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An Investigation of the Antisocial Attitudes Construct

by

Tracey M. Abbott, B.A. (Hons.)

**A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of
the requirements for the degree of**

Master of Arts

Department of Psychology

**Carleton University
Ottawa, Ontario**

January 12, 2000

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Acceptance of the thesis:**

An Investigation of the Antisocial Attitude Construct

submitted by

Tracey Abbott

**in Partial fulfillment of the requirements for
the degree of Master of Arts**

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Chair

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Thesis Supervisor

**Carleton University
January, 2000**

Abstract

Antisocial attitudes have been defined as specific beliefs, values, and rationalizations supportive of criminal conduct (Andrews & Bonta, 1994). Theory, research, and practice identify antisocial attitudes as an important risk/need area among offenders. To date, several instruments exist that measure various aspects of the construct, specifically procriminal attitudes. Simourd (1996) hypothesized that a “non-conformity” construct may be an important component of antisocial attitudes that is correlated with criminal behavior and distinguishes between offenders and non-offenders. In the present study, the Phoenix Opinion Survey, a newly created measure of non-conformity, was administered to 55 male offenders and 32 male students, along with self scales measuring specific procriminal attitudes. The non-conformity measure showed acceptable psychometric properties and was linked with criminal conduct in both samples. A secondary purpose of this study was to examine the mediating effect that antisocial attitudes may have between other risk factors and criminal behavior. To investigate this, a model was proposed in which associating with antisocial peers and experiencing a negative family background is related to criminal behavior through the mediating factor of antisocial attitudes. This model was examined amongst offenders but was not supported. The above results are presented with respect to theory and practice.

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An Investigation of the Antisocial Attitudes Construct

Due to the negative social effects of crime, the etiology of criminal behavior has been studied for many years. Traditionally, criminological theory and research has focused upon social class of origin, intelligence, and personal distress as strong contributors to criminal behavior (Andrews & Bonta, 1994). However, empirical research has failed to find support for these variables (e.g., Gendreau, Andrews, Goggin, & Chanteloupe, 1992).

More recently, considerable knowledge has accumulated on factors that contribute to the development and maintenance of criminal behavior. Some of these risk factors are static, unchangeable variables such as early initiation of delinquency and violence (Tolan & Thomas, 1995) and having a problematic family history (Hawkins & Catalano, 1992). Others are dynamic offender characteristics that can be targeted for change in treatment, such as substance use (Vanderburg, Weekes, & Millson, 1995) and associating with peers who commit delinquent acts (Elliott, Huizinga, & Ageton, 1985).

Andrews and Bonta (1994) have concluded that there are four risk factors that best correlate with criminal behavior within almost any sample. These factors are: (1) an antisocial personality, including hostility, impulsivity, and psychopathic personality; (2) a history of having engaged in criminal behavior; (3) antisocial associates/peers that offer social support for antisocial behavior; and (4) attitudes, values, beliefs, and rationalizations supportive of criminal conduct.

Meta-analytic studies integrate the findings from individual studies in a specific area to obtain a general conclusion of the results found within that area. Several meta-analyses have evaluated some of the correlates of criminal behavior identified by

Andrews and Bonta (1994) and have repeatedly found strong support for the construct of antisocial attitudes. For example, Gendreau et al. (1992) reviewed risk factors of criminal behavior among adult male and female offender samples. They found that out of six risk factors (social class, personal distress, educational/vocational achievement, parental/family factors, temperament/misconduct, and antisocial attitudes), the antisocial attitudes factor was the most strongly related to criminal behavior ($r = .22$).

Similarly, Gendreau, Little, and Goggin (1996) reviewed over 100 studies examining static and dynamic factors that predict adult offender recidivism. Recidivism included arrest, conviction, incarceration and parole violation during a follow-up period of at least six months. They examined the following variables: age/gender/race, criminal history, family factors, intellectual functioning, social class, personal distress, social achievement, and criminogenic needs (consisting of antisocial personality, companions, attitude, and behavior regarding education/employment). All variables significantly predicted recidivism, however the criminogenic needs variable was the most potent predictor of recidivism ($r = .17$). Of its subcomponents, antisocial attitude and antisocial peers had the highest predictive values ($r = .19$, $r = .21$, respectively).

Lastly, Simourd and Andrews (1994) conducted a meta-analysis on the correlates of delinquency in male and female young offenders by examining 60 published and unpublished studies conducted over the past thirty years. They investigated eight risk factors: lower class structure, family structure or parental problems, personal distress, minor personality variables, poor parent-child relations, educational difficulties, temperament or misconduct problems, and antisocial peers or attitudes. For both males and females, the strongest correlate was antisocial peers/attitudes, which received

correlations of .40 and .39, respectively.

Since these meta-analytic studies have found antisocial attitudes to be associated with past and future criminal behavior, further research is needed to explore this construct. Indeed, it would be interesting to investigate the direct and/or indirect processes of how antisocial attitudes influence criminal behavior.

Thesis Foci

Given the support for the antisocial attitudinal construct in predicting criminal behavior, the current study will further investigate this relationship. Previous research has examined antisocial attitudes by assessing specific procriminal attitudes and beliefs. However, another component of attitudes, that of non-conformity, has been generally overlooked by researchers. This study proposes that non-conformist attitudes are also important in predicting criminal behavior. A secondary purpose of this study is to examine if antisocial attitudes mediate the relation between other risk factors (antisocial peers and negative family experiences) and criminal behavior.

