnham & Heaven, 1999). Heaven (1994) states that according to Eysenck & Gudjonsson (1989), it is possible that individuals who have high levels of psychoticism are possibly low in their arousal levels. Hence it is possible that in order to raise these levels; these individuals partake in activities that are venturesome and thrilling. This could be taken to include antisocial behaviours.

It is evident from these results that a measure of psychoticism is able to distinguish between individuals that display antisocial behaviour and those that do not (depending on the level of antisocial behaviour that is being investigated). These findings certainly demonstrate the association between antisocial behaviour and psychoticism.

This strength of this association has been investigated by Jamison (1980, cited Eysenck & Gudjonsson, 1989) and Powell (1977, cited Eysenck & Gudjonsson, 1989). Jamison investigated correlations between the ASB (antisocial behaviour) scale (Allsopp & Feldman, 1976, cited Eysenck & Gudjonsson, 1989) and psychoticism, as measured by the junior Eysenck Personality Questionnaire (EPQ). Jamison found significant correlations of .58 for boys and .59 for girls between the two scores. Powell

found a statistically significant correlation ($p < .01$) of .51 and .52 for boys (15 years and 13 years respectively), and of .57 and .55 for girls (15 years and 13 years respectively) to exist between psychoticism and antisocial behaviour. Powell also used the Junior EPQ and a version of the ASB scale.

Based on the literature in the area, Furnham and Heaven (1999) describe a typical high-psychoticism individual as being aggressive, inhumane, troublesome, and someone who does not tend to feel guilt. Howarth (1986, cited Furnham & Heaven, 1999) describes such individuals as uncooperative and impulsive. Additionally Eysenck and Eysenck (1985) state that high- psychoticism scorers tend to be unlikely to experience empathy, guilt and sensitivity to other individual's feelings, and tend to be uncaring towards others. They continue on to comment that, "it seems reasonable to assume that individuals with these characteristics would experience relatively few qualms about behaving antisocially" (p.330).

Psychoticism has been found to operate differently in males and females. Heaven (1993, cited Heaven, 1994) found that psychoticism significantly predicted delinquency for both males and females. However it was found that in females psychoticism mediated the effect of personality traits, whereas, personality traits in males were found to have a direct relation with delinquency. Heaven (1994, cited Furnham & Heaven, 1999) also found psychoticism to have a mediating effect, in addition to an additive effect. Psychoticism was found to raise the likelihood that both sexes would partake in delinquent behaviour. It was also found that greater self- reports of delinquency were associated with negative communication in the family, the effect of which was discovered to be mediated by psychoticism in females.

1.7.1.2. Extraversion/ introversion

The concept of extraversion/ introversion is a dichotomous concept with individuals not necessarily being exclusively one or the other (Eysenck & Gudjonsson, 1989). The typical individual displaying extraversion, another of Eysenck's three main personality dimensions, is described as sociable, has cravings for excitement, impulsive, risk-taking, likes change, aggressive, active, quick-tempered, lively, carefree and sometimes unreliable (Eysenck & Eysenck, 1991b). Introversion is said to be the opposite of these traits. Eysenck and Eysenck (1991b) describe the typical individual displaying introversion as being reserved, quiet, a planned and structured person, serious, reliable, withholding of their feelings except from their close friends, slow-tempered, ethical, introspective, can be pessimistic and prefers books to people.

Eysenck and Eysenck (1985) comment on the existence of the common notion that, compared to introverts, extroverts are less cortically aroused. Heaven (1994) continues along this same theory and gives a possible explanation for the role of high levels of extraversion, psychoticism and neuroticism in antisocial behaviour. He writes that the system that controls how physically aroused a person becomes, the ascending reticular activating system, is the basis for the relationship between these three factors and antisocial behaviour (Eysenck & Eysenck, 1985, cited Heaven, 1994). Individuals with low levels of arousal are said to partake in activities that will raise their arousal levels, such as adventurous and thrill-inflating activities. This is said to occur in individuals that show high levels of extraversion, and possibly in individuals that display high levels of psychoticism (Eysenck & Gudjonsson, 1989, cited Heaven, 1994), as described above.

Extroverted individuals have also been found to have less conflict and anxiety, and to minimise their failures by turning to others for help. This then lessens their conflict and anxiety (Verma & Upadhyay, 1980). It can be postulated that such an individual would be more likely to engage in antisocial behaviour due to their ability to decrease these levels.

These theories connecting antisocial behaviour and high extraversion concur with the literature in this area. Hindelang (1971) tested Eysenck's theory, which predicts that individuals who participate in illegal activities display higher levels of extraversion in comparison to those individuals who do not. His results supported Eysenck's prediction that extraversion and involvement in illegal activities would have a linear, direct relationship.

More recently Rushton and Chrisjohn (1981) studied 410 university and high school students using self-report questionnaires. These questionnaires measured delinquency and personality. The results of the study demonstrated obvious support for the existence of an association between high extraversion and high psychoticism scores, and high delinquency scores. These associations were also found to occur with diverse samples and analysis methods.

Similar results were found by Silva, Martorell and Clemente (1986, cited Eysenck & Gudjonsson, 1989) in their study of Spanish children and adolescents. The findings showed that, in comparison to the low and medium antisocial behaviour groups, the individuals that obtained high antisocial scores also obtained significantly higher scores on psychoticism, neuroticism and extraversion, lower lie scale scores and higher scores on the criminality scale. Other studies demonstrating a relationship

between antisocial behaviour and high extraversion include McGurk and McDougall (1981, cited Eysenck & Eysenck, 1985) and McEwan (1983, cited Eysenck & Eysenck, 1985). McGurk and McDougall results showed the presence of two personality types in their delinquent sample but not in their comparison sample. These two personality types were: 1) a mixture of high levels of psychoticism, neuroticism and extraversion; and 2) high levels of neuroticism and extraversion. McEwan used the Eysenck Personality Questionnaire to assess adolescent delinquents in a closed custodial institution. Two of the four clusters identified in the cluster analysis were high levels of neuroticism and extraversion, and high levels of psychoticism and extraversion. The adolescents that exhibited high levels of both psychoticism and extraversion were found to have the largest amount of convictions in the past.

There is also evidence to suggest that introverted individuals become involved in antisocial behaviour. Stein, de Miranda and Stein (1988) suggested, from their research on substance abusers in a drug rehabilitation centre, that a tendency towards introversion is related to first-born male delinquency. Rao and Sen (1979) studied 10 delinquent adolescents in Delhi from a remand home. Their results show that introversion was one of the common personality traits in over 70% of these boys.

The strength of the association between extraversion and antisocial behaviour was tested by Jamison's (1980, cited Eysenck & Gudjonsson, 1989) and Powell's (1977, cited Eysenck & Gudjonsson, 1989) studies described above (with reference to psychoticism). Jamison's research shows significant correlations of .31 for boys and .40 for girls between antisocial behaviour and extraversion. Powell's results show a significant correlation of .41 (15 years) and .52 (13 years) for boys, and .12 (15 years)

and .38 (13 years) for girls, between extraversion and antisocial behaviour. These correlations indicate that a definite association exists between antisocial behaviour and extraversion.

1.7.1.3. Neuroticism

Eysenck's general theory of personality predicts that those engaging in criminal and delinquent behaviour will obtain high scores on neuroticism (Furnham & Thompson, 1991). Eysenck and Gudjonsson (1989) describe neuroticism, or emotional stability, as being made up of several traits: anxiety, guilt feelings, shyness, irrational, tense, low self-esteem, emotional, depression and moodiness. Eysenck and Eysenck (1991b) additionally describe the typical individual with high levels of neuroticism as a worrier who overreacts. H.J. Eysenck (1967, cited Eysenck & Eysenck, 1985) believed that neuroticism relates to individual differences in responsiveness with emotions and excitability.

Neuroticism has been found to be a possible predictor of some crimes and often positively connected with populations in prison (Furnham & Thompson, 1991, cited Furnham & Heaven, 1999). Furnham and Heaven (1999) believe the connection between neuroticism and criminal and delinquent behaviour to be a result of the anxious trait in these individuals. They continue on to comment that those individuals that obtain high scores on neuroticism are likely to persist with their delinquent acts due to the habit- like effect of high anxiety.

Research indicates that neuroticism is able to distinguish between those individuals who behave antisocially and those that do not. Chico Libran (1997) found

significant differences in neuroticism scores with delinquents obtaining higher scores than non- delinquents. Neuroticism was found to be the third best predictor for discriminating between delinquent and non- delinquent, after antisocial behaviour and lying. Diaz, Belena, and Baguena (1994), and, Baguena and Diaz (1991) also found that delinquents, compared to non- delinquents, obtained higher scores on neuroticism. Additionally Addad and Leslau (1990), and, Addad and Benezech (1987) found criminal participants to score higher on neuroticism than control participants.

There is, however, research that indicates the opposite of the findings discussed above. Hindelang (1971) found limited support for Eysenck's prediction of a direct, linear relationship between neuroticism and involvement in illegal behaviour in his study on male high school students. Furnham and Thompson (1991) results show a non-significant relationship to exist between extraversion, neuroticism and self- report delinquency. Rushton and Chrisjohn's (1981) research on 410 high- school and university students also showed no evidence for the existence of a relationship between neuroticism and delinquency. Jamison's (1980, cited Eysenck & Gudjonsson, 1989) study, described above, showed a small correlation of .10 for boys, and .09 for girls, between antisocial behaviour and neuroticism. However, Powell's (1977, cited Eysenck & Gudjonsson, 1989) research, also described above, demonstrated higher correlations between the antisocial behaviour and neuroticism. The coefficients were .32 (15 years) and .34 (13 years) for boys, and .39 (15 years) and .13 (13 years) for girls. Both of the 15 year old male and female correlations demonstrated statistical significance at $p < .05$ and $p < .01$ respectively.

A difference between male and female scores on neuroticism appears to occur amongst antisocial adolescents. In their study of 140 delinquent and 131 non-delinquent adolescents, Borduin, Henggeler and Pruitt (1985) found females exhibited greater neuroticism than males. Furnham (1984) also found that male participants tended to show lower levels of neuroticism than females. Additionally Diaz, Belena and Baguena (1994) state that their results demonstrate that female non- delinquents were best discriminated from female delinquents by neuroticism. However Baguena and Diaz's (1991) results showed that female adolescent participants, whether they were delinquent or not, were no more delinquent than male adolescent participants. Eysenck (1981) also found that that neuroticism was only marginally more implicated as being linked with antisocial behaviour for female adolescents.

1.7.2. Family influences

The family has been suggested to be an important external factor in influencing the development of an adolescent's behaviour (Heaven, 1994), with the influence of the parents possibly being the most important. Children have their parent's morals and values passed on to them, including a system of general beliefs regarding acceptable behaviour (Heaven, 1994). Research from the Education and Science Committee (1995) agrees with Heaven's statement. The committee states that in their research into antisocial behaviour and schools, they heard that parents that "lacked an expectation of the purpose and significance of school for their children" (p.23), had children that displayed this same attitude as their parents. These children were also said to be truants. Hence it can be suggested that they displayed their parent's attitude in their behaviour.

There is a great deal of research showing that a parent's behaviour is also displayed in their children's behaviour. Research has identified parental alcoholism (Gregg, 1995), a history involving deviant behaviour in parents (Gregg, 1995), and a parent (or sibling) with a criminal record (Utting, 1999), as risk factors for antisocial behaviour.

In addition to the notion that individuals have a predisposition for antisocial behaviour, it can be suggested that the same can be said of whole families. Research into the heredity and environment view, suggests that some families, in comparison to other families have an increased propensity for antisocial behaviour of the delinquent and criminal type (Eysenck & Gudjonsson, 1989, cited Heaven, 1994; West, 1967, cited Heaven, 1994). This would seem to concur with the findings on the aggressive and alcoholic behaviour of parents and their children cited above. It can be suggested that not only have these behaviour patterns been passed on from the parents to their children, but also quite possibly these families had a predisposition to this behaviour in the first place. This would make the initiation of the behaviour patterns by the parent more likely to occur, and the subsequent adoption of these by the children more likely to take place in some families than in others.

The family plays a major part in the socialising of children and adolescents (Giddens, 1993). This aspect of the family is particularly relevant to the study of individuals who do not display prosocial behaviour. Whilst the systems operating within the family differ from culture to culture, the family has still been reported to be the main socialising agency of a child during their infant years (Giddens, 1993).

Negative experiences during childhood can result in long- term effects on a child and their later life (Giddens, 1993). Hence, if a family is a major socialising agency of a child and adolescent, and negative childhood experiences within a family can produce long- term life effects on a child, it is suggested that particular family environments family may result in socially unacceptable behaviour displayed in the individual, during adolescence and later life. This indicates the great influence of the family's on an adolescent's behaviour.

There is an opposing body of research to the above findings. This research, described by Heaven (1994), focuses on the moratorium phase of the identity formation theory. Heaven states that a typical characteristic of this phase is the lack of commitment of the adolescent to a group of values, beliefs or ideology. During this phase some teenagers may seem to be alienated from society. Their relationships with their parents and their peers are said to mean nothing to them (Rigby, 1990, cited Heaven, 1994). The result of this lack of meaning of these relationships to the teenager, is the exemplification of antisocial behaviour- delinquent behaviour being one of the forms it takes.

These findings suggest an inverse relationship between the family and adolescent antisocial behaviour. According to the moratorium phase view, the lack of meaning of a family is associated with antisocial behaviour in an adolescent. This finding can be viewed in several ways. The family itself may have no impact on an adolescent's behaviour, but rather it is the absence of meaning in the adolescent's life that causes the effect. Alternatively the adolescent may search for meaning in places

other than its family. They may subsequently then find meaning in a problematic behaviour pattern. Another possible explanation is that it is precisely because the family has no meaning for the individual that they, in turn, act antisocially.

The Education and Science Committee (1995) agree that the environment in the home does not always determine later behaviour. They state that children may develop into the odd one out in the family, whilst some children do not develop any problematic behaviour, despite the extremely adverse home environment that they were raised in. Giddens (1989) states that a small amount of children, if any, adopt the views of their parents without questioning it. He continues on to comment that this is particularly correct for the contemporary world.

There are some particular factors in the family environment that has been found to be associated with antisocial behaviour. Moos provides a comprehensive assessment of the family environment in their Family Environment Scale (FES) (1989). In the FES manual, Moos and Moos (1994) describe the families of youth, displaying conduct disorders or problematic behaviours. They describe these families in comparison to families of the normative type, as indicated by research (Fox, Rotatori, Macklin, Green & Fox, 1983; Leflore, 1988; Jansma, 1988; Jansma & Cohen deLara, 1990; Malin, 1981; Morris, Horne, Jessell, Walker & Sayger, 1988, all cited in Moos & Moos, 1994). They state that these families display lower expressiveness and cohesiveness, greater conflict, and greater levels of control. They are also said to show lower performance expectations, as assessed by achievement orientation and independence, and have lower social integration, which is based on orientation in the direction of recreational, intellectual, and religious pursuits. Moos and Moos also state that a greater

frequency of delinquent behaviour has been found to be associated with lower moral-religious emphasis, lower cohesion and greater conflict in the family (Tolan & Lorion, 1988, cited Moos & Moos, 1994).

The findings of a study in Edinburgh of suspended students (York, Heron & Wolff, 1972, cited Galloway & Barrett, 1982) concur with those cited by Moos and Moos (1994) on conflict. The results showed that three-quarters of the families with both parents living in the same residence displayed friction between the parents. This indicates an association between adolescent antisocial behaviour and conflict in the family environment. This same study also found that these students collectively showed low levels of intelligence and correspondingly low levels of educational achievements. However, Galloway and Barret (1982) comment that this relationship with disruptive behaviour may not be a causal one, whereby the behaviour results in the low achievements. They suggest that the opposite may have occurred, with behavioural problems brought about by the low achievements of the adolescent.

Research into the topic of adolescent antisocial behaviour shows a substantial emphasis on the effect of parenting practices on a child. Parental discipline is an important factor in the shaping of a child's behaviour, and a factor that research indicates has an effect on a child's behaviour. Parental discipline could also be termed level of control in the family, which according to Moos and Moos (1994) description is "how much set rules and procedures are used to run family life" (p.1).

Van der Kley (1996) discusses some of the parenting practices that he states are "frequently mentioned as the critical causal factors in the development of children's behaviour disorders" (p.12). These factors can also be applied to adolescents since their

childhood effects their later behaviour as previously discussed. Some of the factors cited by Van der Kley include: the absence of consistent and clear guidelines or limits placed on the behaviour of the child, a lack of warmth in the relationship between the child and their parent, the lack of regular order and routines, and a parent displaying unacceptable behaviours which includes aggression. These factors could be placed under the categories of control, cohesion, organisation and conflict (respectively) according to the terms Moos and Moos (1994) use to measure the family environment in their Family Environment Scale.

Whilst conflict appears to be a familial factor associated with adolescent antisocial behaviour, a certain amount of conflict between an adolescent and their parents appears to be normal according to Montemayor's (1983) review of research on adolescent- parent conflict. However, he continues on to say that a second type of conflict, which may or may not be linked with transitional stress, is associated with serious behaviour problems amongst adolescents. This will occur when this type of conflict becomes severe.

Parental discipline will identify for the child the limits and boundaries for acceptable behaviour. Hence a lack of discipline by a parent may lead to behaviour problems. In Fagot and Leve's (1998) review of previous studies, they found that a lack of proper discipline of a child during their earlier years would result in coercive interactions between a parent and their children. This will then lead to the adoption of antisocial behaviours in the child, as opposed to prosocial behaviours. Inconsistent and/or harsh discipline has been cited as a risk factor research identifies for antisocial behaviour (Gregg, 1995), and some theories also suggest that a lack of sufficient

penalisation for past delinquent behaviour results in the child engaging in antisocial behaviour (Streib & Sametz, 1994).

Cohesion in the family environment is another factor that is cited frequently in the literature as being associated with adolescent antisocial behaviour. Cohesion is defined by Moos and Moos (1994) as: "the degree of commitment, help, and support family members provide for one another" (p.1). Noller and Patton (1990, cited Heaven, 1994) noted in their recent review that a lack of support combined with coercion is likely to produce problematic behaviours in adolescents. Conger and Galambos (1997) also comment that a delinquent child's relationship with their parents is more likely to be characterised by a lack of cohesiveness along with mutual hostility, and rejection, dissension, indifference, or apathy from the delinquent's parents. This conclusion was based on previous research in the area (Olweus, 1980; Simons, Robertson, & Downs, 1989; Snyder & Patterson, 1987, all cited in Conger & Galambos, 1997).

Research into the area of conduct disorders shows that children with conduct disorders are likely to have an unhappy future if the child and their family do not undergo early treatment that is extensive and ongoing (American Academy of Child & Adolescent Psychiatry, 1997). This suggests that antisocial behaviour, in the more extreme cases, is not simply a problem that only the adolescent individual must deal with. Rather it is an issue that the family of the adolescent must also handle, whether or not the family was the cause of the adolescent's behaviour in the first place.

1.7.3. Peer influence

The influence an adolescent's peers may have on them is another factor researchers have found to be associated with antisocial behaviour. Peers have been said to play an important part in the socialising (Gibbens, 1989; Conger & Galambos, 1997) and psychological development (Conger & Galambos, 1997) of the adolescent. Gibbens states that relations with peers "are likely to have a significant impact beyond childhood and adolescence" (p.78), and that similarly aged informal groups of individuals typically have an enduring significance in the forming of these people's behaviour and attitudes.

Adolescence is traditionally considered to be a time in an individual's life when peer influences show the greatest intensity (Kandel, 1985a). The length of time adolescents spend with their peers in school, and the greater amount of time spent in schooling in current times, has contributed to the formation of strong adolescent subcultures (Kandel, 1985b). It can be perceived how the influences of peer associations can impact on an individual's life. It can also be perceived how peer association may influence an individual's behaviour. The current study has analysed peer association on the assumption that it will indicate levels of peer influence.

Conger and Galambos (1997) describe three categories of adolescent peer associations: individual friendships, the clique and the crowd or 'set'. Cliques are described as smaller groups of individuals with greater group cohesion and intimacy than the crowd. The cliques are said to make up the crowd. The crowd is defined as a "forced group" made up of individuals who share interests, likes, social ideals, fashions of dress, and behaviours" (p.182). Peer associations appear to operate on

several levels, with individuals associating with different types of peers at different times. Hence peer association can be described as a multiplicative relationship. It is in this manner that peer association has been treated in the current study.

Gregg (1995) and Utting (1999) both state that an association with deviant peers has been found to be a risk factor for antisocial behaviour. This mixing with deviant peers is not, however, always viewed as having a direct association with antisocial behaviour. Other factors may be a prerequisite before peer association possibly influences the development of antisocial behaviour.

Early childhood behavioural problems appear to be one such factor. According to the Institute for the study of Antisocial behaviour in Youth (Shamsie, 1994), research in this area makes it quite evident that it is only when adolescents do not have a relationship with their parents that is of a warm, close and confiding nature (low levels of expressiveness), and when they have had problematic behaviour in their childhood, that the influence of any deviant peers they associate with becomes critical. Woodward and Fergusson (1999) found an association between early relationship problems with peers and greater risk of problems in behaviour. However they did not find this relationship between the two variables to be a causal one. They found that the level of conduct problems in the childhood of those adolescents studied was the most important factor for explaining this association between relationship difficulties with peers and greater risk of problems in behaviour.

In addition to conduct problems during childhood, Fergusson and Horwood (1999) found that a dysfunctional family and a background that was disadvantaged

socially, were factors present in those children who showed the greatest risk of developing peer affiliations that are deviant. Fergusson and Horwood came to the conclusion that complex family, social, and individual processes moulded the affiliations an individual formed during adolescence. In these processes they included the functioning of the family, social stratification, and behavioural predisposition of the individual. Hence, whilst deviant peer associations may influence the development of antisocial behaviour, it would appear that peer associations themselves are influenced by other variables, including earlier antisocial behaviour. The relationship between these two variables does not appear to be a simple causal one.

Deviant peer associations may interact with antisocial behaviour in another way, which operates simultaneously. Vitaro, Brendgen, Pagani, Tremblay and McDuff (1999) found that individual characteristics interact with peer influence characteristics. Vitaro et al. performed a 2-year study of 73 boys aged 7 to 9 years classified as disruptive by their teachers. They discovered that the less disruptive an individual is, the less deviant the friends will be that they associate with. This in turn was found to have a positive effect on the development of conduct problems, presumably meaning a reduction in the level displayed.

Individual characteristics may not be the only factor to interact with peer association and peer influence. Aspects of the family, as briefly described above, have also been found to interact with peer association which, in turn, has been discovered to effect antisocial behaviour. Ary, Duncan, Duncan and Hops (1999) studied 204 adolescents and parents over a two-year period. These subjects filled out a series of

self-report questionnaires. Ary et al. found that high levels of conflict in the family was related to poor monitoring on the parents behalf and associating with peers that are deviant a year later. When Ary et al. performed a two-year follow-up of their subjects, they discovered that these two latter factors were strong predictors of antisocial behaviour and various other problematic behaviours. Muuss (1990) also comments on the impact of the family upon peer influence. He states that as the cohesion in the family is lost, the adolescent is propelled towards seeking out support from their peers by an 'estrangement' that they feel.

According to Kandel (1985a) girls appear to be more susceptible to interpersonal influences than boys are, which she states, agrees with research in this area and with the observation that girls tend to make more friendships and intimate connections than boys do. Kandel makes the comment that general trends show that girls also seem to be influenced to a greater degree by the peers they associate with than by their parents.

1.7.4. Ethnicity

Giddens (1993) writes that ethnicity "refers to cultural practices and outlooks that distinguish a given community of people" (pp.252-253). He continues on to comment that those belonging to the ethnic group view themselves, and are viewed by others, as being culturally distinct from society's other groups. Giddens also states that ethnic differences are learned. Hence the effect these ethnic characteristics have on an individual would depend on the level of emersion in these characteristics and the

individual's acceptance of them. A person's ability to go outside of their cultural filter, through which they view the world, to view the behaviour of others from their perspective, will also effect an individual's interaction with others (Matsumoto, 1996). It is important to study the relationship ethnic differences have with adolescent antisocial behaviour.

Research shows differing results regarding this association. Fridrich and Flannery's (1995) research provided evidence for differing relationships with antisocial behaviour, based on ethnicity. Their study of 274 Mexican American and 743 Caucasian adolescents showed significant mean level differences between the two ethnic groups on susceptibility to antisocial peer pressure and delinquency. However, Fridrich and Flannery's results indicated that ethnicity and acculturation level had no effect on the prediction of early adolescent delinquent behaviour by parental monitoring, which was mediated by peer pressure. Similarly Lowry, Powell, Kann, Collins and Kolbe (1998) found that an association between physical fighting and weapon- carrying did not vary significantly with ethnicity.

McGarvey, Canterbury and Waite (1996) studied 619 incarcerated adolescents. Participants were classified as Black (54%), White (40%), Hispanic (6%), Asian or Native American. The researchers found that significantly more nonminority youths than minority youths used inhalants. Those participants with an inhalant usage history were found to show more delinquent behaviours, and have more family problems, than those participants who stated an absence of inhalant usage. This result was found across all ethnic groups.

Conversely, Fabrega, Ulrich and Loeber (1996) found that minority youths

display greater adolescent psychopathology than nonminority youths do. In comparison to ratings by the adolescent participants and their parents, teachers rated African-American adolescent's psychopathology higher than psychopathology in Anglo-American participants. Delinquency was classified as form of psychopathology.

Neumark-Sztainer, Story, French, Cassuto, et al. (1996) studied health-compromising behaviours (HCBs) of adolescents in Minnesota aged 11- 21 years. Participants were from differing ethnic backgrounds. Results showed the prevalence rates of HCBs tended to be lowest in the Asian- American group, and highest in the American Indian youth. More specifically, delinquency was found to be strongly associated with substance abuse in all ethnic groups.

Data regarding ethnic differences amongst New Zealand adolescent behaviour suggests that the level of minority antisocial behaviour is marginally higher than that of the majority's. As previously discussed, antisocial behaviour may be indicated by police crime statistics. According to the Department of Corrections (1999) there is an especially high youth offence rate amongst the Pacific and Maori peoples (minority groups). Additionally, in relation to their proportion of New Zealand's population, Pacific Island and Maori people are overrepresented with regards to community- based and custodial sentences. Another large proportion of such sentences for non-traffic offences is represented by the New Zealand European ethnic group (nonminority group), as found in 1996. Figure 2 shows some of these ethnic group differences for 1996.

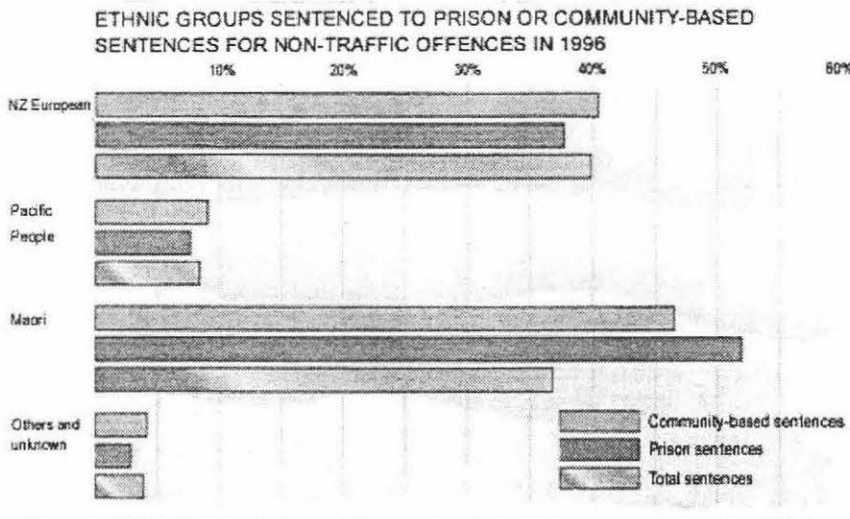


Figure 2. Ethnic groups sentenced to prison or community-based sentences for non-traffic offences in 1996. Retrieved from <http://www.corrections.govt.nz/facts/statistics.html> (p.2), by Department of Corrections (p. 2), on November 14, 2000.

The Maori group composes the largest proportion of these sentences, followed closely by the New Zealand European group. Given that a large portion of crime is committed by individuals under the age of 24 (45% of offenders given a prison

sentence or corrective training in 1996) (Department of Corrections, 1999), it is suggested that more minority adolescents engage in antisocial behaviour than nonminority adolescents do.

It is evident that there is a lack of general consensus on 1) whether antisocial behaviour differs with ethnicity and 2) who displays greater antisocial behaviour-minority or nonminority youths. New Zealand corrections data suggests that ethnicity does have an association with antisocial behaviour, and that nonminority youths display higher levels of it.

1.7.5. Education

An individual's level of education is another important demographic that varies, and hence may have an effect on a person's behaviour. The research regarding the relationship between education and antisocial behaviour is more conclusive and consensual. Farnworth (1999) writes that it is known that young offenders have problems with attending school. Spooner (1999) also cited a low commitment to education history, in her review of literature, as a risk factor for adolescent drug abuse. Additionally Foust (1999) found that a greater amount of bonding to school was significantly related to lower involvement in multiple problem behaviours. It follows that the lower the commitment the adolescent has to school, the lower their commitment to, and participation in, their education will be.

Adolescents who display antisocial behaviour have been found to show a limited education, or poor success at it. The results of Deosaran and Chadee's (1997) study of 486 youths in Caribbean juvenile homes revealed that over 50% of participants

had only a primary school education. A longitudinal study performed in Dunedin (McGee, Share, Moffitt, Williams and Silva, 1988) suggested the existence of a long-term association between behaviour problems and reading- disability. Participants in the Dunedin study were boys and girls between the ages of 5 and 11. Reading- disabled boys and girls were followed up at age 13. Failure at school was cited as one of the risk factors for adolescent drug abuse in Spooner's (1999) study; and educational attainment has been shown to be consistently significantly and negatively impacted by delinquency, net of status attainment variables (Tanner, Davies & O'Grady, 1999).

The direction of the relationship antisocial behaviour has with education varies between studies. Some suggest that a limited education, or poor success at it, leads to, or contributes to, antisocial behaviour in some way (Spooner, 1999; McGee et al., 1988), whilst other research suggests that latter variable leads to, or contributes to, former variable in some way (Tanner et al., 1999). Other studies simply state, or suggest, the existence of the association between the two variables (Masse & Tremblay, 1999).

Level of education, or success at it, has been shown to interact with other factors. These include gender (Masse & Tremblay, 1999) and personality (Byqvist & Olsson, 1998). Additionally Vettenburg (1998) found that education "played an activating role that was grafted onto the cultural characteristics of the family" (p.193). Vettenburg states that a relationship was discovered between the student's family's social vulnerability and the attitude of their teacher. This attitude was found to foster problematic behaviour and judicial involvement.

1.8. Interaction of factors

There does not appear to be a single cause, or associated factor, of antisocial behaviour. It can be perceived from the evidence above that there are several factors that are associated with antisocial behaviour in an adolescent. It can also be seen that the discussed factors do not appear to operate in isolation of each other. Steiner and Wilson (1999) write that the majority of authorities who investigate conduct disorder would agree that the nature of this disorder's development seems to be multidetermined. Eysenck and Eysenck (1985) state in their discussion of antisocial behaviour and crime, that to assume criminal behaviour is a result of either personality factors or situational factors (for example family environment or peer influence) is too simplistic a view. They believe that the two sets of factors interact to produce an occurrence of criminal behaviour.

The evidence on this topic supports Eysenck and Eysenck's (1985) belief -that personality, family environment, and peer influence (in particular the former two factors) interact to produce a combined effect on antisocial behaviour. Bohman (1995) states, "children are influenced by both the genes and the environments provided by their biological parents, which makes it difficult to judge the relative importance of nature and nurture" (p. 99). Personality factors (internal factors) have been said to be inherited to a moderate degree (Bohman, 1995). Hence, this statement could be rephrased to say children are influenced by both internal and external factors, as provided by their biological parents. It has already been discussed how an individual's negative childhood experiences can have lasting effects on their life. Therefore, Bohman's statement applies not only to one's behaviour displayed during childhood, but

it also relates to this same individual's behaviour during their adolescence, and possibly their later adulthood.

Bohman's (1995) statement also brings up the issue of a predisposition for antisocial behaviour. This concept has already been discussed with reference to families with an increased propensity for antisocial behaviour (Eysenck & Gudjonsson, 1989, cited Heaven, 1994; West, 1967, cited Heaven, 1994). It has also been discussed with reference to parental alcoholism, deviant parental behaviour (Gregg, 1995) and parents (or a sibling) with a criminal record (Utting, 1999) as risk factors for antisocial behaviour. Steiner and Wilson (1999) agree with the existence of a predisposition present in individuals displaying antisocial behaviour. They believe that the present state of knowledge on the development of conduct disorder "suggests that ecological risk factors trigger an inherited liability" (p.61).

Theories centring on the individual as the predominant contributing influence on juvenile crime, often relate back to their family environment as well. For example, some theories suggest that lack of penalisation for delinquent, or antisocial, behaviour results in the individual becoming involved in criminal behaviour (Streib & Sametz, 1994). This suggests that the individual's developed personal characteristics, exemplified in their personality, are a possible result of their family environment. Hence it can be suggested that the two factors interact.

The family environment has also been found to interact with peer influence. Weiner (1992) describes the origins of socialised delinquency in his book, *Psychological Disturbance in Adolescence*. He states that " adolescents who lack firm and dedicated parental supervision tend to be relatively susceptible to peer influence

toward misconduct" (p.306). Frick (1998) also describes a peer rejection and a deviant peer group as environmental factors that may be influential upon the individual developing dispositional factors. These will then place this individual at risk for conduct disorders. These environmental factors, Frick comments, may also interact with the dispositional factors to maintain or bring about conduct disorders.

This interaction of factors may begin at birth. The Christchurch Health and Development Study (cited by the Education and Science Committee, 1995) found that even from birth, children with several problems could be distinguished. Shamsie (1994) states that some babies are born with a difficult temperament and hence need additional attention and patience. According to Shamsie, research shows that these children, who display a difficult temperament, and have been brought up in a family that has experienced severe problems, develop problems of a behavioural and emotional nature. This research demonstrates the interaction of these two sets of factors.