Historical Concept of Attitudes

Attitudinal research has been ongoing since the beginnings of social psychology. In fact, attitude has been noted as “the most distinctive concept in contemporary American social psychology” (Allport, 1985, p.35). It has been described by Eagly and Chaiken (1993) as a positive or negative opinion about a person, object, or event.

Attitudes are often viewed as having three components: cognitive, affective, and behavioral. The cognitive, or belief, component consists of the thoughts or ideas that a person has about the attitude object. The affective, or emotional, component consists of the feelings or emotions one has in relation to the attitude object. The behavioral

component consists of one's overt actions with respect to the attitude object. It is assumed that people who evaluate an attitude object favourably tend to engage in behaviors that support it (Eagly & Chaiken, 1993).

Psychologists have debated about the attitude-behavior relationship for many years, and despite some critics, most contend that attitudes influence behavior. Ajzen and Fishbein's (1980) Theory of Reasoned Action has instigated numerous research efforts into investigations of this relationship. This theory proposes that behavior is immediately predicted by one's intention. This intention is defined as a person's estimate of the probability of them engaging in a particular behavior. Two main components determine behavioral intention: an attitudinal factor and a normative factor. The attitudinal factor (the individual's attitude toward the behavior) is due to his or her beliefs concerning the consequences of the behavior and his or her positive or negative evaluation of performing the behavior. The normative factor (subjective norm) is a function of the person's perception of social pressures to perform or not perform the behavior and his or her motivation to comply with these pressures. Given these factors, it is expected that an individual will intend to perform a behavior when he or she holds positive attitudes toward the behavior and when he or she perceives others to be supportive of performing the behavior. This theory has been successful in predicting various social behaviors, such as voting (Echabe, Rovira, & Garate, 1988) and moral behavior (Vallerand, Pelletier, Deschaies, Cuerrier, & Monteau, 1992).

Unfortunately, the Theory of Reasoned Action has not been applied to criminal behavior. However, Welsh and Gordon (1991) have successfully applied the theory's model to the prediction of aggressive behavior among federal forensic patients. The

authors assessed attitude toward aggressive behavior (how good/bad, foolish/wise it would be to perform each behavior), subjective norm (how likely important others would want them to perform the behavior), and intention (how likely/unlikely it was that they perform each behavior). Participants were later presented with a scenario designed to elicit aggression in which they were asked to role play their response. They found that attitude and subjective norm significantly predicted intention, and intention to respond aggressively significantly predicted aggressive behavior.

From this, one can conclude that identifying one's attitudes towards a particular topic can help predict that person's behavior with respect to that topic. Moreover, it is possible to influence the occurrence of a behavior by changing one's attitudes towards the behavior object. This is promising for the area of correctional psychology since reducing an offender's antisocial attitudes, and/or increasing prosocial ones, may prove to reduce the probability of him or her engaging in future criminal conduct.

Definitions of Antisocial Attitudes

Antisocial attitudes have been found to be related, both theoretically and empirically, to criminal behavior amongst juvenile and adult offenders. However, there has been some confusion concerning the definition of antisocial attitudes. Traditionally, antisocial attitudes have been defined as "the specific attitudes, values, beliefs, rationalizations, and techniques of neutralization supportive of criminal behavior" (Andrews & Bonta, 1994, p.202). Simourd (1996a) elaborates on the above definition by addressing each component. The first component, criminal attitudes, can include negative opinions towards police, lawyers, judges, the criminal justice system, and positive opinions towards weapon use. The second component, criminal values,

addresses a deviant value system that is regarded as unacceptable to the larger society.

For example, criminal values can include endorsing aggression, hostility, and being tough. The third component, a criminally oriented belief system, includes thoughts concerning crime, such as “crime happens all the time” and “everybody commits crime”.

Lastly, the final component concerns rationalizations, or neutralizations of crime (Sykes & Matza, 1957). That is, offenders use ‘excuses’ to justify their inappropriate behavior to others or to themselves in order to reduce punishment or guilt caused by their actions.

Bonta (1997) states that individuals learn to rationalize their behavior through interaction with people who model and reward these beliefs. Neutralizations are based on the assumption that delinquents have internalized conventional beliefs and generally disapprove of delinquency. Thus, they engage in a cognitive dissonance process in which they neutralize guilt so that they can engage in delinquent behavior.

There are several specific types of neutralizations, usually learned within peer interactions: (1) denial of responsibility, wherein individuals claim that their actions are beyond their control, such as “I’m drunk so I can’t be blamed”, or “I didn’t mean it”; (2) denial of injury, claiming that their acts are harmless, such as “I’m going to bring the car back, so it’s not really stealing”; (3) denial of the victim, claiming that there will be no victim or that the victims deserved it, such as “I only steal from businesses, not homes, so nobody gets hurt”; (4) appeal to higher loyalties, claiming that responsibilities or loyalties to friends or families necessitate delinquent acts, such as “I didn’t do it for myself, my family needs money, so I had to steal”; and lastly, (5) condemnation of condemners, claiming that those who condemn them also engage in questionable moral behavior, such as “even police are crooked, why should I obey the law?” (Agnew, 1994; Shields &

Whitehall, 1994).

Theoretical Background of Antisocial Attitudes

Generally, it is assumed that if an individual believes that stealing from others is wrong, he or she will likely refrain from stealing even if the possibility is presented (Lester & Van Voorhis, 1997). Thus, the role of antisocial attitudes in criminal activity is presented in most sociological and psychological theories of crime. In fact, many theories of crime attribute a central and causal role to antisocial attitudes (Nettler, 1978). Sutherland and Cressey (1970) have noted that antisocial peers are also deemed important in criminological research, but largely as a vehicle through which one learns antisocial attitudes. That is, people who have delinquent friends are assumed to possess corresponding antisocial attitudes learned from such peers. Therefore, in some theories, attitudes are subsumed within a peer association construct (Hoge, Andrews, & Leschied, 1994).