While most research into antisocial behaviour focuses on a single set of factors, it is evident from the reviewed research that several factors, internal and external, are associated with this behaviour. It is also evident that these factors appear to interact in some way.

1.9. The current study

1.9.1. Summary and reasons for current study

Adolescent antisocial behaviour is a prevalent issue in today's society. As previously discussed, crime rates have increased over the last 4 decades (Triggs, 1997; New Zealand Police & Statistics New Zealand, 1996) thereby indicating a rise in overall antisocial behaviour, which Smith (1995) believes is mostly committed by young adults and teenagers. This increase has also been specifically seen in adolescent antisocial behaviour, indicated by the rise in adolescent crime and juvenile offences (New Zealand Herald, 1996, cited Robins & Bowler, 1997). It is obvious that the topic of adolescent antisocial behaviour is an important issue that needs addressing. The factors that are associated with this behaviour in these individuals need to be investigated if any attempts to remedy the current situation are to be made.

1.9.2. Scope of the current study

The issues surrounding adolescent antisocial behaviour have been investigated at length for several years. There are several factors that have been found to be associated with this behaviour. Three such factors that stand out are personality (internal factor), family environment, and peer influence (external factors). However, studies with these variables typically focus on a single factor, which may overlap with other factors. There is limited research investigating the relative effects of internal and external factors on adolescent antisocial behaviour. Frick (1998) comments that a large portion of research has centred on singular kinds of causal factors, despite the

realisation of many researchers that conduct disorders are multidetermined, in theory. Most of the studies have reported correlations between internal and external factors, and adolescent antisocial behaviour, without partialling out the common effects of the factors amongst themselves. Frick states that this problem of focussing on singular kinds of causal factors results in a "limited understanding of how different types of causal factors interact in the development of conduct problems" (p.42). The interaction effects are beyond the scope of the present study.

It is the purpose of this study to examine some of the major predictors of adolescent antisocial behaviour. These include the internal factors of psychoticism, extraversion/ introversion and neuroticism; and the external factors of family environment and peer influence.

1.9.3. Hypotheses

Based on the literature reviewed above the following hypotheses were formed:

- i) Controlling for age and sex, antisocial behaviour will be predicted by psychoticism, extraversion and neuroticism; a family environment characterised by low cohesiveness, expressiveness, control, and high conflict; and high levels of peer influence as measured by peer association.
- ii) In comparison to females, males will display higher levels of antisocial behaviour
- iii) Participants of a Maori/ Pacific Island ethnicity will show the highest level of antisocial behaviour, followed by those of a European/ Pakeha ethnicity. Participants who are of other ethnicities will show the lowest level of antisocial behaviour
- v) In comparison to those participants with a tertiary/ post-tertiary education, participants with a pre-tertiary education will have higher levels of antisocial behaviour.

CHAPTER II.

METHODOLOGY

2.1. Participants

The sample consisted of 132 participants. The participants included 6 males from a youth home for boys with adolescent problems, 5 females from a similar Christian youth home for girls and 121 university students enrolled in an introductory psychology course and an abnormal psychology course during 1999 at Massey University, Albany Campus. The youth home groups were not differentiated from the university students to maintain confidentiality and anonymity.

Table 1 shows the distributions of the sample characteristics of the 132 participants. The ages of the participants ranged from 12 years to 59 years, with an average of 27.11 years ($SD= 11.02$). The majority of participants were female, of a European/ Pakeha ethnicity with no tertiary qualifications.

The participants from the youth homes were selected from local homes for troubled adolescents known to the researcher. The care supervisor for the female youth home participants was approached, informed of what the project entails, what would be required of participants, and of her as their supervisor. An explanation was given of confidentiality details, and of procedural and ethical requirements. The care supervisor was given a copy of the proposal to the Massey University Human Ethics Committee,

Table 1.

Sample characteristics (N=132)

Group	<i>n</i>	% of sample
Subjects		
Psychology students	121	91.7
Boy's home	6	4.6
Girl's home	5	3.8
Sex		
Female	94	71.2
Male	35	26.5
Missing	3	2.3
Ethnicity		
Maori	5	3.8
Pacific Island	2	1.5
European/Pakeha	100	75.8
Other	14	10.6
Missing	11	8.3
Education		
Pre- tertiary	89	67.4
Tertiary and Post-tertiary	31	23.6
Missing	12	9.1

which outlines the aforementioned details, and an examination of the questionnaire upon her request. The adolescents under her care were then approached, upon her permission, and their participation was sought. A fast food voucher was provided as an approved inducement.

In the case of the male participants from the youth home, their participation was first sought through youth workers associated with the home. The procedures described above for the informing of the female care supervisor were employed for the informing of these youth workers. The final permission to approach the male adolescents was given by their care supervisor. The male adolescents living in the home were then approached and their participation sought, with the inducement of a fast food voucher upon their involvement.

Both of the youth home care supervisors acted as legal guardians, and were given a parent/ guardian information letter. This also asked for their permission for the participation of children under their care (Appendix A). Additionally, they were asked to complete a consent form for this participation (Appendix B). All adolescent participants were given a separate information sheet (Appendix C).

The student participants were deemed to be an important source of normative data and a possible source of the population of interest. It was recognised that not all antisocial adolescents will be found within the confines of a special home. Prior to seeking participation from students, the project was discussed with the lecturer who was teaching the papers from where the students would be sought, and his permission to approach the class was obtained.

Students were approached during a chosen lecture. The study was explained to them, along with the ethical concepts and procedures involved. Students were then informed of a time and place when assessment would take place, should they wish to volunteer to fill out the questionnaire. An inducement of a fast food voucher was given. All student participants were also given an information sheet (Appendix C).

2.2. Materials

Three main standardised psychological tests were adapted and combined to form one questionnaire- the Adolescent Behaviour Questionnaire (ABQ, Appendix A). These three measuring instruments, described below, were the Young Adult Self-Report (Achenbach, 1997), the Adult Eysenck Personality Questionnaire-Revised (Eysenck & Eysenck, 1991a) and the Family Environment Scale (Moos, 1989). Additionally a demographic section and an optional questionnaire evaluation section were added on to the end of the questionnaire, also described below.

The common reason for the choice of all three main tests was their self- report nature. There are other measuring instruments available that require an assessment of the adolescent's parents or teachers to ascertain the behaviour, personality and family environment of the adolescent. However such processes are lengthy and complex, and, hence, simpler self- report devices were favoured.

2.2.1. Young Adult Self- Report (YASR)

The Young Adult Self- Report (YASR), developed by T. M. Achenbach and C. Edelbrock (1983, cited Wiznitzer, Koeter, Van den Brink, Giel, et al., 1992)), is one of

several assessment devices Achenbach has created to assess child and adolescent psychopathology. Along with S. H. McConaughy, Achenbach has obtained data from several sources on particular problematic behavioural and emotional issues, identified syndromes of problems occurring together, and formed scales based upon their research (Achenbach & McConaughy, 1997). The YASR is one of their many empirically based measuring instruments.

Achenbach's 1997 version of the YASR was used for the current research. This assessment device consists of seven sections: the Friends scale, Education scale, Job scale, Family scale, Spouse scale, Substance Use scales and the Problem scales. The Problem scales and the Friends scale were used in the current questionnaire.

The Problem scales are separated into the eight independent syndrome scales: (I) Anxious/ Depressed, (II) Withdrawn, (III) Somatic Complaints, (IV) Thought Problems, (V) Attention Problems, (VI) Intrusive, (VII) Aggressive Behaviour and (VIII) Delinquent behaviour. Additionally there is an 'Other Problems' section included in the Problems scales. Scales I and II are categorised as Internal scales and scales VI, VII and VIII are categorised as External scales.

Due to the great length of this section of the YASR, only certain problem scales were used in the current questionnaire. These scales included the Attention Problems scale (7 items) and the three External scales- Intrusive (7 items), Aggressive Behaviour (12 items) and Delinquent Behaviour (9 items). In addition to these, three single items from the Other Problems section were included: no guilt, impulsive and sets fires. The above scales, and their individual items, were deemed to fit the common characteristics suggested by the research into antisocial behaviour. This section of the questionnaire

(38 items in total) was, hence, used as a screening tool for antisocial behaviour.

The items were rated on a three- point scale. These gave a statement which participants were asked to answer 0 (not true), 1 (somewhat or sometimes true), or 2 (very true or often true) as a description of themselves during the course of the previous six months. To obtain a total antisocial score, the ratings of the 38 items were added together. In addition, scores for Attention Problems, Intrusiveness, Aggression, and Delinquency scales were obtained by simply adding the ratings on the appropriate items for the scales

Along with the YASR, the two other commonly used self- report measuring instruments for adolescent antisocial behaviour are the Symptom Checklist (SCL-90) by Derogatis (1977) and the General Health Questionnaire (GHQ-28) by Goldberg (1972). The latter two instruments are adult- oriented questionnaires whereas the YASR is an age- adjusted child- oriented questionnaire. Ferdinand and Verhulst (1994) assessed the ability of these three questionnaires to predict maladjustment in adults. They concluded that the validity of the YASR, as an assessment device for young adult psychopathology, was supported by their results. Ferdinand and Verhulst also found that the delinquent behaviour syndrome in the YASR was the single significant predictor for abuse of alcohol.

Wiznitzer, Verhulst, Van den Brink and Koeter et al. (1992) found that the YASR and the SCL-90 performed better than the GHQ-28 when used to screen a sample of young adults, some of which had been referred to a mental health service during their study, and some of which had not prior to its commencement. The YASR

and the SCL-90 were found to perform as well as each other. Wiznitzer, Verhulst, et al. also suggested that an age- adjusted child- oriented assessment device may be a good alternative to those adult-oriented devices currently in existence, when assessing young adult psychopathology.

In addition to the SCL-90 and the GHQ-28 there are other screening instruments available for assessing antisocial behaviour. The Millon Clinical Multiaxial Inventory II (MCMI-II), the Psychopathy Checklist- Revised, the Diagnostic Interview Schedule- Revised, MMPI-2 and the PAI are instruments discussed in the literature on antisocial behaviour, that are able to assess antisocial behaviour or psychopathy in some way. However most of these would be inappropriate for usage in the current study. The first three measures were found to lack sensitivity to diagnostically relevant female behaviour and unable to show clearly the female response to particular items (Piotrowski, Tusel, Sees, Banys & Hall, 1995). The same study, which provided these findings, concluded that the treatment response relationships with the characteristics that were antisocial or psychopathic were not evident.

The YASR has also been frequently used in similar studies in the past. It has been used to screen for psychological disorders (Wiznitzer, Koeter, et al., 1992), to examine the change and stability of behavioural and emotional problems of young adults (Ferdinand & Verhulst, 1995b), to determine psychiatric disorder prevalence rates amongst young adults (Ferdinand, van der Reijden, Verhulst, Nienhus et al., 1995; Ferdinand & Verhulst, 1996) and to follow the course of emotional and behavioural problems from adolescence into young adulthood (Ferdinand, Verhulst & Wiznitzer, 1995; Ferdinand & Verhulst, 1995a).

The reliability of the YASR is outlined in Achenbach, Howell, McConaughy and Stanger's (1995) article. The one-week test-retest correlations for 184 participants, taken from a clinical outcome sample and a college sample, were .86 on average. This was found to occur across the YASR's seven syndromes, Externalising, Internalising, and Total Problems (all $p < .001$).

Achenbach et al. (1995) also found the YASR to show good validity. The YASR was "significantly associated with the criterion of clinical referral" (p. 669) when analyses of covariance were performed on subjects referred during their preadult or young adult years to mental health services, in comparison to those subjects who were matched demographically but not referred to these services.

Achenbach et al. (1995) further investigated the validity of the YASR by testing its concurrent associations with diagnoses using the DSM-III-R. Subjects who were given two or more diagnoses using the DSM obtained higher ($p < .001$) YASR Total Problem scores (mean=70.2) than those subjects who were given a single diagnosis (mean=46.3). These latter subjects obtained higher ($p < .03$) YASR Total Problem scores than those subjects who were not given a diagnosis (mean=31.6). Of the variance in the YASR scores, 41.3% was accounted for by the classification of participants as obtaining two or more, one, or zero diagnoses. Significant correlations were found between a number of specific DSM diagnoses and YASR syndromes, and a correlation of .66 ($p < .001$) was found between the Total Problem score and several diagnoses. The corresponding scales of the YASR and the Youth Self- Report (YSR) were strongly associated, with a mean correlation of .87 ($n=23$, $p < .001$), when these two measures were utilised with college students, using a counterbalanced order

(Achenbach et al., 1995).

2.2.2. Eysenck Personality Questionnaire- Revised (EPQ-R)

The Adult Eysenck Personality Questionnaire- Revised (Eysenck & Eysenck, 1991a), used for the purposes of this study, is a revised version of the Eysenck Personality Questionnaire (1975) formulated by H.J. Eysenck and S.B.G. Eysenck (Eysenck & Eysenck, 1976). This was based upon the original PEN (psychoticism, extraversion/ introversion, neuroticism) scales which were developed from their own personal knowledge, experience, research and testing.

The EPQ has been used frequently in past research into adolescent antisocial behaviour. In similar research on the utility of family environment and personality variables, as predictors adolescent antisocial behaviour, Estarellles, Gracia, Garcia and Prieto (1989) used the E P Q- Adolescent (Eysenck & Eysenck, 1975, cited Estarellles et al., 1989). Witherspoon, Long, Farmer, Hitson and Thompson (1997) found the Psychoticism scale of the EPQ-R to be associated with antisocial behaviour in their study of college students. The Psychoticism scale, from the Junior Eysenck Personality Inventory, was also used by Saklofske (1977) in his sample of 80 adolescent males. His results showed significant differences between the low and high self- reported antisocial behaviour groups, and between the badly behaved and the well- behaved groups, as rated by their teacher. These are just some of the studies where the EPQ-R, or a form similar to it, has been used in the study of antisocial behaviour in adolescents. Hence this questionnaire was deemed to be appropriate to be used in the current study. The *Manual of the Eysenck Personality Scales (EPS Adult)* (Eysenck & Eysenck,

1991b) provides age norms for the age groups 16- 20 years, 21- 30 years, and further age groups. Due to these norms provided for adolescents, the Adult EPQ-R was judged to be applicable and was, hence utilised in the current study.

The EPQ-R is made up of four main scales- the Psychoticism (32 items), Extraversion/ Introversion (23 items), and Neuroticism (24 items) scales and the Lie scale (21 items).

According to Eysenck and Eysenck (1991b), the Lie (L) scale was originally added into the EPI, an earlier personality inventory, to measure dissimulation. However it has been found that the L scale also measures some stable personality function. Eysenck and Eysenck believe that this " may possibly denote some degree of social naivety or conformity" (p.13). Hence the L scale was utilised in the current study as a measure of participants' conformity, a tendency to give socially desirable answers.

Each of the 106 closed- ended items in the EPQ-R involved two options. The participants were asked to circle yes or no to each question about themselves, with yes being scores as '1' and no scores as '2'. An overall score for each scale was obtained using the scoring key given in the *Manual of the Eysenck Personality Scales (EPS Adult)* (Eysenck & Eysenck, 1991b), which designated which items belonged with each scale. It should be noted that a high score on the Extraversion/ Introversion scale indicates an extraverted individual.

The *Manual of the Eysenck Personality Scales (EPS Adult)* (Eysenck & Eysenck, 1991b) gives reliability coefficients for the four main scales. They cite alpha-coefficients for males as being .78 (Psychoticism), .90 (Extraversion/ Introversion), .88

(Neuroticism) and .82 (Lie); and for females as being .76 (Psychoticism), .85 (Extraversion/ Introversion), .85 (Neuroticism) and .79 (Lie).

The Eysenck Personality Scales manual (1991b) does not give specific validity coefficients for the scales. Eysenck and Eysenck (1985) state that content validity, with regards to personality measures, is of minimal interest, and as Anastasi (1982, cited Eysenck & Eysenck, 1985) indicates it is commonly inappropriate and possibly misleading. However the consensual validity of the Psychoticism (P), Extraversion/ Introversion (E) and Neuroticism (N) is evident from past studies.

According to Eysenck and Eysenck (1985) past research indicates that P, E and N show good consensual validity, as far as concurrent validity is concerned. They cite Campbell and Fiske's (1959, cited Eysenck & Eysenck, 1985) results, which show a correlations of .72 for extraversion and .47 for neuroticism between spouse ratings and self- report ratings. McCrae (1982, cited Eysenck & Eysenck, 1985) found correlations of .36 and .56 between self-reports for N and E and the Eysenck Personality Inventory (EPI) N and E scales. Additionally, Amelang and Borkenau (1982, cited Eysenck & Eysenck, 1985) examined differing measures, including the Guilford scales, the 16PF and the EPI, and took out five factors. The factor analysis of these factors indicated "a very similar factor structure to a set of ratings, with consensual coefficients for factors resembling P, E and N close to .6" (p.79).

2.2.3. Family Environment Scale

The Family Environment Scale (FES) is a self- report questionnaire developed by R.H. Moos and B.S. Moos to "measure the social- environmental characteristics of

all types of families" (Conoley & Impara, p.382, 1995). The FES has been published several times from 1974 to 1986. It is the 1986 version that was used in the current study.

The FES is a social climate scale (Moos & Moos, 1994) and is divided into 10 subscales that "measure the actual, preferred and expected social environment of families" (p.1). The third edition of the Family Environment Scale Manual (Moos & Moos, 1994) states that these subscales assess three underlying types of dimensions: relationship dimensions, personal growth dimensions and system maintenance dimensions. Moos and Moos state that the first two sets of dimensions mainly reflect the internal functioning of the family and the latter dimensions reflect the family's links with the larger social context.

These 10 subscales comprise the following: Cohesion, Expressiveness, Conflict (relationship dimensions), Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, Moral-Religious Emphasis (personal growth dimensions), Organisation and Control (system maintenance dimensions). Each subscale has 10 items, which are statements the participant is asked to rate as true or false of themselves. Due to the nature of the participants in the current study (some individuals may have moved from 'family' to 'family of various descriptions'), the Adolescent Behaviour Questionnaire, composed for this study, asked participants to answer with regards to the family they spent the most time growing up in.

There are three forms of the FES. Form R (the Real Form) was used in the present research. This form assesses the individual's views of their current family

environment, and allows the researcher to compare and describe family climates, predict and measure treatment results, and to understand how an adolescent or child can be impacted by their family (Moos & Moos, 1994).

The answers participants gave for each item were scored as '1' (true) or '2' (false). An overall score for each subscale was obtained using the scoring key given with the Family Environment Scale (Moos, 1989), which specifies which items pertain to which subscale. The FES Manual (Moos & Moos, 1994) provides norms (stated in the results section) and reliability, and validity information. The internal consistency and two-month test-retest reliability for each subscale is displayed in Table 2.

Table 2.

Form R subscales' internal consistencies and 2- month test- retest reliabilities

Subscale	Internal Consistency ^a	2-Month Test-Retest ^b
Cohesion	0.78	0.86
Expressiveness	0.69	0.73
Conflict	0.75	0.85
Independence	0.61	0.68
Achievement Orientation	0.64	0.74
Intellectual-Cultural Orientation	0.78	0.82
Active-Recreational Orientation	0.67	0.77
Moral-Religious Emphasis	0.78	0.80
Organisation	0.76	0.76
Control	0.67	0.77

Note. ^a N=1,067. ^b N=47. Adapted from *A social climate scale: Family environment scale manual: Development, applications, research* (3rd ed.). (p.21), by R. H. Moos and B. S. Moos, 1994, Palo Alto, CA: Consulting Psychologists Press.

The content and face validity of the FES is evident from the specific construct definitions, the way that the authors of the scale have formulated items to fit with the construct definitions, and from how they have chosen items that were related,

conceptually, to a particular dimension. The authors of the FES also selected items on the basis of assessments of the internal consistency, intercorrelations between items and item-subscale correlations. They also put each item into only one dimension to limit overlap and add further conceptual clarity.

To show evidence of discriminant and construct validity, Moos and Moos (1994) provide a conceptual framework, and cite research on how the FES measures and predicts the results of treatments; how it discriminates between families; on usage with families of youth with physical, behavioural, developmental, or emotional disabilities; on the associations between coping with transitions in life and crises, and family climate; and on the familial environment links with children and adults' adaptation.

Allison (1995) performed a review of the second edition of the FES and described past research applications. She stated that it has been used to study how children, and their social and personal growth, is affected by their family climate; how the psychosocial and health-related aspects of family climate impacts on the adult; to understand how family's adaptation to crises and transitions in life is affected by the family environment; and to measure and predict the results of treatment of psychiatric and alcoholic patients. The FES Manual (Moos & Moos, 1994) comments on research performed on youths with conduct disorders or problematic behaviour, and their families, in comparison to normal families (Fox, Rotatori, Macklin, Green & Fox, 1983; LeFlore, 1988; Jansma, 1988; Jansma & Cohen deLara, 1990; Malin, 1981; Morris, Horne, Jessell, Walker & Sayger, 1988). The FES has also been used in conjunction with the EPQ- Adolescent (Estarellles, Gracia, Garcia & Prieto, 1989).

In terms of the literature reviewed above, and variables presently under examination, the FES was deemed to be one of the most appropriate scales available for the present research. Other scales, such as the Parent- Adolescent Relationship Questionnaire (Robin et al., 1990, cited Cohen, Swerdlik & Phillips, 1996) focused on adolescent- parent relationships rather than familial environment, or on specific aspects of the family environment, such as the Child's Attitude toward Mother and Father Scales (Guili & Hudson, 1977, cited Cohen, Swerdlik & Phillips, 1996).

2.3. Design and procedure

The participants from the youth homes were assessed in the presence of the author of this thesis in their respective homes, once their voluntary agreement to participate in the study was given. The assessment involved the filling out of the ABQ (Appendix D). In the case of these participants, assessment took place in groups of three or four.

The student participants were met by the author at the prearranged and preannounced place situated at Massey University. Their assessment also involved filling out the ABQ (Appendix D) in the presence of the author. However the student participant's assessment took place at one time to ensure maximum participation and to limit costs. These participants were given the option of filling out an envelope so that a summary of the student results and a food voucher could be posted to them. All student participants were informed that the aforementioned results would be posted on the appropriate notice board.

All participants were given an information sheet (Appendix C) prior to filling out the questionnaire. The front page of the ABQ informed participants that the completion of the questionnaire implied their consent. The care supervisors, who acted as legal guardians, from the youth homes were given a consent form to complete (Appendix B). This asked them to name, and provide consent for, the participation of those adolescents from their respective home who wished to participate.

All of the individuals that volunteered for the study were informed, on the information sheet provided, that the data they provided would be confidential, anonymous and unable to identify them individually.

To evaluate the relationships between the variables a correlational assessment was performed. In order to test the hypotheses, five multiple regression analyses were then performed on those variables that were statistically significantly correlated with the variables measuring antisocial behaviour (Attention Problems, Intrusiveness, Aggression, Delinquency and total antisocial behaviour). To ensure that no relevant variables were excluded, the variables that obtained a significance coefficient of less than .10 were also included in the regression analyses. All predictor variables were entered into the equations simultaneously, with no forced entry.

A two- tailed *t*-test of significance of differences in means was performed on all variables with sex and education as the independent variables. Levene's test for the equality of variances was computed for the *t*-tests so that if the variances could not be assumed equal, pooled variance and the revised *t*-value was utilized for inferential statistics. A one-way ANOVA was then performed on all variables with ethnicity as the independent variable. This analysis included a computation of multiple comparisons

between the different ethnic groups. The Least Significant Differences (LSD) test of significance of differences was used for all comparisons. All statistical analyses were computed on SPSS version 8.0, with minimum alphas of .05.

For the purposes of the *t*-test and ANOVA, the data were separated into specific groups based on the information participants had provided in the demographic section of the questionnaire. For the analysis of the sex data, all participants were classified as being 1- Female, or, 2- Male. For the analysis of the education data subjects were classified as having a pre-tertiary (1) or tertiary/ post-tertiary (2) education. The tertiary/ post-tertiary group included those participants who ticked the "Other" box to represent their highest educational qualification. Specifications of this included certificates, initial stages of a tertiary qualification and other educational qualifications of various descriptions. The participants were separated into three groups for the analysis of ethnicity- Maori/ Pacific Island (1), European/Pakeha (2) and Other (3) which was predominantly of Asian ethnicity. Due to relatively few Maori and Pacific Island participants, the Pacific Island data were combined with the Maori data (see Table 2).

CHAPTER III

RESULTS

Table 3 displays the correlations between the pairs of variables, the alpha-coefficients for the scales, the means, standard deviations (*SD*), the number of subjects that answered enough questions for calculation of that scale (*n*), and the skewness statistic and standard error for each of the individual scales within the questionnaire.

Most of the scales obtained high alpha- coefficients in the reliability analysis. However there were two scales that displayed low reliability coefficients. These exceptions were the Independence in the family (.50) and Attention Problems (.48) scales.

The means obtained for the Extraversion/ Introversion (15.50) and Neuroticism (12.80) scales are comparable to the means for the norms reported in the EPQ-R (Eysenck & Eysenck, 1991b) for the 16- 20 years and the 21- 30 years age groups. The means for the Extraversion/ Introversion scale were reported to be 15.97 for males and 15.47 for females (16-20 years), and 14.50 for males and 14.17 for females (21-30 years). The means for the Neuroticism scale were reported as 11.12 for males and 14.03 for females (16-20 years), and 11.08 for males and 12.53 for females (21-30 years).

The mean obtained for the Psychoticism scale (5.82) was slightly lower than the means reported for the age groups referred to above. The manual for the Eysenck personality scales (Eysenck & Eysenck, 1991b) shows a mean of 9.57 for males and

Table 3

Intercorrelations Between Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. Age																									
2. Sex	-.09																								
3. Psychoticism	-.14	.32	.69																						
4. Extraversion	-.17	-.09	.06	.84																					
5. Neuroticism	-.08	.03	.07	-.26	.85																				
6. Lie	.06	-.17	-.31	-.11	-.15	.73																			
7. Cohesion	-.25	-.01	-.19	.21	-.22	.09	.78																		
8. Express	-.22	-.11	-.12	.13	-.24	.12	.71	.72																	
9. Conflict	.17	.12	.04	.04	.07	.07	-.38	-.26	.80																
10. Indepen	-.17	-.18	-.01	-.01	-.10	.03	.25	.34	-.32	.50															
11. A.O.	.11	.04	-.15	.04	.11	.02	.03	-.15	.18	-.19	.64														
12. I.C.O.	-.05	-.04	-.11	.22	-.15	.03	.51	.44	-.22	.27	.08	.78													
13. A.R.O.	-.16	-.10	-.08	.25	-.15	-.03	.30	.27	-.15	.32	-.05	.39	.71												
14. M.R.E.	-.03	.11	-.02	-.16	.09	.01	-.01	-.08	-.00	-.16	.17	.08	-.02	.70											
15. Org	.15	-.08	-.25	.07	-.01	.19	.23	-.01	-.24	-.01	.32	.16	.05	.28	.70										
16. Control	.40	.03	-.08	.00	.13	.11	-.33	-.46	.41	-.44	.51	-.11	-.18	.20	.37	.77									
17. Att. Prob	-.25	.11	.35	-.05	.41	-.23	-.11	-.18	-.03	-.02	.11	-.07	-.15	.01	-.12	.03	.48								
18. Intrusiveness	-.20	.08	.16	.28	.18	-.31	.02	-.00	.14	-.07	.21	.06	-.12	.11	-.14	.04	.38	.63							
19. Aggression	-.14	.13	.42	-.15	.53	-.24	-.21	-.19	.19	-.09	.07	-.15	-.16	.14	-.12	-.05	.44	.44	.79						
20. Delinquency	-.28	.30	.57	.11	.15	-.43	-.16	-.15	.03	.03	.10	-.14	.01	.08	-.14	-.09	.40	.37	.51	.82					
21. Guilt	.15	.19	.27	.10	-.10	-.09	-.15	-.09	.10	-.11	-.00	-.15	-.03	-.02	-.07	.03	.03	.15	.15	.29					
22. Impulsive	-.08	.09	.19	.18	.19	-.35	.02	-.05	.02	-.06	.18	.02	-.06	-.12	-.12	-.05	.29	.40	.35	.42	.06				
23. Sets fires	-.06	.05	.10	.03	.14	.05	-.11	.02	-.02	-.16	-.06	-.01	.02	-.00	-.05	-.04	.15	.21	.18	.12	.10	.24			
24. Tot a.s.b.	-.27	.23	.55	.06	.41	-.41	-.17	-.18	.12	-.07	.15	-.12	-.14	.10	-.18	-.03	.69	.70	.82	.78	.28	.53	.25	.87	
25. Peer assoc	-.15	-.23	-.14	.43	-.30	-.12	.16	.14	-.12	.17	-.18	.23	.49	-.09	.01	-.13	-.34	-.12	-.29	-.12	-.05	-.08	-.17	-.29	
Mean	27.11	1.27	5.82	15.5	12.8	7.84	6.14	4.87	3.54	6.42	5.69	5.77	5.42	3.83	5.66	4.41	4.07	2.93	4.08	2.13	0.44	0.57	3.79	14.26	69.96
SD	11.02	0.45	3.49	4.8	5.24	3.66	2.52	2.46	2.6	1.79	2.07	2.54	2	2.23	2.25	2.63	2.36	2.27	3.43	2.97	0.63	0.58	0.23	8.95	33.3
n	128	129	123	122	128	126	124	126	117	125	124	126	126	121	126	124	131	132	130	132	132	132	132	129	130
Skewness	1.07	1.04	0.63	-0.78	-0.07	0.1	-0.58	-0.37	0.44	-0.29	-0.5	-0.46	-0.58	0.34	-0.29	0.19	0.49	0.96	0.95	2.64	1.15	0.44	6.68	1.22	-0.36
Std error	.21	.21	.22	.22	.21	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.21	.21	.21	.21	.21	.21	.21	.21	.21

Note: For absolute values of $r > .16$, $p < .10$; $r > .19$, $p < .05$; $r > .25$, $p < .01$; $r > .32$, $p < .001$, two-tailed. Alpha coefficients for the scales appear in the diagonal. Express=Expressiveness, Indepen=Independence, AO=Achievement Orientation, ICO=Intellectual-Cultural Orientation, ARO=Active-Recreational Orientation, MRE=Moral-Religious Orientation, Org=Organisation, Att. Prob=Attention Problems, Impulsive=Impulsiveness, Tot a.s.b.=Total antisocial behaviour, Peer assoc=Peer association.

7.06 for females in the 16-20 years age group, and a mean of 8.65 for males and 6.20 for females in the 21-30 years age group.

The means obtained for the Family Environment Scale subscales ranged from 3.54 (Conflict scale) to 6.42 (Independence scale). There were no outliers amongst these means in terms of what the Family Environment Scale interpretative report form (Moos, 1989) regards as an average score. All scales, with three exceptions, obtained mean scores within the normal average range according to the Moos manual (Moos & Moos, 1994). The three exceptions to this result were the Expressiveness (4.87), Independence (6.42) and Moral- Religious Emphasis (3.83) scale means. These scores were found to be below average amongst normal families.

The mean total antisocial behaviour score was found to be 14.26. In comparison to the maximum score obtained in this sample (53), and particularly in comparison to the maximum score possible on this scale (76), this mean score is regarded as a very low score.

The majority of scales are in close proximity to the ± 0.5 cut off point for skewness displayed by their skewness statistic, thereby indicating minimal skewness. A high degree of positive skewness was evident in all of the variables associated with testing for antisocial behaviour, with the exceptions of Attention and Impulsiveness.

From Table 3, total antisocial scores correlated with age ($-.27, p < .01$), sex ($.23, p < .05$), Psychoticism ($.55, p < .01$), Neuroticism ($.41, p < .01$), conformity (Lie) ($-.41, p < .01$), the family environment variables of Cohesion ($-.17, p < .10$), Expressiveness ($-.18, p < .10$), Achievement Orientation ($.15, p < .10$), Organisation ($-.18, p < .10$), and peer association ($-.29, p < .01$). The predictor variables were entered into the

regression model (Table 4).

The four main scales that make up the total antisocial behaviour scale also correlated significantly with many of the same variables. The appropriate variables ($ps < .10$) were entered into the regression models (Tables 5 to 8).

Table 4 shows the multiple regression analysis with age, sex, Psychoticism, Neuroticism, conformity (L), Cohesion, Expressiveness, Achievement Orientation, Organisation in the participant's family and peer association as the predictor variables, and total antisocial score as the criterion variable.

The unstandardised data coefficients (B) indicate that a total antisocial score was predicted by age, Psychoticism, Neuroticism, conformity (L), peer association, and Achievement Orientation in the participant's family, $R^2 = .551$, $F(10,91) = 11.19$, $p < .001$.

Table 4.

Summary of Simultaneous Regression Analysis for Variables Predicting Total
Antisocial Score (N=101)

Predictors	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>r</i> ²	% <i>R</i> ² (.551)
(Constant)	13.59	5.46		2.49*		
Age	-0.17	0.06	-.23	-2.96**	.088	16.0
Sex	-1.01	1.45	-.06	-0.70		
Psychoticism	0.98	0.20	.42	4.90***	.209	37.9
Neuroticism	0.34	0.12	.22	2.84**	.081	14.7
Conformity (Lie)	-0.52	0.18	-.23	-2.82**	.081	14.7
Cohesion	-2.71	0.39	-.01	-0.07		
Expressiveness	-7.00	0.37	-.02	-0.19		
Achievement	0.81	0.33	.20	2.49*	.060	11.6
Orientation						
Organisation	-0.17	0.31	-.05	-0.55		
Peer association	-4.19	0.02	-.17	-2.05*	.044	8.0

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Table 5.