Subcultural theory posits that criminal behavior is due to offenders holding antisocial attitudes and beliefs. Members of subcultural groups, like gang members, hold and support similar antisocial attitudes that are different from, or in conflict with, those shared by the larger society (Cloward & Ohlin, 1960). For example, if society scorns stealing, this theory assumes that the delinquent subculture will, instead, value stealing in a rebellious stance against society's rules (Shields & Whitehall, 1994).

Another theory that attempts to explain delinquency is Social Control theory (Hirschi, 1980). It proposes that everyone has frustrated wants and unfulfilled needs and, therefore, are motivated to break the rules or commit crime. However, they will refrain from doing so when there are barriers to deviance (Gomme, 1993). These barriers are the

social controls that serve to restrain criminal behavior by acting as reminders of the potential costs/consequences of such behavior. Delinquency is thus prevented if one conforms to conventional social controls. Examples of such controls are: (1) attachment, or emotional ties, to the feelings and opinions of prosocial significant others (e.g., prosocial peers, parents, school, religion), (2) commitment to time and energy in prosocial activities (such as a school, job, or a family), (3) involvement of time in conforming activities, like school, work, or sports, and (4) holding a belief in society's norms and laws. It is assumed that holding these conventional values and performing related activities imply an investment in conformity that would be jeopardized by engaging in delinquency (Smith & Brame, 1994).

Differential Association theory (Sutherland, 1939) states that criminal behavior is a product of intimate social group influences, such as delinquent peer groups. These antisocial groups or individuals provide a setting in which individuals learn the attitudes, motives, and rationalizations that tolerate or encourage delinquency, as well as the techniques of committing crime (Gomme, 1993).

This theory postulates that one behaves according to the definitions he or she holds about a situation. An individual may become delinquent when he or she holds more definitions favourable to crime as opposed to those unfavourable to crime, since he or she can justify that crime is appropriate in certain situations (Sutherland & Cressey, 1974). That is, the more an individual views attitudes towards crime as positive, or at least justified, the probability of engaging in criminal behavior increases. Thus, adolescents who associate with delinquent peers are likely to hold delinquent beliefs and to also be delinquent. Conversely, antisocial attitudes and delinquency are less likely to

develop if one's friends are not involved in crime.

Similarly, Social Learning theory is an integration of Differential Association theory and Behavioral Reinforcement theory (Burgess & Akers, 1966). The latter theory would suggest that the initiation of behavior is dependent upon anticipated rewards and punishments of the behavior. Social Learning theory proposes that delinquency is due to youth observing and learning in peer group interactions that some delinquent behaviors are admired, encouraged and rewarded by the peer group. As well, they learn that in some situations the anticipated rewards outweigh the potential costs or punishments associated with such behaviors (Elliott et al., 1985). Therefore, without some exposure to delinquent behavior patterns and some social reinforcement for these behaviors, delinquent acts are unlikely to be initiated and even less likely to be maintained over time (Elliot et al., 1985). Thus, delinquent peer groups provide a setting in which procriminal attitudes, and rationalizations are learned, delinquent behaviors are modelled, and social rewards and reinforcements are provided for delinquency.

A final theory which emphasizes the role of antisocial peers and attitudes is the Personal, Interpersonal, and Community Reinforcement theory (PIC-R; Andrews & Bonta, 1994). This theory takes a broad social learning perspective on crime as it suggests that all behavior is determined by the rewards or costs for that particular behavior. The effect of these costs and rewards are mediated by a range of variables that may encourage or discourage deviant behavior. These factors can operate at many different levels, such as the personal level, interpersonal level, and within the individual's immediate environment. The authors postulate that differences in behavioral judgement between offenders and non-offenders are due to four variables: antisocial personality

attributes, such as psychopathy, impulsivity, and neuroticism; a history of criminal behavior; social support for antisocial behavior from antisocial peers; and attitudes, values, and rationalizations supportive of criminal conduct. Within this perspective, the role of attitudes is regarded as having a strong influence on the 'psychological moment', which entails the combination of temptations, inhibitions, and stressors that guide behavior at any particular moment (Simourd, 1997).

In summary, these criminological and psychological theories provide numerous explanations with respect to the role of antisocial attitudes in delinquency. Given the dominant role of the antisocial attitude construct in such theories, it is important to examine the empirical relationship of attitudes as a risk factor and predictor of criminal behavior.

Empirical Support for Antisocial Attitudes and Criminal Behavior

Empirically, antisocial attitudes are among the most promising risk factors for criminal behavior (Andrews, Zinger, Hare, Bonta, Gendreau, & Cullen, 1990). Associations between negative attitudes and criminal behavior have been consistently established in samples of adult criminals and among young offenders.

In 1950, Gleuck and Gleuck developed a "tentative causal formula" for criminal behavior based on research comparing delinquent boys to non-delinquent boys on numerous variables. They found that among the major correlates of persistent and serious delinquency were antisocial attitudes. In particular, hostility, defiance, unconventional and non-submissive feelings towards authority were indicators of antisocial attitudes.

Similarly, Reicher and Emler (1985) assessed negative attitudes towards formal authority (school, police, law) in a sample of adolescents. They found that attitudes

towards rules and authorities within the school were highly related to attitudes in the public domain ($r = .57$) and both types of negative attitudes towards authority were strongly correlated with self reported delinquency ($r = .79$). In a similar study conducted by the authors, they conclude that those who have negative attitudes tend to view the official system as biased and discriminatory (Emler & Reicher, 1987).