Summary of Simultaneous Regression Analysis for Variables Predicting Attention Problems (N=107)

Predictors	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>r</i> ²	% <i>R</i> ² (.353)
(Constant)	5.68	1.46		3.89***		
Age	-5.28	0.02	-.26	-2.95**	.080	22.7
Psychoticism	0.10	0.06	.16	1.74		
Neuroticism	0.10	0.04	.25	2.76**	.071	20.1
Conformity (Lie)	-8.78	0.06	-.14	-1.52		
Expressiveness	-8.39	0.08	-.09	-1.02		
Active-Recreational Orientation	8.73	0.11	.08	0.83		
Peer association	-2.26	0.01	-.33	-3.32**	.099	28.0

Note: ** $p < .01$, *** $p < .001$

Table 5 shows the multiple regression analysis with age, Psychoticism, Neuroticism, conformity, peer association, and Expressiveness and Active-Recreational Orientation in the participants' family as the predictor variables, with Attention Problems as the criterion variable.

The unstandardised data coefficients (*B*) indicated that Attention Problems were predicted by age ($p < .001$), Neuroticism and peer association, $R^2 = .353$, $F(7,100) = 7.80$, $p < .001$.

Table 6.

Summary of Simultaneous Regression Analysis for Variables Predicting Intrusiveness
(N=106)

Predictors	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>r</i> ²	% <i>R</i> ² (.223)
(Constant)	0.14	1.39		0.10		
Age	-2.32	0.02	-.12	-1.30		
Psychoticism	4.37	0.06	.07	0.73		
Extraversion	0.12	0.04	.28	3.00**	.083	37.2
Neuroticism	8.09	0.04	.20	2.14*	.044	19.7
Conformity (Lie)	-0.11	0.06	-.19	-2.00*	.038	17.0
Achievement Orientation	0.19	0.10	.17	1.87		

Note: * $p < .05$, ** $p < .01$,

The multiple regression analysis with Intrusiveness as the criterion variable and age, Psychoticism, Extraversion, Neuroticism, conformity, and Achievement-Orientation in the participant's family as the predictor variables, is displayed in Table 6.

It was indicated by the unstandardised data coefficients (*B*) that Intrusiveness was predicted by Extraversion, Neuroticism and conformity, $R^2 = .223$, $F(6,100) = 4.78$, $p < .001$.

Table 7.

Summary of Simultaneous Regression Analysis for Variables Predicting Aggression
(N=99)

Predictors	<i>B</i>	<i>SE B</i>	β	<i>t</i>	r^2	% R^2 (.380)
(Constant)	-0.15	1.94		-0.08		
Psychoticism	0.25	0.09	.25	2.69**	.075	19.7
Extraversion	-4.58	0.07	-.07	-0.71		
Neuroticism	0.27	0.05	.45	5.03***	.219	57.6
Conformity (Lie)	-6.86	0.08	-.08	-0.82		
Cohesion	-2.43	0.18	-.02	-0.14		
Expressiveness	7.32	0.16	.06	0.46		
Conflict	0.16	0.11	.13	1.43		
Active-Recreational Orientation	-3.04	0.16	-.02	-0.20		
Peer association	-3.11	0.01	-.03	-0.31		

Note: ** $p < .01$, *** $p < .001$

The multiple regression analysis with Aggression as the criterion variable and Psychoticism, Extraversion, Neuroticism, conformity, peer association, and Cohesion, Expressiveness, Conflict and Active- Recreational Orientation in the participant's family as the predictor variables, is displayed in Table 7.

It was indicated by the unstandardised data coefficients (*B*) that Aggression was predicted by Psychoticism and Neuroticism, $R^2 = .380$, $F(9,90) = 6.12$, $p < .001$.

Table 8.

Summary of Simultaneous Regression Analysis for Variables Predicting Delinquency

(N=110)

Predictors	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>r</i> ²	% <i>R</i> ² (.468)
(Constant)	3.54	1.22		2.90**		
Age	-5.71	0.02	-.23	-3.09**	.084	17.9
Sex	9.05	0.46	.02	0.20		
Psychoticism	0.37	0.07	.47	5.67***	.234	50.0
Conformity (Lie)	-0.18	0.06	-.24	-3.21**	.089	19.0
Cohesion	-0.12	0.08	.11	-1.47		

Note: ***p*<.01, ****p*<.001

Table 8 shows the multiple regressional analysis with age, sex, Psychoticism, conformity, and Cohesion in the participant's family as the predictor variables, with Delinquency as the criterion variable.

The unstandardised data coefficients (*B*) indicated that Delinquency was predicted by age, Psychoticism and conformity, $R^2=.468$, $F(5,105)=18.46$, $p<.001$.

There were no significant differences between male and female mean scores on most of the scales (Appendix E). Exceptions included Psychoticism, Delinquency, peer

association and total antisocial scores. For Psychoticism males had significantly ($p<.001$) higher mean scores ($M=7.64$, $SD=3.86$) than females ($M=5.13$, $SD=3.13$), $t(119)=-3.68$. Males obtained significantly ($p<.01$) higher mean scores ($M=3.60$, $SD=4.12$) on Delinquency than females ($M=1.60$, $SD=2.25$), $t(41.8)=-2.73$. For peer association females had significantly ($p<.01$) higher mean scores ($M=74.32$, $SD=31.16$) than males ($M=57.23$, $SD=36.29$), $t(126)=2.64$. Males also obtained significantly ($p<.05$) higher mean scores ($M=17.65$, $SD=10.73$) on total antisocial score than females ($M=13.09$, $SD=7.98$), $t(124)=-2.58$.

The t -test for the equality of means performed on the education data showed that there were no significant differences between pre-tertiary and tertiary/ post-tertiary mean scores on all scales, with the exceptions of the Independence and Delinquency scales (Appendix F).

For Independence, pre-tertiary educated participants had significantly ($p<.05$) higher mean scores ($M=6.63$, $SD=1.83$) than tertiary/ post-tertiary participants ($M=5.84$, $SD=1.55$), $t(112)=2.12$. Pre-tertiary educated participants also obtained significantly ($p<.01$) higher mean scores ($M=2.53$, $SD=3.34$) on Delinquency than those participants with a tertiary/ post-tertiary education ($M=1.23$, $SD=1.61$), $t(106.33)=2.85$.

There were significant differences found between ethnic group mean scores on the Psychoticism, Independence, Aggression, peer association and total antisocial scales. The results for the ethnic differences, and post hoc least significant differences

(LSD) tests of differences between pairs of means, are displayed in Appendix G.

The Other ethnic group had significantly ($p < .01$) higher mean scores ($M=8.62$, $SD=3.52$) on Psychoticism than the European/ Pakeha group ($M=5.33$, $SD=3.39$), $F(2,111)=15.43$.

For Independence the Maori/ Pacific Island group obtained significantly ($p < .05$) higher mean scores ($M=7.60$, $SD=2.07$) than the Other group ($M=5.31$, $SD=1.32$), $F(2,114)=4.51$; and the European/ Pakeha group had significantly ($p < .05$) higher mean scores ($M=6.59$, $SD=1.69$) than the Other group ($M=5.31$, $SD=1.32$), $F(2,114)=4.51$. The European/ Pakeha group also obtained significantly ($p < .001$) higher mean peer association scores ($M=74.36$, $SD=33.02$) than the Other group ($M=37.07$, $SD=23.64$), $F(2,120)=8.73$.

The Other group showed significantly ($p < .01$) higher mean Aggression scores ($M=7.36$, $SD=3.95$) than the Maori/ Pacific Island group ($M=4.14$, $SD=3.63$) and European/ Pakeha group ($M=3.69$, $SD=3.16$), $F(2,119)=7.68$. Additionally, the Other group obtained significantly ($p < .01$) higher mean total antisocial scores ($M=20.64$, $SD=10.94$) than the European/ Pakeha group ($M=13.32$, $SD=8.66$), $F(2,118)=4.20$.

CHAPTER IV

DISCUSSION

4.1. General findings

Antisocial behaviour was predicted by age, psychoticism, neuroticism, conformity, family achievement orientation and peer association. The results indicated that a low age, high psychoticism and neuroticism, low conformity, high achievement orientation in the family, and low peer association were related to total antisocial behaviour.

The total antisocial behaviour variable was comprised of specific antisocial behaviours: attention problems, intrusiveness, aggression and delinquency. A direct relationship was found to exist between attention problems and neuroticism. An inverse relationship of the former variable with age and peer association was also found. Intrusiveness was predicted directly by extraversion and neuroticism, and inversely by conformity. Psychoticism and neuroticism directly predicted aggression. Psychoticism also directly predicted delinquency, whilst conformity inversely predicted this variable.

The predictor variables accounted for a range of proportions of variance in antisocial behaviour scores. The results in Tables 4 to 8 show that the greatest proportion of variance in total antisocial behaviour was accounted for by psychoticism (37.9%), with peer association the least (8.0%).

Age, neuroticism and peer association accounted for moderate amounts (20% to 28%) of variance in attention problem scores. Extraversion (37.2%), neuroticism (57.6%), and psychoticism (50.0%) accounted for the largest proportions of variance in, respectively, intrusiveness, aggression, and delinquency scores.

Age emerged as a significant predictor of antisocial behaviour. The results show that antisocial behaviour was significantly predicted by younger, and less conforming individuals. This suggests that the younger the person is, the less likely that she or he conforms, and the more likely she or he behaves antisocially.

Compared with females, males had higher psychoticism, total antisocial behaviour and delinquency, and lower peer association. Participants with a pre-tertiary education came from more independent families and were more delinquent, than participants with a tertiary/ post-tertiary education. Participants in the Other ethnic group, composed predominantly of Asian individuals, showed significantly higher psychoticism, aggression and total antisocial behaviour than those in the European/ Pakeha group, and significantly higher aggression than those in the Maori/ Pacific Island group. The Maori/ Pacific Island group and the European/ Pakeha ethnic group both displayed significantly higher family independence than the Other group. The European/ Pakeha group additionally showed significantly greater peer association than the Other group.

4.2. Personality Factors

4.2.1. Psychoticism

Research shows that individuals exhibiting antisocial behaviour are frequently found to score significantly higher on psychoticism compared to non-antisocial groups (S.B.G. Eysenck, cited in Eysenck & Gudjonsson, 1989; Maclean, cited in Eysenck & Gudjonsson, 1989). Additionally, psychoticism has been shown to be associated with delinquency (Putnins, 1982, cited in Eysenck & Eysenck, 1985; Hare, 1982, cited in Eysenck & Eysenck, 1985; Furnham, 1984, cited in Furnham & Heaven, 1999; Furnham & Thompson, 1991, cited in Furnham & Heaven, 1999).

These results from previous studies were supported by the current results. This is made evident by the direct relationship psychoticism had with total antisocial behaviour, aggression and delinquency. It is interesting, therefore, to note that psychoticism was not significantly associated with intrusiveness or attention problems, despite the apparent importance of personality for the prediction of antisocial behavioural variables. The relationship between psychoticism and the remaining antisocial behavioural variables does, however, confirm Eysenck's (1977) theory on its positive nature.

Additionally the statistically significant correlation between total antisocial behaviour and psychoticism (.55) was found to be similar to those found by Jamison (1980, cited Eysenck & Gudjonsson, 1989) and Powell (1977, cited Eysenck & Gudjonsson, 1989). Jamison found significant correlations of .58 for boys and .59 for girls between psychoticism and the ASB (antisocial behaviour) scale. Powell used the Junior EPQ and a version of the ASB scale. This study yielded statistically significant

correlations ($p < 0.01$) of .51 and .52 for boys (15 years and 13 years respectively), and of .57 and .55 for girls (15 years and 13 years respectively), between antisocial behaviour and psychoticism. The strength of the current association provides further evidence for a relationship between psychoticism and antisocial behaviour.

The results indicate the significance of the role of psychoticism in antisocial behaviour, and the importance of psychoticism for differentiating between subgroups of people.

These results suggest that adolescent antisocial behaviour can be predicted by psychoticism. They also suggest that adolescents who have low emotional independence (as indicated by a high psychoticism score) are more likely to behave antisocially.

4.2.2. Extraversion/ Introversion

Extraversion was found to predict only one facet of antisocial behaviour - that of intrusiveness. Both extraversion and introversion have been demonstrated by past studies to be associated with adolescent antisocial behaviour. A small amount of evidence suggests that delinquents display introversion (Rao & Sen, 1979), or a tendency towards introversion (Stein, de Miranda & Stein, 1988). However, the majority of research suggests that antisocial adolescents exhibit extraversion (Rushton & Chrisjohn, 1981; Silva, Martorell & Clemente, 1986, cited Eysenck & Gudjonsson, 1989; McGurk & McDougall, 1981, cited Eysenck & Eysenck, 1985; McEwan, 1983, cited Eysenck & Eysenck, 1985). Therefore, the absence of a significant prediction by extraversion/ introversion does not support findings from the majority of literature. The

hypothesis that antisocial behaviour would be associated with extraversion was not supported.

The current findings do, however, concur with Furnham and Thompson's (1991) study, which found a non-significant relationship to exist between extraversion, neuroticism, and self-reported delinquency.

The significant prediction of intrusiveness by extraversion can best be explained by the nature of this trait. To intrude is described by the New Zealand Pocket Oxford Dictionary (Burchfield, 1986) as the action to, "force or come uninvited or unwanted" (p.395). Such an action would require a person to be extroverted to a certain extent. The Intrusiveness subscale, utilised in the current study, was composed of the following items: Brags, Demands attention, Teased, Shows off, Talks too much, Teases, and Loud. Perhaps the discrepancy in the literature about the relationship between extraversion and antisocial behaviour depends on the facets of antisocial behaviour studied: intrusiveness is correlated with extraversion whilst other facets, such as delinquency, are not.

These results suggest indicate that extraversion is not a good predictor of antisocial behaviour in adolescents. They indicate that this subset of personality cannot be used to determine which adolescents will behave antisocially, or distinguish between adolescents those who are antisocial and those who are not.

4.2.3. Neuroticism

A higher score on neuroticism is associated with higher levels of every aspect of antisocial behaviour, with the exception of delinquency, which neuroticism did not

significantly predict. These results support the findings of previous studies regarding the relationship between neuroticism and antisocial behaviour, in general. Neuroticism has been found to be higher in delinquents (Chico Libran, 1997; Diaz, Belena & Baguena, 1994; Baguena & Diaz, 1991) and in criminal participants (Addad & Leslau, 1990; Addad & Benezech, 1987), compared to those participants that were not in these groups. The term delinquency refers to antisocial behaviour, as previously discussed. Hence neuroticism has been found previously to be associated with antisocial behaviour, in the general, overall sense. It is this finding that has been confirmed in the current study.

However previous findings on the specific subcategory of antisocial behaviour, delinquency, were not supported by the current results. The past research, described above, indicates that this variable would have the greatest association with neuroticism. The non-significance of neuroticism, in the prediction of delinquency, proved to be contrary to these results. Additionally the current results do not concur Eysenck's general theory of personality, which predicts high scores on neuroticism by those engaging in criminal and delinquent behaviour (Furnham & Thompson, 1991).

However, the absence of this significant prediction by neuroticism supports the results of Hindelang (1971) and Rushton and Chrisjohn (1981). These studies either found limited or no support for the existence of a relationship between neuroticism and delinquency.

The correlation between total antisocial behaviour and neuroticism is comparable to those correlations found by, Powell (1977, cited Eysenck & Gudjonsson, 1989) and Jamison (1980, cited Eysenck & Gudjonsson, 1989). The statistically

significant correlation of .41 was slightly higher than Powell's correlations of .32 and .34 for boys (15 years and 13 years respectively), and .39 and .13 for girls (15 years and 13 years respectively). It was substantially higher than Jamison's correlations of .10 for boys, and .09 for girls.

These results suggest that neuroticism may be used to predict adolescent antisocial behaviour, and that adolescents showing a lack of emotional stability (indicated by a high neuroticism score) are more likely to behave antisocially.

It is evident from these results that a pattern has emerged. The personality variables appear to be important factors for the prediction of antisocial behaviour. This indicates that adolescent antisocial behaviour may be predicted by personality. Adolescents showing low emotional stability and independence may be more likely to behave antisocially. At least one personality variable was found to be a significant predictor of each aspect of antisocial behaviour, including total antisocial behaviour. The pattern of higher psychoticism, higher extraversion, higher neuroticism and lower conformity is evident from the cited results. Therefore, overall, these results support the hypothesis that higher antisocial behaviour, or some facets of it, would be predicted by higher psychoticism, extraversion, and neuroticism.

4.3 Family Environment

The family environment variables were the least important for the prediction of adolescent antisocial behaviour. This result does not support the hypothesis that adolescent antisocial behaviour would be predicted by the family environment.

Adolescent antisocial behaviour was not predicted by low cohesiveness, expressiveness, control and high conflict in the present study.

There are several possible explanations for the absence of the family environment variables in the significant prediction of antisocial behaviour. It is possible that this is a confirmation of the ideas behind the moratorium phase, of the identity formation theory, described earlier. According to this view, the adolescent's relationship with their family and peers mean nothing to them (Rigby, 1990, cited Heaven, 1994). This confirms the results obtained from the current sample. It is possible that, as this view states, it is this lack of meaning in the participant's life that has resulted in the problematic behaviour. The participants may have also found the meaning they were searching for in this behavioural pattern.

Another possible explanation is that the participants in this sample, who displayed antisocial behaviour, simply developed into the "odd one out" in the family, as the New Zealand Parliament: Education and Science Committee (1995) noted. The family environment of the adolescents may have been 'normal' or a pleasant experience for these antisocial individuals. Giddens (1993) stated that the family plays a major part in the socialising of children and adolescents. The families of the participant's may have proven to be a good socialising agent, but the adolescents may have chosen to reject these values and beliefs.