McGee and Newcomb (1992) conducted a study to determine whether a general deviance syndrome exists from early adolescence to adulthood. They assessed norm-violating attitudes (attitudes towards religiosity and law abidance) and antisocial behaviors, such as criminality, sexual involvement, and drug use. They found that only drug use and norm-violating attitudes were consistently strong indicators of general deviance in adolescence and adulthood. They concluded that given the correlation between procriminal attitudes and a variety of deviant behaviors, such attitudes should be addressed in treatment and prevention programs.

In 1994, Hoge et al. measured family, peer, and attitudinal variables in a sample of youth convicted of crimes who received probation or custody dispositions. They found that the antisocial attitudes construct (which reflected support for criminal values, such as unconventionality, and a rejection of conventional values) contributed to the prediction of criminal behavior ($r = .19$). This relationship was independent of family and peer associations, lending further support to the importance of the attitude construct in criminal behavior.

Andrews, Wormith, and Kiessling (1985) investigated the antisocial attitudes construct among young adult probationers using the Criminal Sentiments Scale (CSS; Gendreau, Grant, Leipziger, & Collins, 1979; Andrews, 1985) which measures attitudes

towards the law, courts, police; a tolerance for law violations; and an identification with criminal others. They found that antisocial attitudes was a better predictor ($r = .37$) of recidivism (defined as official reconvictions) than traditional risk factors, such as sentimental ties to convention ($r = .16$), personal distress ($r = .09$), socialization ($r = .26$), empathy ($r = .04$), and personality ($r = .36$).

Similar findings have emerged among adult offender samples. For example, Bonta (1990) examined antisocial attitudes using the CSS in two samples of adult offenders and found correlations between measures of antisocial attitudes and recidivism, defined as reincarceration within one year following release. In the first sample, (halfway house residents, $N = 88$), negative attitudes towards the police ($r = .29$) and tolerance for law violations ($r = .33$) significantly predicted criminal behavior. Among the incarcerated offender sample ($N = 376$), antisocial attitudes towards the law ($r = .11$) and police ($r = .14$), as well as identification with criminal others ($r = .19$), and tolerance for law violations ($r = .12$) significantly predicted recidivism. Interestingly, when offenders were separated by offense type (violent, property, trafficker, and alcohol), those convicted of alcohol related offenses had significantly higher antisocial attitudes than traffickers, violent offenders, and property offenders.

Simourd and van de Ven (1999), investigated antisocial attitudes towards the law, courts, police, and an identification with criminal others, as measured by the Criminal Sentiments Scale-Modified (Simourd, 1997) and the Pride in Delinquency scale (Shields & Whitehall, 1991) among violent and non-violent federal offenders. They found that both measures of antisocial attitudes were significantly correlated with criminal behavior among the total sample ($r = .51$), violent offenders ($r = .49$), and non-violent offenders (r

= .47). In general, the non-violent offenders had greater criminal attitudes than the violent offenders. Recidivism was measured as supervision violations, re-arrests, violent re-arrests, reconvictions, and reincarcerations at approximately one year post release. For the total sample, the CSS-M and the PID scales together were found to significantly predict recidivism (Adjusted $R^2 = .05$), however neither scale was able to predict recidivism independently. For violent offenders only, recidivism was also predicted by the two scales (Adjusted $R^2 = .08$), with the CSS-M being the stronger predictor. Lastly, for the non-violent offenders, the attitude scales approached, but failed to significantly predict recidivism.

In contrast with the previous study, the CSS did not predict recidivism among violent and sex offenders in a study by Mills and Kroner (1997). However, the definition of recidivism used in this study was stringent in that it included re-arrest *and* reconviction, and therefore may have been unable to capture recidivism among that sample.

Although most research in the area of antisocial attitudes and behavior has been conducted with offender samples, researchers have recently been investigating this relationship among non-offender samples. For example, Grant (1990) found significant correlations between a self report measure of criminal attitudes and a self report measure of criminal behavior ($r = .36$) in a university sample. As well, Robertson (1996) examined the association between a battery of antisocial attitude scales and criminal activity in a sample of undergraduate university students. Significant correlations between the attitudinal scales and criminal behavior were reported. Scales measuring attitudes towards the seriousness or severity of engaging in criminal activity had the

strongest relationship with criminal activity, including the Pride in Delinquency scale ($r = .51$). In a study measuring antisocial attitudes among university students, Langevin and Forth (1999) found that students' mean level of antisocial attitudes were similar or higher to that reported in previous research on offenders. Research should compare the role of antisocial attitudes among students and offenders.

Based on the above literature, it is evident that antisocial attitudes play an important role in criminal behavior. Correlations ranging from .19 to .79 have been found in various samples with criminal behavior. Although correlational research cannot provide information concerning causal direction, there is evidence that antisocial attitudes have been found to be predictive of future criminal behavior among offenders. Effect sizes ranging from .11 to .83 have been found between attitudes and recidivism, indicating that antisocial attitudes may serve as a viable target in treatment programs.

Treatment of Antisocial Attitudes

Changes in antisocial attitudes have been found to be predictive of recidivism among adult offenders. In a study by Andrews and Wormith (1984) antisocial attitudes were assessed among probationers at intake and again six months later using the CSS. Changes in the total scores on the CSS were able to predict recidivism rates three years later. That is, increases in antisocial attitudes among probationers were associated with increased recidivism, while decreases in such attitudes were associated with a corresponding decrease in recidivism.

Despite empirical research supporting the importance of antisocial attitudes in predicting criminal behavior, few treatment efforts are aimed at reducing such attitudes. According to Simourd (1996a), correctional treatments fall into two categories: indirect

and direct interventions. Indirect approaches are programs that target a separate issue that may be related to criminal attitudes. For example, the Cognitive Living Skills Program (Ross & Fabiano, 1985) targets thinking and decision making skills, which indirectly involves antisocial attitudes. This program was found to be effective in changing criminal thinking patterns and antisocial attitudes of federal inmates (Robinson, 1990). Moral education programs is another type of indirect program that focuses on the structure of reasoning, which may involve changing moral beliefs (Lester & Van Voorhis, 1997).

A program that has a direct approach would include criminal attitudes as the primary criminogenic target. An example of this program occurred wherein prosocial volunteers discussed the personal, social, and moral aspects of the law with young male offenders in an effort to challenge their procriminal views (Andrews, Young, Wormith, Searle, & Kouri, 1973; Andrews, Wormith, Kennedy, & Diagle-Zinn, 1977). This program involved one group session per week for 8 weeks and consisted of structured 90 minute groups and unstructured 30 minute coffee breaks. Following the program, participants had lower measured criminal attitudes in comparison to both no-treatment controls and a no-treatment group that only engaged in recreational activities with the volunteers.

Shields, Jennings, and Carvel (1992) developed a structured program targeting criminal rationalizations among young offenders. It consists of three sessions designed to teach offenders how they use rationalizations to justify their criminal behavior. Preliminary analyses showed and an increased awareness of rationalizations and significant reductions in criminal attitudes and rationalizations (Simourd, 1996a).

Another correctional program that directly targets antisocial beliefs and attitudes is the Criminal Behavior Awareness Program (Mahoney, Brothers, Guzzwell, Singleton, Lundrigan, & McDonald, 1998). It is a community-based, cognitive-behavioral program that runs 4 times a week for a total of 4 weeks. The program examines the offense cycle and how antisocial attitudes, beliefs, and rationalizations, and antisocial peers contribute to one's offense cycle. Unfortunately, an evaluation of this program has not been conducted to date.

Simourd (1996b) recently developed a comprehensive treatment program designed to modify criminal attitudes, called the Criminal Attitudes Program. It is cognitive-behavioral in approach and consists of ten treatment modules (e.g., criminal attitudes, moral reasoning, rationalizations, prosocial skills). Since the program is newly developed, there is no formal research on its effectiveness to date, however, it has been delivered to a small sample of incarcerated adult offenders with encouraging results (Simourd, 1996a).

These results show promise that targeting antisocial attitudes in treatment programs is effective in reducing attitudes and future criminal behavior among young and adult offenders. Further research should be conducted to examine the long term effectiveness of such programs in reducing recidivism.

Assessing Antisocial Attitudes

Despite consistent theoretical and empirical support for the attitude construct in theory, as an important risk factor for criminal behavior, this information has been neglected within the applied field of corrections (Simourd, 1997). Traditionally, inferences about attitudes within the field of corrections have been based on informal

interviews and observations, wherein reliability and validity are lacking (Hoge & Andrews, 1996). Moreover, among the variety of scales designed to assess antisocial attitudes, (see Brodsky & Smitherman, 1983) most lack psychometric evaluation.

In order to gain a greater understanding of the relation between antisocial attitudes and criminal behavior, instruments need to be evaluated to determine their effectiveness in measuring the attitude construct. Accurate assessment tools would enhance the quality of decisions based on their results, such as risk level, and identification of criminogenic needs that influence type of treatment service used to modify offender attitudes.

Most research examining antisocial attitudes (as evidenced in previous sections) has been conducted using two primary measures: the Criminal Sentiments Scale (CSS; Gendreau et al., 1979; Andrews, 1985) and the Pride in Delinquency Scale (PID; Shields & Whitehall, 1991). The CSS is a 41-item scale described by Andrews (1985, p.2) as characteristic of “those personal attributes, values, and beliefs which discredit the moral authority of the criminal justice system, directly justify illegal activity, and suggest positive identification with those who offend”. There are three subscales measuring different components of criminal attitudes: attitudes toward law, courts, and police (LCP), which assesses respect for the law and the criminal justice system; tolerance for law violations (TLV), which examines rationalizations for criminal behavior; and lastly, identification with criminal others (ICO), which evaluates the respondent’s opinion of law violators (Andrews, 1985). Slight modifications were made to this scale such that wording was clarified among certain items, the LCP subscale was reversed scored, and the 5 point Likert scale was reduced to 3 points (Shields & Simourd, 1991).

The CSS or its modified version (CSS-M; Shields & Simourd, 1991) has been

used extensively with a variety of populations including young offenders, adult probationers, provincial offenders, federal offenders, and university students. It has been found to differentiate between predatory and non-predatory incarcerated young offenders (Shields & Simourd, 1991) and has also been found to be significantly correlated ($r = .43$) with recidivism in that sample (Shields, 1995 as cited in Simourd, 1997). The CSS and the CSS-M have shown satisfactory reliability and validity (Andrews & Wormith, 1984; Roy & Wormith, 1985; Simourd, 1997).

The Pride in Delinquency Scale (PID; Shields & Whitehall, 1991) is a 10-item scale developed as an extension to the CSS. It measures an individual's degree of comfort (pride vs. shame) with engaging in ten specific criminal activities. A factor analysis completed on the scale among a sample of violent offenders revealed two factors: an "Attitudes Towards Offenses" factor and a "Criminal Subculture" factor (Simourd, 1997). The PID is related to recidivism within one year of release ($r = .38$) among young offenders (Shields & Whitehall, 1991) and preliminary findings among adult violent offenders (Simourd, 1997) provides evidence of construct validity.