The prominent explanation for the absence of family environment variables, is that the family environment, of the participants in the current sample, may not have had any effect on their behaviour. In addition to the limited significance of the peer influence variable, this suggests that external factors have had a minimal effect, if any,

on the participants' behaviour. This finding conflicts with a large body of research, which suggest otherwise (for example: New Zealand Parliament: Education and Science Committee, 1995; Gregg, 1995; Utting, 1999; Giddens, 1993; Van der Kley, 1996; Fagot & Leve, 1998; Noller & Patton, 1990, cited Heaven, 1994; Shamsie, 1994; Ary, Duncan, Duncan & Hops, 1999). It is possible that in the regression equation with the other sets of variables, the effect of the family environment variables was rendered non- significant.

However, the effect has not totally disappeared. One of the ten family environment variables, achievement orientation, was a significant predictor of total antisocial behaviour. This confirms Moos and Moos (1994) comment, that if high performance expectations are present in a disengaged family, these expectations may add to behaviour disorders during childhood. Achievement orientation was not one of the variables hypothesised to be a significant predictor of antisocial behaviour.

It is possible that total antisocial behaviour was associated with high achievement orientation because of the consequences of this expectation on the adolescent. It is possible that the participants have had a great deal of pressure placed upon them, by their family, with regards to achievement. This may have then resulted in these adolescents behaving antisocially in their frustration or stress from their situation. The majority of the sample was comprised of university students. Hence it is possible that a high degree of achievement orientation was already present as a personality factor. A home with high emphasis on achievement orientation would put additional pressure on people who are trying to achieve their best.

Thus personality, rather than family environment, has the greater influence on antisocial behaviour. It is suggested by the above results that family environment should not be used to predict antisocial behaviour in adolescents, due to its apparent lack of effect on the behaviour.

4.4 Peer Influence

The results obtained with regards to peer influence, which were said to be indicated by levels of peer association, did not confirm the hypothesis that antisocial behaviour would be predicted by high levels of peer influence. Conversely, they did indicate that antisocial behaviour is associated with low peer association; that is, "loners" are more likely to have higher scores on total antisocial behaviour and attention problems. This lack, or limited, amount of peers to associate with may cause an adolescent to act out. They may have no peers to influence them to behave socially, or they could be acting on their loneliness. Cotterell (1996) states that "according to expert opinion, loneliness is particularly widespread in the adolescent years" (p.75). Loneliness is often related to peer rejection (Cotterell, 1996). Peer rejection can effect the behaviour of the rejected individual. Coie (1990, cited Cotterell, 1996), Coie, Dodge & Kupersmidt (1990, cited Cotterell, 1996), and Kupersmidt, Coie & Dodge (1990, cited Cotterell, 1996) undertook several studies which discussed evidence which shows that childhood social rejection can be a predictor of a young person's social deviancy. An association with low peer association, or peer influence, may therefore be a viable suggestion.

The present author presumed that high levels of peer association resulted in high peer influence, and was therefore indicated by the former variable. This was, possibly, an incorrect assumption to make. The absence of a high level of peer association may not indicate a lack of peer influence. Research states that association with deviant peers is a risk factor for antisocial behaviour (Gregg, 1995; Utting, 1999). However, the majority of studies do not designate the number of deviant peers it takes to influence an individual's behaviour. The individuals with few friends may be highly influenced by a single friend, or by a very small group of friends. Therefore, antisocial behaviour may still be associated with high levels of peer influence. In the present study, peer association scores were a composite of number of friends, level of contact with friends and acquaintances, and quality of contact, rather than how these friends and acquaintances affected the participant's behaviour. To ascertain the certainty of this hypothesis a more detailed assessment will need to be undertaken, such as asking participants to rate the influence of their friends on their antisocial behaviours.

The other possibility is that this behaviour is not associated with peer association, or peer influence, at all. This suggestion provides support for motivational theories of crime. According to McCord (1997), motivational theories in contemporary psychology are usually based on the egoistic assumption that an individual voluntarily behaves in a manner so as to satisfy their desire to maximise their individual satisfactions. Gottfredson and Hirschi (1990, cited McCord, 1997) believe that all criminal behaviour is motivated by personal gain from the act. They also believe that control of impulses is the only difference between noncriminals and criminals, assuming that everyone aims to gain more pleasure and avoid personal pain. If people

are motivated only by personal gain motives, and are not concerned about others, it could be said that the approval of peers is not needed. Therefore, an individual's peers may have no influence on their behaviour, thereby supporting the suggestion that antisocial behaviour may not be associated with peer association, or peer influence, at all.

4.5. Demographic Factors

4.5.1. Sex

The analysis of the differences of scores, with regards to the sex of the participants, showed that overall there were limited differences between mean male and female scores. Where there was a difference between the sexes, males generally scored higher than females on the particular variable. Males showed, on average, greater psychoticism, delinquency and total antisocial behaviour than females did. Females demonstrated a higher degree of peer association on average, in comparison to males. This finding agrees with research on peer influence which indicates that girls tend to make a greater number of close connections and friendships, in comparison to boys (Kandel, 1985a). It follows that people with a higher number of friends, and with a greater amount of close connections, would be more likely to be influenced by their peers. This supposition concurs with the findings of this project, and the research in this area. According to Kandel (1985a), this research shows that girls are more susceptible to interpersonal influences than boys are.

Whilst the differences between male and female scores are limited, the evident differences suggest that the males of the current sample display more antisocial

behaviour than the females do. This is indicated by the higher delinquency scores, and higher total antisocial behaviour scores displayed by males, in comparison to females.

The results regarding male scores on psychoticism indicate that this internal factor has a particular effect on male behaviour. This was the only personality variable that males were higher than females on. When the regression model controlled for the sex variable, sex was not found to be a significant predictor variable. The independent variables predicted antisocial behaviour independently of sex. However, given that males scored higher on psychoticism, delinquency and total antisocial behaviour than women, it is suggested that psychoticism may more strongly predict antisocial behaviour in males than in females. Due to the low number of male participants, it was not possible to compute regression equations for males and females separately, to see if the psychoticism scores for males accounted for a greater proportion of the variance in antisocial behaviour scores than the psychoticism scores for women. These results confirm the finding of personality being a dominating influence.

4.5.2. Education

Comparing the mean scores of participants with a pre-tertiary education to those with a tertiary/ post-tertiary education, there were only two variables on which the mean scores were significantly different. The former group came from more independent families and were more delinquent.

Independence is defined by Moos and Moos (1994) as " the extent to which family members are assertive, are self- sufficient, and make their own decisions" (p.1.). Thus participants who had a tertiary education or an education past a tertiary level

possibly had homes where assertiveness, self-sufficiency and responsible decision-making were not emphasised.

The pre-tertiary participants also obtained significantly higher average scores, than tertiary/ post-tertiary participants, on delinquency. This confirms past research which indicates that individuals with less education display antisocial behaviour (Deosaran & Chadee, 1997; Tanner et al., 1999). However, the relationship between level of education and antisocial behaviour cannot be deemed a strong one, due to the absence of significant mean differences between the pre-tertiary and tertiary/ post-tertiary participants on the remaining antisocial variables. Additionally educational level did not have a relationship with psychoticism or family environment (with the exception of independence), as research by Bqvist and Olsson (1998) and Vettenburg (1998) respectively suggested.

The pre-tertiary educated individuals may have been younger than those with a tertiary/ post-tertiary education. It follows that younger adolescents would be more delinquent than older members of the sample, who may have grown out of delinquent activities. This supposition concurs with Smith's (1995) comment. Smith states that the crime rate is at its height between the 15 and 17-year-old period, and declines gradually as the individuals get older.

4.5.3. Ethnicity

The numbers of participants in the Maori/ Pacific Island and the Other groups were very low in comparison to the European/ Pakeha group. This should be considered when reading the following discussion on ethnicity.

The results on the differences between the ethnic groups show a number of differences between the three groups. The Other group was significantly higher than the other two groups on aggression, and showed significantly higher total antisocial behaviour than the European/ Pakeha group. These results suggest that the Other group was the most antisocial group.

These findings support the results of previous studies which found that antisocial behaviour differs with ethnicity (Fridrich & Flannery, 1995, McGarvey et al., 1996; Fabrega et al., 1996; Neumark- Sztainer et al., 1996). Additionally, the current results concur with past research which indicates minority groups display greater antisocial behaviour (Fabrega et al., 1996; Department of Corrections, 1999). However, they do not confirm the hypothesis that the Maori/ Pacific Island group would show the greatest antisocial behaviour, followed by the European/ Pakeha group, then the Other group. This result provides evidence against the ethnicity crime data obtained by the Department of Corrections (1999).

The Other group, was composed predominantly of Asian participants, and was the only group to score significantly higher on a personality variable (psychoticism). For an individual to score high on the psychoticism subscale, the participants would have displayed a lack of care about how others feel, and an attitude of putting their needs above others. This concurs with Furnham and Heaven's (1999) and Eysenck and Eysenck's (1985) descriptions of a high- psychoticism scorer. Given this description of a high psychoticism scorer, it follows that members of the Other group also scored significantly higher aggression scores.

There are two possible explanations for this finding. Participants of an Asian ethnicity, living in New Zealand, may have viewed it necessary to have an attitude of not caring about how others think of them, being in a possible foreign country. The Asian people are also well known for their success in the business world. Obtaining this success may result in the individual putting their desires first, and putting aside some people's feelings, in order to get to the top of their profession.

The fact that participants in the Other group were predominantly Asian, and possibly in a foreign country, may also explain why this ethnic group obtained significantly lower peer association scores than the European/ Pakeha group. It is assumed that members of this latter group have lived in this type of society for a long period of time, feel more comfortable and hence this may result in greater peer association.

This appearance of psychoticism once again demonstrates the prevalence of this personality variable in particular, in the current study of adolescent antisocial behaviour.

The European/ Pakeha group and the Maori and Pacific Island group both obtained significantly higher scores on independence than the Other group. Hence the Other group did not perceive their family as being " assertive, ... self- sufficient, and (people who) make their own decisions " (Moos & Moos, 1994, p.1). Whilst these individuals may be the most emotionally independent participants, they believe the least that independence is displayed in their family environment. This reveals a discrepancy between the two areas, and a possible conflict within these individuals, with regards to independence. It is possible that it is this conflict that has resulted in the

Other group in behaving antisocially to a greater degree than the other two groups.

Alternatively, it may simply be that a lack of perceived independence in the family life of these participants that is associated with their higher level of antisocial behaviour.

This same explanation can apply to the greater degree of psychoticism displayed in this ethnic group.

Moos and Moos (1994) compared distressed families with 'normal' families.

They found that distressed families were higher on conflict, and lower on cohesion, intellectual orientation, expressiveness, independence and recreational orientation.

Moos and Moos found these differences still existed after variations between groups in family background and socio-economic features were controlled for. When these findings are applied to the current research, it is evident that, in comparison to the other two ethnic groups, the Other group appears to show signs of a distressed family. Whilst the other groups scores significantly higher on independence (both groups), no other differences were found between the ethnic groups regarding family environment.

Additionally the mean scores from the current sample on independence are in close proximity to the mean normative scores Moos and Moos found in their study, described above.

4.6. Limitations

The majority of this study's sample was obtained from a university population.

Whilst the participants from this population may display adolescent antisocial behaviour, it is more probable that the majority of these participants behave in a 'normative' manner. The distribution of total antisocial behaviour and delinquency

scores were positively skewed (1.22 and 2.64, respectively), so that most of the participants reported few antisocial behaviours. With a more representative sample of the adolescent population, there would be a greater range of scores to detect differences and relationships with the personality, family environment and peer association variables, when such differences were present. Alternatively, a two-sample study could be undertaken, whereby a comparison could be made between a sample of 'normal' participants, and a sample of antisocial participants. This may enable the behaviour of interest to be better studied.

The university participants also included adult participants, although the majority of participants were within the defined age group for an adolescent. The issue of utilising data from individuals outside the adolescent age range was resolved by controlling for age in the regression equations.

Nevertheless, some of the findings may have been influenced by including data from adults. For example, the older sample may contribute to low variance among the family environment variables predicting antisocial behaviour. As an individual matures their perspective on various life events may change as they gain life experiences and wisdom. Also, their memories of family life may be distorted (Bradburn, Rips & Shevell, 1987; Rubin, Wetzler & Nebes, 1986). Hence their perception of their childhood family environment may have moderated their responses to this section of the questionnaire, thereby cancelling out any association with antisocial behaviour it may have originally had.

As mentioned above, it has been noted that past findings have not been replicated with respect to the family environment. It is possible that research on the

differing types of antisocial behaviour may only specifically apply to that behaviour, which may, or may not, be represented in the current sample. For example, research on conduct disorder may specifically apply to those individuals who have been diagnosed as such (Davison & Neale, 1996). It is unknown whether or not the participants of the current study have conduct disorder, as this was not investigated. It is plausible that this possible absence, of individuals with conduct disorder, is why past research on the family environment of these people does not apply to the present results.

The present study of antisocial behaviour was limited by the complexity of the issue. There are several variables associated with adolescent antisocial behaviour, all of which can not possibly be investigated within the one study. Hence several important aspects of this behaviour have not been discussed. It is possible that these absent variables are the more significant variables, and would possibly provide an improved prediction of the behaviour.

This study has also been limited by concern with overwhelming participants with a large questionnaire. It was assumed that a large, all encompassing questionnaire would not be appealing to young participants and would limit the amount of potential participants. Consequently, only the relevant items were used so as to minimise the length of the questionnaire. This procedure was performed whilst taking caution to ensure the tests still measured the intended factor. A more comprehensive study of each individual may have been possible if every item was used in the final questionnaire.

4.7 Future research implications

There are several aspects of adolescent antisocial behaviour that the present study did not investigate, many of which may be important, impacting factors

One such factor is the spiritual side of an individual. While this was touched on with the inclusion of the Moral- Religious Emphasis (MRE) variable, this area is a large one, which would require greater depth than has been presently provided. This factor is a difficult one to study, due to its immeasurable quality and individually subjective nature. The 1996 New Zealand Census (Statistics New Zealand, 1999) showed that 63.01% of New Zealanders saw themselves as affiliated with some sort of religion. The first seven highest chosen categories were all major Christian denominations. This composed 79.78% of those who saw themselves as religiously affiliated. This suggests that religion/ spirituality, in particular Christianity, is a part of many New Zealanders' lives and variables worth studying.

The spiritual realm of a person's life is often a factor that has a great impact on their behaviour, and on the subsequent interpretation of the behaviour by the individual. It is often a large part of the family environment, and any spiritual development that occurs in an individual's life may change their perception of their behaviour and family environment. Additionally, spirituality is a large part of the Maori and Pacific Island cultures. This could have potential effects on the ethnic group differences.

The interaction effects of the variables was beyond the scope of the present study. Hence future research on this may render further information on the impact of the variables studied. Additionally a hierarchical regression analysis of the current data

may suggest further which variables are the most important for the prediction of antisocial behaviour in adolescents.

Alternatively, or additionally, qualitative research may provide further differing information regarding antisocial adolescent behaviour. Interviews of participants may reveal a more comprehensive view of participants behaviour, family environment, and how true levels of influence by peers. Additionally, the adolescent's perspective on their behaviour may be examined. Interviews with the adolescent's family, friends and teachers would provide further insights. Naturalistic observation is another research method, which may provide more detailed, accurate information about adolescents.

CHAPTER V

CONCLUSIONS

This study aimed at filling the gap in the current literature, regarding the lack of research on the relative effects of internal and external variables on adolescent antisocial behaviour. Hence, the present research took a multivariate approach in an attempt to examine the effects of more variables than in other studies, in relationship to each other as well as to antisocial behaviour. The effects of each predictor variable was partialled out so as to gain a pure measure of the effect of each variable on antisocial behaviour.

The results of this analysis showed that different facets of antisocial behaviour were predicted by different variables. For example, intrusiveness was predicted by extraversion, neuroticism and conformity, whilst delinquency was predicted by age, psychoticism and conformity. However, it was evident that there were common variables that consistently emerged as significant predictors. The most common significant predictor variable was neuroticism. This was closely followed by age, psychoticism and conformity. Hence, it is suggested that personality is the most important factor for the prediction of adolescent antisocial behaviour. Peer association contributed moderately to the prediction of antisocial behaviour, whilst family environment contributed. Therefore, it is suggested that these two factors are only minimally important for the prediction of adolescent antisocial behaviour.

It was also found that certain variables may be possibly used to distinguish between subgroups of people. There were differences found between males and females in psychoticism, delinquency, total antisocial behaviour and peer association. Participants of dissimilar educational levels differed on family independence and delinquency, and ethnic groups differed in psychoticism, family independence, aggression, total antisocial behaviour and peer association. This indicates that antisocial behaviour, peer association, and certain aspects of personality may be used as variables to distinguish between groups.

This study has provided further, more comprehensive information on adolescent troubled behaviour. Further research in the suggested areas will provide greater evidence as to the validity of the above conclusions. Future treatment strategies for adolescents displaying antisocial behaviour should take the discussed issues into consideration.

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To parents / guardians,

My name is Tanya Miller and I am a masterate student at Massey University. I am currently studying adolescent behaviour at university, and at present I am conducting a study in this area for my thesis.

This study has been approved of by the Human Ethics Committee and will focus on troubled adolescent behaviour. The factors studied in my project include personality, family environment and peer influence. It will endeavour to suggest what some of the factors are that are associated with this behaviour. I am hopeful that the results of my research will allow me to suggest ways in which troubled adolescent behaviour may be successfully dealt with.

To perform this study I need several young people to take part. The involvement of the adolescents in the research only requires 30- 45 minutes of their time to fill out a questionnaire. The questionnaire is composed of standardised psychological and demographic tests, and an opinion survey of the questionnaire itself.

This letter is being sent to you to ask for your permission, as a legal guardian for your child's involvement in this study. Participation is entirely voluntary. You are free to withdraw your child from the study at any time. The child under your care is also free to withdraw themselves, and refuse to answer any questions, at any time. Any participation/ non- participation will not effect your child's care at school.

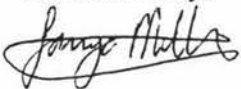
Any information obtained from this study is confidential, and would be considered to be of high importance and value to my research. All information obtained is anonymous, although complete anonymity can not be guaranteed. My thesis supervisor and myself shall be the only people to view the results. No outside supervisor shall see the results. All information, which consists only of numbers, will be stored in a locked file on a floppy disk and will be destroyed, along with the questionnaires, one year after I complete my thesis.

I would be extremely grateful for your consideration of your child's involvement. All children that take part in the study will receive a McDonald's and a Pizza Hut voucher. If you consent to this proposal please send back a signed permission slip (attached) to school. If you are not the legal guardian for your child please show this letter to such a person and ask for their signature. This would be greatly appreciated.

If you or your child have any questions about the project at any time please do not hesitate to ask me. You can contact me by leaving a message at 443 9799 ext 9863.

Thank you for your time.

Yours sincerely,



Tanya Miller.

CONSENT FORM FOR LEGAL GUARDIANS

ADOLESCENT BEHAVIOUR RESEARCH PROJECT

I have read the Information Sheet for this project. I understand that I, or the child under my care, may ask questions about the project at any time.

If I agree to the participation of those under my care, I understand that he/she has the right to withdraw from the project at any time and to decline to answer any particular questions. I also understand that I may withdraw them from the study at any time.

I agree to provide information to the researchers on the understanding that no names will be used without my permission. (The information will be used only for this research and publications arising from this research project).

I give the researchers permission to administer the questionnaire to those under my care, if they consent, under the conditions set out in the Information Sheet.

Signed:.....

Name:.....

Legal guardian for who is under my care

Date:.....

MASSEY
UNIVERSITY

130

A L B A N Y

DEPARTMENT OF PSYCHOLOGY

The Role of Internal and External Factors in Antisocial Behaviour

INFORMATION SHEET

My name is Tanya Miller. I am a graduate student completing my Masters degree in Psychology at Albany.

This research project is being undertaken as part of the requirements for my masters degree in psychology. I wish to study some of the factors associated with adolescent behaviour, particularly for adolescents in trouble.

The project attempts to discover the most important factors associated with such behaviour, and if the factors interact to improve prediction and treatment of adolescent antisocial behaviour.

The factors studied in my project include personality, family environment and peer influence.

Participants include students, and adolescents from a youth work agency and a girls' home. I need a large number of students to complete the questionnaire so that I can compare the data from the adolescents with a more normative sample. If you are willing to participate, please write your name and contact telephone number on the sheet being circulated, and I shall contact you later. The course lecturer and my supervisor will not see this sheet, and will not be present when you complete the questionnaire..

Participation in this study will require approximately 30 minutes of each participant's time to complete questionnaire.

All data obtained are confidential and anonymous. Participants are assured that no names will be associated with any information. The data obtained will be accessible only by the graduate student and her supervisor. All research procedures follow the Psychologist's Professional Code of Ethics. Data consists of numbers only and all information will not be identifiable. The data will be stored on floppy disk on a locked file and destroyed after one year by deletion. An application for approval of the project has been submitted to the Massey University Human Ethics Committee.

Participation in this study is entirely voluntary and all participants are free to withdraw from the study at any time. All participants have the right to decline from answering any questions they do not wish to answer. Should any questions arise at any time during the study, please do not hesitate to ask.

A summary of the final report will be posted and circulated in the second semester. If you wish to have a copy of the final report mailed to you, please write your name and address on the envelope provided with the questionnaire. Please hand this in separately from the questionnaire.

To thank you for your time, I shall give you a McDonald's voucher when you return the questionnaire.

If there are any issues raised that you find distressing, please contact Massey University Health and Counselling Service on 443 9783. If you have any questions about the project, please feel free to contact me, Tanya Miller, by leaving a message at 443 9799 ext. 9863.

Thank you for considering participating in this research.

14/05/99

MASSEY UNIVERSITY ALBANY

DEPARTMENT OF PSYCHOLOGY

ADOLESCENT BEHAVIOUR QUESTIONNAIRE

INSTRUCTIONS:

1. Completion of this questionnaire implies that you agree with the conditions on the information sheet and give your consent to participate in this research project.
2. All responses to this questionnaire are completely confidential. No personal details are required other than basic general demographic questions.
3. The purpose of this survey is to ascertain some psychological factors associated with adolescent behaviour.
4. All questions are answered by either circling appropriate numbers or writing responses on the questionnaire itself.
5. There are no right or wrong answers. Please give a response to each item so that reliable data can be obtained.
6. There are five sections in the questionnaire, which should take 20 to 30 minutes in total to complete. The last section asks you to evaluate the questionnaire so that it can be revised to give to adolescents in home care.
7. You may write any comments on the questionnaire.
8. A summary of the preliminary results will be posted on bulletin boards in the second semester, and will appear in newsletters. If you would like a copy of the report, please ask for an envelope and write your name and address on it.
9. If you decide not to complete the questionnaire after receiving it, please return it to the researcher. All questionnaires must be returned to comply with copyright regulations and ethical guidelines for the administration and use of psychological tests.

Thank you for your assistance.

Tanya Miller
443 9799, ext. 9863

SECTION A

Below is a list of items that describe people. For each item, please circle 0, 1, or 2 to describe yourself *over the past 6 months*. Please answer all items as well as you can, even if some do not seem to apply to you.

0 = Not true

1 = Somewhat or sometimes true

2 = Very true or often true

-
- | | | | |
|---|---|---|--|
| 0 | 1 | 2 | 1. I act too young for my age |
| 0 | 1 | 2 | 2. I argue a lot |
| 0 | 1 | 2 | 3. I use drugs (other than alcohol) for non-medical purposes |
| 0 | 1 | 2 | 4. I brag. |
| 0 | 1 | 2 | 5. I have trouble concentrating or paying attention |
| 0 | 1 | 2 | 6. I am too dependent on others |
| 0 | 1 | 2 | 7. I am mean to others |
| 0 | 1 | 2 | 8. I daydream a lot |
| 0 | 1 | 2 | 9. I try to get a lot of attention |
| 0 | 1 | 2 | 10. I destroy things belonging to others |
| 0 | 1 | 2 | 11. I break rules at school, work or elsewhere |
| 0 | 1 | 2 | 12. I don't get along with other people |
| 0 | 1 | 2 | 13. I don't feel guilty after doing something I shouldn't |
| 0 | 1 | 2 | 14. I get along badly with my family |
| 0 | 1 | 2 | 15. I feel that others are out to get me |
| 0 | 1 | 2 | 16. I get in many fights |
| 0 | 1 | 2 | 17. I get teased a lot |
| 0 | 1 | 2 | 18. I hang around with others that get in trouble |

0 = Not true

1 = Somewhat or sometimes true

2 = Very true or often true

-
- | | | | |
|---|---|---|---|
| 0 | 1 | 2 | 19. I am impulsive or act without thinking |
| 0 | 1 | 2 | 20. I lie or cheat |
| 0 | 1 | 2 | 21. I physically attack people |
| 0 | 1 | 2 | 22. I fail to finish things I should do |
| 0 | 1 | 2 | 23. My school work or job performance is poor |
| 0 | 1 | 2 | 24. I scream or yell a lot |
| 0 | 1 | 2 | 25. I set fires |
| 0 | 1 | 2 | 26. I show off or clown |
| 0 | 1 | 2 | 27. My behaviour is irresponsible |
| 0 | 1 | 2 | 28. I steal |
| 0 | 1 | 2 | 29. I am stubborn, sullen, or irritable |
| 0 | 1 | 2 | 30. My moods or feelings change suddenly |
| 0 | 1 | 2 | 31. I drink too much alcohol or get drunk |
| 0 | 1 | 2 | 32. I do things that may cause me trouble with the law |
| 0 | 1 | 2 | 33. I talk too much |
| 0 | 1 | 2 | 34. I tease others a lot |
| 0 | 1 | 2 | 35. I have a hot temper |
| 0 | 1 | 2 | 36. I threaten to hurt people |
| 0 | 1 | 2 | 37. I am louder than others |
| 0 | 1 | 2 | 38. I fail to pay my debts or meet other financial responsibilities |

SECTION B

Please answer each question by putting a circle around the 'YES' or 'NO' following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the questions.

- | | | |
|---|-----|----|
| 1. Do you have many different hobbies? | YES | NO |
| 2. Do you stop to think things over before doing anything? | YES | NO |
| 3. Does your mood often go up and down? | YES | NO |
| 4. Have you ever taken the praise for something you knew someone else had really done? | YES | NO |
| 5. Do you take much notice of what people think? | YES | NO |
| 6. Are you a talkative person? | YES | NO |
| 7. Would being in debt worry you? | YES | NO |
| 8. Do you ever feel 'just miserable' for no reason? | YES | NO |
| 9. Do you give money to charities? | YES | NO |
| 10. Were you ever greedy by helping yourself to more than your share of anything? | YES | NO |
| 11. Are you rather lively? | YES | NO |
| 12. Would it upset you a lot to see a child or an animal suffer? | YES | NO |
| 13. Do you often worry about things you should not have done or said? | YES | NO |
| 14. Do you dislike people who don't know how to behave themselves? | YES | NO |
| 15. If you say you will do something, do you always keep your promise no matter how inconvenient it might be? | YES | NO |
| 16. Can you usually let yourself go and enjoy yourself at a lively party? | YES | NO |
| 17. Are you an irritable person? | YES | NO |

18. Should people always respect the law?	YES	NO
19. Have you ever blamed someone for doing something you knew was really your fault ?	YES	NO
20. Do you enjoy meeting new people?	YES	NO
21. Are good manners very important?	YES	NO
22. Are your feelings easily hurt?	YES	NO
23. Are <i>all</i> your habits good and desirable ones?	YES	NO
24. Do you tend to keep in the background on social occasions?	YES	NO
25. Would you take drugs which may have strange or dangerous effects?	YES	NO
26. Do you often feel 'fed- up'?	YES	NO
27. Have you ever taken anything (even a pin or button) that belonged to someone else?	YES	NO
28. Do you like going out a lot?	YES	NO
29. Do you prefer to go your own way rather than act by the rules?	YES	NO
30. Do you enjoy hurting people you love?	YES	NO
31. Are you often troubled about feelings of guilt?	YES	NO
32. Do you sometimes talk about things you know nothing about?	YES	NO
33. Do you prefer reading to meeting people?	YES	NO
34. Do you have enemies who want to harm you?	YES	NO
35. Would you call yourself a nervous person?	YES	NO
36. Do you have many friends?	YES	NO

37. Do you enjoy practical jokes that can sometimes really hurt people?	YES	NO
38. Are you a worrier?	YES	NO
39. As a child, did you do as you were told immediately and without grumbling?	YES	NO
40. Would you call yourself happy- go- lucky?	YES	NO
41. Do good manners and cleanliness matter much to you?	YES	NO
42. Have you often gone against you parent's wishes?	YES	NO
43. Do you worry about awful things that might happen?	YES	NO
44. Have you ever broken or lost something belonging to someone else?	YES	NO
45. Do you usually take the initiative in making new friends?	YES	NO
46. Would you call yourself tense or 'highly- strung'?	YES	NO
47. Are you mostly quiet when you are with other people?	YES	NO
48. Do you think marriage is old- fashioned and should be done away with?	YES	NO
49. Do you sometimes boast a little?	YES	NO
50. Are you more easy- going about right and wrong than most people?	YES	NO
51. Can you easily get some life into a rather dull party?	YES	NO
52. Do you worry about your health?	YES	NO
53. Have you ever said anything bad or nasty about anyone?	YES	NO
54. Do you enjoy cooperating with others?	YES	NO
55. Do you like telling jokes and funny stories to your friends?	YES	NO
56. Do most things taste the same to you?	YES	NO

57. As a child, were you ever cheeky to your parents?	YES	NO
58. Do you like mixing with people?	YES	NO
59. Does it worry you if you know there are mistakes in your work?	YES	NO
60. Do you suffer from sleeplessness?	YES	NO
61. Have people said that you sometimes act too rashly?	YES	NO
62. Do you always wash before a meal?	YES	NO
63. Do you nearly always have a 'ready answer' when people talk to you?	YES	NO
64. Do you like to arrive at appointments in plenty of time?	YES	NO
65. Have you often felt listless and tired for no reason?	YES	NO
66. Have you ever cheated at a game?	YES	NO
67. Do you like doing things in which you have to act quickly?	YES	NO
68. Is (or was) your mother a good woman?	YES	NO
69. Do you often make decisions on the spur of the moment?	YES	NO
70. Do you often feel life is very dull?	YES	NO
71. Have you ever taken advantage of someone?	YES	NO
72. Do you often take on more activities than you have time for?	YES	NO
73. Are there several people who keep trying to avoid you?	YES	NO
74. Do you worry a lot about your looks?	YES	NO
75. Do you think people spend too much time safeguarding their future with savings and insurance?	YES	NO
76. Have you ever wished that you were dead?	YES	NO

77. Would you dodge paying taxes if you were sure you could never be found out?	YES	NO
78. Can you get a party going?	YES	NO
79. Do you try not to be rude to people?	YES	NO
80. Do you worry too long after an embarrassing experience?	YES	NO
81. Do you generally 'look before you leap'?	YES	NO
82. Have you ever insisted on having your own way?	YES	NO
83. Do you suffer from 'nerves'?	YES	NO
84. Do you often feel lonely?	YES	NO
85. Can you on the whole trust people to tell the truth?	YES	NO
86. Do you always practise what you preach?	YES	NO
87. Are you easily hurt when people find fault with you or the work you do?	YES	NO
88. Is it better to follow society's rules than go your own way?	YES	NO
89. Have you ever been late for an appointment or work?	YES	NO
90. Do you like plenty of bustle and excitement around you?	YES	NO
91. Would you like other people to be afraid of you?	YES	NO
92. Are you sometimes bubbling over with energy and sometimes very sluggish?	YES	NO
93. Do you sometimes put off until tomorrow what you ought to do today?	YES	NO
94. Do other people think of you as being very lively?	YES	NO
95. Do people tell you a lot of lies?	YES	NO
96. Do you believe one has special duties to one's family?	YES	NO
97. Are you touchy about some things?	YES	NO

- | | | |
|---|-----|----|
| 98. Are you always willing to admit it when you have made a mistake? | YES | NO |
| 99. Would you feel sorry for an animal caught in a trap? | YES | NO |
| 100. When your temper rises, do you find it difficult to control? | YES | NO |
| 101. Do you lock up your house carefully at night? | YES | NO |
| 102. Do you believe insurance schemes are a good idea? | YES | NO |
| 103 Do people who drive carefully annoy you? | YES | NO |
| 104 When you catch a train, do you often arrive at the last minute? | YES | NO |
| 105. Do your friendships break up easily without it being your fault? | YES | NO |
| 106. Do you sometimes like teasing animals? | YES | NO |

Please turn over to p. 10 for SECTION C . . .

SECTION C

The following statements are statements about families. You are to decide which of these statements are true of *the family that you spent the most time growing up in*, and which are false.

If you think the statement is *True* or mostly *True* of your family, circle T (true). If you think the statement is *False* or mostly *False* of your family, circle F (false).

You may feel that some of the statements are true for some family members and false for others. Circle T if the statement is *true* for most members. Circle F if the statement is *false* for most members.

If the members are evenly divided, decide what is the stronger overall impression and answer accordingly. Remember, we would like to know what your family seems like to *you*. So *do not* try to figure out how other members see your family, but *do* give us your general impression of your family for each statement.