Non-Conformity in Antisocial Attitudes

As is evident in the previous discussion of assessment instruments, antisocial attitudes have traditionally been assessed by way of procriminal attitudes, values, and beliefs. For example, both the CSS-M and PID appear to assess specific procriminal attitudes and beliefs. However, theory and research reveals that the construct of non-conformist thinking may be a promising component of antisocial attitudes (Simourd, 1996a).

Non-conformity can be defined as thinking in conflict with, or counter to, the

prevailing social norms. That is, being in conflict with or failing to conform to social rules for accepted and expected behavior (Simourd, 1996a). Such deviant thinking tends to be more generalized and pervasive than specific procriminal attitudes since they are characterized by broad underlying values.

Some examples of social norms to which most people adhere are honesty, responsibility, respect, trustworthiness, and compassion. However, there are some people who have difficulties abiding by such expectations. Someone who is non-conformist is likely to have a generalized disregard for convention. They may be reluctant to acknowledge challenging information that counters their deviant outlook. This non-conformist 'worldview' can be characterized as a basic antisocial attitudinal set upon which procriminal attitudes can be formed. Perhaps non-conformity results in socially unacceptable (i.e., deviant), but not necessarily criminal, behavior.

Social Control theory (Hirschi, 1969) proposes that people who believe in conventional values and norms are unlikely to commit deviant behavior. Furthermore, a weakening of the general belief in the moral validity of conventional standards of conduct is more important than specific beliefs that require or justify misconduct.

In a recent meta-analytic study investigating various components of antisocial attitudes, Law (1998) found that the strongest attitudinal predictor of criminal behavior was non-conforming attitudes (weighted mean effect size = .21). This construct included deviant values and anti-authority attitudes. In comparison, effect sizes for procriminal attitudes were lower: negative attitudes towards the law (.12), police (.12), courts (.17), corrections (.10), rehabilitation (.13). Some other antisocial attitudinal components that were investigated were "unequal gender roles" (.19), "supportive of instrumental

violence” (.17), “lacks direction” (.10), and “neutralizations” (.10). Although measurement and construct issues confounded the non-conformity domain, these findings provide support for an investigation into non-conforming attitudes.

Few studies have been conducted on this concept of non-conformist thinking. Cochrane (1971) hypothesized that persistent criminal behavior, by definition, implies that an offender must have a value system that is different from a non-offender because he or she has likely rejected societal values. Cochrane investigated criminal value systems among male and female adult offenders and non-offenders using the Rokeach Value Survey (RKS; Rokeach, 1967), which examines the relative importance of 36 values. He examined ‘terminal values’, which are values people strive to achieve, such as freedom, salvation, self respect, a comfortable life, and ‘instrumental values’ which are desirable ways of behaving, such as honesty, independence, loving, and self-control. He found that values that do not have immediate and personal relevance were less important to the offenders, such as equality, world at peace, national security, and salvation, whereas values with immediate personal relevance, such as happiness and pleasure were deemed more important to the male offenders. Interestingly, the value systems of female offenders were most similar to those chosen by the male offenders than the non-offenders. Female offenders placed greater emphasis on values such as independence, an exciting life, and sense of accomplishment and less emphasis on being helpful and honest. The value systems endorsed by the offender groups seem to suggest a lack of concern for others.

Similar results were also found when these same personal values were examined among a sample of male drug addicts, alcoholics, and the general population (Toler,

1975). Few differences were found among drug addicts and alcoholics. However, in comparison with the non-addicts, the combined addicts/alcoholics group placed a significantly lower value on societal goals, such as world at peace, equality, freedom, national security, and a significantly higher value on more personal goals such as an exciting life, inner harmony, mature love, self respect, and wisdom.

Cochrane (1974) also examined the value system of users of hard drugs (e.g., LSD and heroin) and found that they rejected values supporting the middle class 'hard work brings material success' ethic, such as being ambitious, responsible, and valuing accomplishment, family security, and a comfortable life. He also concluded that they rejected values that lead to a constriction of the self (self-controlled, polite, obedient) in favor of those that elicit self expression and personal fulfillment (inner harmony, a world of beauty, imaginative, loving).

Interestingly, research conducted on drug addicts has found that they generally lack responsibility and independence. They are rebellious, willing to take risks that involve socially unacceptable behavior, and they tend to be pleasure seeking, peer oriented, non-conformist, and unconventional (Ausubel, 1980; Isralowitz, Telias, & Abu-Saad, 1993; Lorion, Bussell, & Goldberg, 1991). In essence, drug addicts can be conceptually perceived as possessing underlying non-conformist or deviant attitudes, yet not necessarily criminal attitudes.

People who fail to abide by social norms are sometimes referred to as being amoral, unconventional, or rebellious. Theory and research among youth have often examined the construct of rebelliousness, which can be characterized as a willingness to violate parental or societal norms (Kleinman, Wish, Deren, Rainone, & Morehouse,

1988). Researchers have found that alienation and rebelliousness are often due to not feeling they are a part of society or bound by its rules, or not believing in trying to be successful or responsible. Youth who take an active, rebellious stance towards society have been found to be at an increased risk for delinquency (Hawkins, Catalano, Jones, & Fine, 1987). Indeed, adolescents who are prone to risk-taking, rebelliousness, and striving for independence are most likely to experiment with substances in a premature attempt to be 'adult' (Donovan, Jessor, & Jessor, 1983; Jessor, Chase, & Donovan, 1980).