- | | | |
|--|---|---|
| 1. Family members really help and support one another. | T | F |
| 2. Family members often keep their feelings to themselves. | T | F |
| 3. We fight a lot in our family. | T | F |
| 4. We don't do things on our own very often in our family. | T | F |
| 5. We feel it is important to be the best at whatever you do. | T | F |
| 6. We often talk about political and social problems. | T | F |
| 7. We spend most evenings and weekends at home. | T | F |
| 8. Family members attend church, synagogue, or Sunday school fairly often. | T | F |
| 9. Activities in our family are pretty carefully planned. | T | F |
| 10. Family members are rarely ordered around. | T | F |
| 11. We often seem to be killing time at home. | T | F |
| 12. We say anything we want to around home. | T | F |
| 13. Family members rarely become openly angry. | T | F |

14. In our family, we are strongly encouraged to be independent.	T	F
15. Getting ahead in life is very important in our family.	T	F
16. We rarely go to lectures, plays or concerts.	T	F
17. Friends often come for dinner or to visit.	T	F
18. We don't say prayers in our family.	T	F
19. We are generally very neat and orderly.	T	F
20. There are very few rules to follow in our family.	T	F
21. We put a lot of energy into what we do at home.	T	F
22. It's hard to "blow off steam" at home without upsetting somebody.	T	F
23. Family members sometimes get so angry they throw things.	T	F
24. We think things out for ourselves in our family.	T	F
25. How much money a person makes is not very important to us.	T	F
26. Learning about new and different things is very important in our family.	T	F
27. Nobody in our family is active in sports, Little League, bowling, etc.	T	F
28. We often talk about the religious meaning of Christmas, Passover, or other holidays.	T	F
29. It's often hard to find things when you need them in our household.	T	F
30. There is one family member who makes most of the decisions.	T	F
31. There is a feeling of togetherness in our family.	T	F

32. We tell each other about our personal problems.	T	F
33. Family members hardly ever lose their tempers.	T	F
34. We come and go as we want to in our family.	T	F
35. We believe in competition and " may the best man win."	T	F
36. We are not that interested in cultural activities.	T	F
37. We often go to movies, sports events, camping, etc.	T	F
38. We don't believe in heaven or hell.	T	F
39. Being on time is very important in our family.	T	F
40. There are set ways of doing things at home.	T	F
41. We rarely volunteer when something has to be done at home.	T	F
42. If we feel like doing something on the spur of the moment we often just pick up and go.	T	F
43. Family members often criticize each other.	T	F
44. There is very little privacy in our family.	T	F
45. We always strive to do things just a little better the next time.	T	F
46. We rarely have intellectual discussions.	T	F
47. Everyone in our family has a hobby or two.	T	F
48. Family members have strict ideas about what is right and wrong.	T	F
49 People change their minds often in our family.	T	F
50 There is a strong emphasis on following rules in our family.	T	F
51. Family members really back each other up.	T	F
52. Someone usually gets upset if you complain in our family.	T	F

53. Family members sometimes hit each other.	T	F
54. Family members almost always rely on themselves when a problem comes up.	T	F
55. Family members rarely worry about job promotions, school grades, etc.	T	F
56. Someone in our family plays a musical instrument.	T	F
57. Family members are not very involved in recreational activities outside work or school.	T	F
58. We believe there are some things you just have to take on faith.	T	F
59. Family members make sure their rooms are neat.	T	F.
60. Everyone has an equal say in family decisions.	T	F
61. There is very little group spirit in our family.	T	F
62. Money and paying bills is openly talked about in our family.	T	F
63. If there's a disagreement in our family, we try hard to smooth things over and keep the peace.	T	F
64. Family members strongly encourage each other to stand up for their rights.	T	F
65. In our family, we don't try that hard to succeed.	T	F
66. Family members often go to the library.	T	F
67. Family members sometimes attend courses or take lessons for some hobby or interest (outside of school).	T	F
68. In our family each person has different ideas about what is right and wrong.	T	F
69. Each person's duties are clearly defined in our family.	T	F
70. We can do whatever we want in our family.	T	F
71. We really get along well with each other.	T	F

72. We are usually careful about what we say to each other.	T	F
73. Family members often try to one- up or out- do each other.	T	F
74. It's hard to be by yourself without hurting someone's feelings in our household.	T	F
75. "Work before play" is the rule in our family.	T	F
76. Watching T.V. is more important than reading in our family.	T	F
77. Family members go out a lot.	T	F
78. The Bible is a very important book in our home.	T	F
79. Money is not handled very carefully in our family.	T	F
80. Rules are pretty inflexible in our household.	T	F
81. There is plenty of time and attention for everyone in our family.	T	F
82. There are a lot of spontaneous discussions in our family.	T	F
83. In our family, we believe you don't ever get anywhere by raising your voice.	T	F
84. We are not really encouraged to speak up for ourselves in our family.	T	F
85. Family members are often compared with others as to how well they are doing at work or school.	T	F
86. Family members really like music, art and literature.	T	F
87. Our main form of entertainment is watching T.V. or listening to the radio.	T	F
88. Family members believe that if you sin you will be punished.	T	F
89. Dishes are usually done immediately after eating.	T	F
90. You can't get away with much in our family.	T	F

91. About how many close friends do you have? (Do not include family members.)

- ☐ None ☐ 1 ☐ 2 or 3 ☐ 4 or more

92. About how many times a month do you have contact with any of your close friends?
(including in- person contacts, phone, letters, e- mail)

- ☐ Less than 1 ☐ 1 or 2 ☐ 3 or more

93. How well do you get along with your close friends?

- ☐ Not well ☐ Average ☐ Very well

94. About how many times a month do you invite any people to your home?

- ☐ Less than 1 ☐ 1 or 2 ☐ 3 or more

Please turn over to p. 16 for SECTION D . . .

SECTION D

We would like to ask you some general information about your background. Please fill in or tick the box next to the appropriate answer.

1. What is your age, in years? _____ years.

2. What is your gender?

Female ☐

Male ☐

3. Which ethnic group do you identify with?

Maori ☐

European/ Pakeha ☐

Pacific Island ☐

Other- Please specify _____

4. What is your highest educational qualification?

Completion of Intermediate school ☐

Completion of 3rd form ☐

Completion of 4th form ☐

5th form School Certificate ☐

6th form Certificate ☐

Higher School Certificate ☐

University Entrance ☐

Bursary ☐

Tertiary: ☐ Bachelors ☐ Diploma ☐ Post Graduate ☐

Other- Please specify _____

SECTION E

Questionnaire Evaluation

1. Was the information sheet easy to understand?

Yes ☐

No ☐

If not, why not?

2. Was the language used in the questionnaire easy to understand?

Yes ☐

No ☐

If no, what did you find hard to understand and why?

3. Did you have difficulty answering any questions for other reasons (not related to how questions were worded)?

Yes ☐

No ☐

If yes, what was the difficulty and why?

4. Did you object to answering any of the questions?

Yes ☐

No ☐

If yes, which questions and why did you object to it/ them?

5. Approximately how long did it take you to complete the questionnaire?

6. Did you find the time it took to complete the questionnaire acceptable?

Acceptable ☐ Too short ☐ Too long ☐

If it was not acceptable, what do you consider to be an acceptable length of time to complete a questionnaire?

7. Are there any issues surrounding adolescent behaviour, personality, family environment or peer influence which are not in the questionnaire, but which you think should be included?

8. Were there enough options provided to answer the questions adequately?

9. Can you think of any other changes that would improve the questionnaire?

Thank you very much for your help!

Appendix E

Summary of Comparisons of Mean Scores for Females and Males

Source	Sex	<i>M</i>	<i>SD</i>	<i>n</i>	<i>t</i>	<i>df</i>
Psychoticism					-3.68***	119
	F	5.13	3.13	88		
	M	7.64	3.86	33		
Extra/Introversion					1.00	118
	F	15.72	4.58	88		
	M	14.72	5.43	32		
Neuroticism					-0.29	123
	F	12.76	5.11	91		
	M	13.06	5.64	34		
Lie					1.92	121
	F	8.17	3.63	89		
	M	6.76	3.61	34		
Cohesion					0.10	120
	F	6.14	2.53	90		
	M	6.09	2.51	32		
Expressiveness					1.17	122
	F	5.02	2.53	90		
	M	4.44	2.31	34		

Table continues on the following page

Source	Sex	<i>M</i>	<i>SD</i>	<i>n</i>	<i>t</i>	<i>df</i>
Conflict					-1.28	113
	F	3.35	2.53	85		
	M	4.07	2.86	30		
Independence					1.97	121
	F	6.62	1.77	89		
	M	5.91	1.8	34		
Achievement					-0.47	120
Orientation	F	5.62	2.12	89		
	M	5.82	1.94	33		
Intellectual-					0.42	122
Cultural Orientation	F	5.79	2.51	91		
	M	5.58	2.68	33		
Active-Recreational					1.08	122
Orientation	F	5.53	2	91		
	M	5.09	1.99	33		
Moral- Religious					-1.21	117
Emphasis	F	3.72	2.19	86		
	M	4.27	2.31	33		
Organisation					0.90	122
	F	5.78	2.28	91		
	M	5.36	2.22	33		

Table continues on the following page

Source	Sex	<i>M</i>	<i>SD</i>	<i>n</i>	<i>t</i>	<i>df</i>
Control					-0.28	120
	F	4.35	2.58	88		
	M	4.5	2.79	34		
Attention					-1.19	126
Problems	F	3.97	2.39	94		
	M	4.53	2.25	34		
Intrusiveness					-0.91	127
	F	2.82	2.3	94		
	M	3.23	2.18	35		
Aggression					-1.45	125
	F	3.82	3.18	92		
	M	4.8	4.01	35		
Delinquency					-2.73**	41.8
	F	1.6	2.25	94		
	M	3.6	4.12	35		
Peer association					2.64**	126
	F	74.32	31.16	93		
	M	57.23	36.29	35		

Table continues on the following page

Source	Sex	<i>M</i>	<i>SD</i>	<i>n</i>	<i>t</i>	<i>df</i>
Total antisocial					-2.58*	124
	F	13.09	7.98	92		
	M	17.65	10.73	34		

Note: F=Female, M=Male

* $p < .05$, ** $p < .01$, *** $p < .001$

Appendix F

Summary of Comparison of Mean Scores for Pre-tertiary and Tertiary/ Post-tertiary

Groups

Source	Educ.	<i>M</i>	<i>SD</i>	<i>n</i>	<i>t</i>	<i>df</i>
Psychoticism					1.80	82.78
	Pre	6.13	3.91	82		
	Tert	5.03	2.34	29		
Extra/Introversion					0.27	109
	Pre	15.57	5	83		
	Tert	15.29	4.34	28		
Neuroticism					-0.10	69.36
	Pre	12.94	5.6	86		
	Tert	13.03	4.08	30		
Lie					-0.26	112
	Pre	7.64	3.79	83		
	Tert	7.84	3.26	31		
Cohesion					0.78	111
	Pre	6.28	2.41	83		
	Tert	5.87	2.6	30		
Expressiveness					0.78	113
	Pre	5.05	2.4	84		
	Tert	4.65	2.65	31		

Table continues on the following page

Source	Educ.	<i>M</i>	<i>SD</i>	<i>n</i>	<i>t</i>	<i>df</i>
Conflict					0.11	104
	Pre	3.44	2.57	77		
	Tert	3.38	2.53	29		
Independence					2.12*	112
	Pre	6.63	1.83	83		
	Tert	5.84	1.55	31		
Achievement					-0.53	111
Orientation	Pre	5.57	2.12	83		
	Tert	5.8	1.92	30		
Intellectual-					-0.22	113
Cultural Orientation	Pre	5.69	2.42	84		
	Tert	5.81	2.77	31		
Active-Recreational					0.18	113
Orientation	Pre	5.43	1.91	84		
	Tert	5.35	2.18	31		
Moral-Religious					0.93	108
Emphasis	Pre	4.04	2.35	81		
	Tert	3.59	1.84	29		
Organisation					-0.34	114
	Pre	5.57	2.29	86		
	Tert	5.73	2.24	30		

Table continues on the following page

Source	Educ.	<i>M</i>	<i>SD</i>	<i>n</i>	<i>t</i>	<i>df</i>
Control					-1.67	111
	Pre	4.02	2.54	84		
	Tert	4.97	2.81	29		
Attention					1.64	117
	Pre	4.4	2.33	89		
	Tert	3.6	2.28	30		
Intrusiveness					0.71	118
	Pre	3.11	2.38	89		
	Tert	2.77	2.00	31		
Aggression					1.90	75.77
	Pre	4.43	3.73	87		
	Tert	3.26	2.61	31		
Delinquency					2.85**	106.33
	Pre	2.53	3.34	89		
	Tert	1.23	1.61	31		
Peer association					-0.60	117
	Pre	69.64	33.45	88		
	Tert	73.84	34.57	31		

Table continues on the following page

Source	Educ.	<i>M</i>	<i>SD</i>	<i>n</i>	<i>t</i>	<i>df</i>
Total antisocial					1.93	115
	Pre	15.54	9.47	87		
	Tert	11.87	7.41	30		

Note: Pre=Pretertiary; Tert=Tertiary/ Post-tertiary;

p*<.05, *p*<.01

Appendix G

Summary of Comparison of Mean Scores for Ethnic Groups

Source	<i>M</i>	<i>SD</i>	<i>n</i>	<i>F</i>	<i>df</i>	LSD
Psychoticism				15.43**	2,111	
1 Maori/PI	6.17	2.79	6			2<3
2 Euro/Pakeha	5.33	3.39	93			
3 Other	8.62	3.52	13			
Extra/Introversion				1.25	2,112	
1 Maori/PI	15.33	2.16	6			
2 Euro/Pakeha	15.65	4.73	94			
3 Other	13.38	6.31	13			
Neuroticism				1.97	2,116	
1 Maori/PI	10.17	4.88	6			
2 Euro/Pakeha	12.95	5.46	98			
3 Other	15.15	3.34	13			
Lie				2.13	2,116	
1 Maori/PI	8.83	3.13	6			
2 Euro/Pakeha	7.40	3.56	98			
3 Other	9.38	3.59	13			

Table continues on the following page

Source	<i>M</i>	<i>SD</i>	<i>n</i>	<i>F</i>	<i>df</i>	LSD
Cohesion				0.72	2,114	
1 Maori/PI	7.20	1.30	5			
2 Euro/Pakeha	6.23	2.63	96			
3 Other	5.64	2.24	14			
Expressiveness				0.04	2,115	
1 Maori/PI	5.20	2.49	5			
2 Euro/Pakeha	4.90	2.54	98			
3 Other	5.00	2.16	13			
Conflict				0.34	2,107	
1 Maori/PI	2.60	1.67	5			
2 Euro/Pakeha	3.42	2.62	92			
3 Other	3.73	2.15	11			
Independence				4.51*	2,114	
1 Maori/PI	7.60	2.07	5			1>3
2 Euro/Pakeha	6.59	1.69	97			2>3
3 Other	5.31	1.32	13			
AO				1.48	2,113	
1 Maori/PI	6.40	2.07	5			
2 Euro/Pakeha	5.47	2.14	96			
3 Other	6.38	1.56	13			

Table continues on the following page

Source	<i>M</i>	<i>SD</i>	<i>n</i>	<i>F</i>	<i>df</i>	LSD
ICO				0.88	2,115	
1 Maori/PI	6.00	2.92	5			
2 Euro/Pakeha	5.83	2.55	98			
3 Other	4.85	2.38	13			
ARO				2.62	2,115	
1 Maori/PI	5.80	2.49	5			
2 Euro/Pakeha	5.56	1.96	97			
3 Other	4.29	1.94	14			
MRE				0.37	2,112	
1 Maori/PI	3.60	3.29	5			
2 Euro/Pakeha	3.88	2.24	96			
3 Other	4.42	1.38	12			
Organisation				0.14	2,115	
1 Maori/PI	5.20	2.17	5			
2 Euro/Pakeha	5.73	2.24	97			
3 Other	5.64	2.44	14			
Control				0.34	2,114	
1 Maori/PI	4.60	3.05	5			
2 Euro/Pakeha	4.23	2.72	97			
3 Other	4.85	2.27	13			

Table continues on the following page

Source	<i>M</i>	<i>SD</i>	<i>n</i>	<i>F</i>	<i>df</i>	LSD
Att. Problems				1.81	2,119	
1 Maori/PI	4.71	2.56	7			
2 Euro/Pakeha	3.90	2.35	99			
3 Other	5.07	2.20	14			
Intrusiveness				2.07	2,120	
1 Maori/PI	2.86	3.29	7			
2 Euro/Pakeha	2.74	2.13	100			
3 Other	4.07	2.87	14			
Aggression				7.68**	2,119	
1 Maori/PI	4.14	3.63	7			1<3
2 Euro/Pakeha	3.69	3.16	99			2<3
3 Other	7.36	3.95	14			
Delinquency				0.55	2,120	
1 Maori/PI	2.86	2.54	7			
2 Euro/Pakeha	2.03	3.01	100			
3 Other	2.79	3.81	14			
Peer association				8.73***	2,120	
1 Maori/PI	60.0	27.50	7			2>3
2 Euro/Pakeha	74.36	33.02	100			
3 Other	37.07	23.64	14			

Table continues on the following page

Source	<i>M</i>	<i>SD</i>	<i>n</i>	<i>F</i>	<i>df</i>	LSD
Total antisocial				4.20*	2,118	
1 Maori/PI	15.43	7.93	7			2<3
2 Euro/Pakeha	13.32	8.66	98			
3 Other	20.64	10.94	14			

Note: Maori/PI=Maori and Pacific Island, Euro/Pakeha=European/ Pakeha;
Extra=Extraversion; AO=Achievement Orientation; ICO=Intellectual-Cultural
Orientation; ARO=Active-Recreational Orientation; MRE=Moral-Religious Emphasis,
Att. Problems=Attention Problems.

* $p<.05$, ** $p<.01$, *** $p<.001$