In summary, given that research suggests a relationship between these deviant attitudes, values, beliefs and antisocial behavior, it is possible that these attitudes represent an underlying non-conformist orientation, which serves to guide one's worldview. That is, those who possess a deviant frame of reference may be prone to rule-violation. People who are non-conforming may not necessarily engage in criminal behavior per se, but it is likely that this generalized outlook can increase one's chances of developing procriminal attitudes. Since limited research has been conducted in this area, this study proposes to further investigate this construct.

Antecedents to Antisocial Attitudes

Although there is a large amount of social psychological literature on the mechanisms involved in the development of attitudes, limited attention has been devoted to the formation of antisocial attitudes. According to Ross and Fabiano (1985), antisocial thinking is due to delays or interruptions in the development of social competency skills, such as a lack of understanding rules and laws, lack of problem solving/reasoning skills to develop alternatives to crime, and a lack of consideration for others' feelings.

A social learning and modelling perspective would predict that one's attitudes and

values are defined and shaped from one's interaction and relationship with intimate groups, such as peers and family. Thus, when an individual's peer group or family members support or condone delinquency, either verbally or behaviorally, one is likely to learn from, and imitate, such sentiments and behaviors. The following sections will investigate the influence of associating with antisocial peers and experiencing a maladaptive family upbringing to criminal behavior.

Antisocial Peers and Criminal Behavior

During childhood and adolescence, one's family and school environment usually provide positive modelling and reinforcement for conforming behavior. However, some peer groups involve deviant learning and social reinforcements for delinquent behavior. An antisocial peer group is likely to provide support for crime by influencing friends to develop antisocial attitudes and decrease their ties to the prosocial community.

Youth who have delinquent or drug using friends are more likely to engage in delinquency or drug use than those who have non-delinquent friends (Elliott et al., 1985; Hawkins & Catalano, 1992; Johnson et al., 1987). Among young offenders, associating with peers who engage in delinquency and violence is one of the strongest and most consistent predictors of delinquent and violent behavior (Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Friedman & Rosenbaum, 1988; Johnson, Marcos, & Bahr, 1987; Kornhauser, 1978). Furthermore, research has found that conditions in which a poor relationship exists between parent and child, as well as an affiliation with delinquent peers, constitutes the highest risk for youth delinquency (Elliott et al., 1985).

In a study comparing types of young offenders (chronic violent vs. non-violent offenders), only five percent of the non-violent offenders had a high number of

delinquent peer associations, as compared with 59 percent of chronic violent offenders (Thornberry, Huizinga, & Loeber, 1995).

The Correctional Service of Canada examines antisocial associates among adult offenders within its Offender Intake Assessment (OIA). The OIA is a systematic assessment report targeting risk and need factors that is implemented to all federal offenders upon admission. Statistics from 1998, report that among 11,946 males, 61.5% had many criminal acquaintances. As well, 38.9% had mostly criminal friends. Similar results were found with 458 female offenders; 54.3% had many criminal acquaintances and 28.2% had mostly criminal friends (Motiuk & Nafekh, 1998).

Surprisingly, despite the prevalence of antisocial associates among adult offenders, few research studies have been conducted on antisocial peers among this group. A recent meta-analysis (Goggin, Gendreau, & Gray, 1998) examined the peer association construct in 35 adult offender studies and found that associating with antisocial peers yielded the strongest effect size ($r = .19$) with recidivism, as compared to a crime neighbourhood ($r = .12$) and a criminal family ($r = .17$).

It is widely agreed that antisocial peers and antisocial attitudes are related to criminal behavior, however it is unknown how these variables are interrelated. As noted earlier within Differential Association theory (Sutherland, 1939), people often learn attitudes from interacting with significant others. For example, people who associate with delinquent friends are likely to learn antisocial attitudes from them and be reinforced for adopting such attitudes, which increases their risk for committing criminal behavior. Akers (1994) also felt that an antisocial family was equally as important in promoting such attitudes as were antisocial peers. However, Social Control theory (Hirschi, 1980)

reverses the causal relationships, arguing that 'birds of a feather flock together'. That is, weakened bonds to conventional society (such as a lack of prosocial attachments, commitments, or values) may lead to delinquent behavior and influence adolescents who are already delinquent to seek each other out for companionship (Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994).

A recent study examined the causal structures underlying antisocial peers and attitudes in a longitudinal study among youth. Reed and Rose (1998) examined the contribution of socialization (that peers influence attitudes which influence behaviors) and social selection (delinquents seek out those who share similar attitudes and who are also delinquent) to serious theft. There was partial support for the socialization model: antisocial peers significantly increased antisocial attitudes. However, once the effects of serious theft on delinquent attitudes were controlled, delinquent attitudes did not exert a significant influence on theft. Thus, peers influence attitudes, but attitudes are not the primary determinants of behavior. However, the authors used a strict test to measure attitudes since they estimated the lagged effects of attitudes to theft, and as a result, may have underestimated the effect of attitudes. The social selection model received some support in that delinquency exerted a greater effect than did attitudes on peer relationships. Given these findings, it is important to further examine the relationship between attitudes and peers, and how they affect behavior.

Family Background and Criminal Behavior

Other than the peer group, the family is a main provider of social interaction, personal growth, and social and emotional maturation for youth. Parents are seen as role models from whom children learn values and imitate their behaviors (Hansen, 1988). It is

therefore not surprising that experiencing a negative, maladaptive family environment has been found to predict later delinquency among youth (Loeber, 1990).

Andrews and Bonta (1998) have theoretically qualified the family variable into a normative dimension and a relationship dimension. They argue that the normative dimension constitutes the parents' role to convey and instil prosocial norms, values, and beliefs to their children. Factors that deter this are an antisocial model (due to parental deviance, including criminality and antisocial attitudes), and inconsistent parental monitoring and disciplining. The relationship dimension is important in facilitating the learning of such values and promotes a prosocial attachment to society. Factors that inhibit this dimension are neglect and maltreatment. As such, theoretically, children from families that promote prosocial values and are characterized by strong emotional attachments are predicted to have the lowest rates of delinquency. Alternatively, children from families scoring low on both dimensions would be predicted to have the highest rates of delinquency.

Researchers have studied numerous aspects of family background to determine their role in antisocial conduct. Some of these areas include family structure, quality of family relationship, amount of communication, disciplinary and supervision practices, incidence of childhood maltreatment (abuse, neglect, rejection), marital discord, witnessing familial abuse, parental and/or sibling criminality, parental antisocial attitudes, parental alcoholism/drug use, and parental psychopathology. Despite this abundance of research, studies have often found conflicting results. Inconsistent findings have been due to methodological shortcomings in previous research, such as inconsistent definitions of abuse; a reliance upon retrospective reports; small sample sizes; lack of matched

control groups; and a lack of separation between abuse and other confounding family problems that could account for delinquency (Dutton & Hart, 1992).

In a recent meta-analysis, Gendreau, et al. (1996) found that family factors were significantly predictive of adult recidivism ($r = .12$). This variable was subdivided into three components: family structure (separation from parents, broken home, foster parents), family rearing practices (i.e., lack of supervision and affection, conflict, and abuse), and family criminality (i.e., parents and/or siblings in trouble with the law). Each sub-component was also found to be significantly predictive of recidivism: ($r = .10$, $r = .15$, $r = .12$, respectively).

In accordance with the afore-mentioned social learning perspective by Andrews and Bonta (1998), this thesis will focus on family characteristics, such as parental monitoring/discipline; parental deviance, such as antisocial behaviors, associates, and attitudes; and childhood maltreatment, including abuse and neglect. Although this review is not comprehensive, it will cover main areas of interest relevant to this study.

Family Characteristics

Researchers have found that child rearing practices can greatly impact on adolescent behavior, such as school achievement, drug use, and deviance. For example, Patterson and Southamer-Loeber (1984) conducted a study using seventh and tenth grade boys to examine family management characteristics. They found that parental monitoring (defined as awareness of their child's whereabouts) and discipline, were negatively correlated with self-reported delinquency. As well, parenting practices such as monitoring, encouragement of achievement, and joint decision making were significantly related to academic achievement.

Similarly, Loeber (1990) conducted a study on adolescents and discovered that parental child rearing factors such as inadequate supervision was a strong predictor of delinquency. As well, ineffective monitoring has been associated with type of delinquent behavior and age of onset of delinquency among young offenders (Snyder & Patterson, 1987).

Parental Deviance

Given theories such as Differential Association (Sutherland, 1939), wherein it is suggested that antisocial attitudes are learned from intimate others, it is possible that such attitudes are learned from parents who hold deviant values and attitudes that directly or indirectly condone deviant behavior (Van Diemen, 1990). In fact, children whose parents express an attitude of acceptance and tolerance with respect to cigarette and drug use, are more likely to engage in these behaviors (Chassin, Presson, Sherman, Montello & McGrew, 1986). As well, parental antisocial attitudes are significantly correlated with child problematic behavior, especially with lying, stealing, and substance use (Van Diemen, 1990). Perhaps adolescents whose parents communicate antisocial beliefs are likely to form weaker social bonds with religions, schools, and conventional values that disapprove of delinquency.

Indeed, parental qualities, such as parental substance use, parental attitudes about substance use, and parenting styles all correlate with their children's substance use (Mills & Noyes, 1984). As well, Loeber (1990) found that parental criminality, aggressiveness, and parental antisocial peer association were moderate predictors of delinquent behavior.

Childhood Maltreatment

Many studies have found an association between various types of child abuse and

delinquency (e.g., McCord, 1983; Truscott, 1993). As well, Smith and Thornberry (1995) found in a sample of adolescent students, that more extensive maltreatment (including child abuse and neglect) is related to higher rates of self report and official reports of juvenile delinquency. Unfortunately, most of the research investigating the child abuse-criminal behavior link has neglected the long term consequences of child abuse in adulthood criminality.

Widom (1989a) investigated this relationship in a prospective examination of child abuse victims (neglect, physical and sexual abuse) and a matched control group of non-abused children. She found that male victims of child abuse or neglect (occurring at age 11 or younger) were at a significantly increased risk of adult criminality and violent criminal behavior. For example, abused and neglected subjects had significantly higher rates (42%) of adult criminality and arrests for violent offenses (15.6%), as compared with the control group (33.2% and 10.2%, respectively). As well, abused or neglected children had a larger mean number of offenses and a higher proportion of them were chronic offenders (those charged with five or more offenses) (Widom, 1989b). Although being abused as a child significantly increases one's risk of criminality, this relationship is not direct since the majority of the abused and neglected children did not have official records of criminality.

A study conducted by Dutton and Hart (1992) investigated the incidence of child physical and sexual abuse, neglect, and witnessing spousal abuse (occurring at less than 18 years of age) among 604 federally incarcerated male offenders. Overall, 41% had been exposed to some sort of serious childhood abuse. Men who were abused as children were three times more likely than non-abused men to engage in violent acts as adults. As

well, specific forms of child abuse were associated with specific (and isomorphic) patterns of adult violence. For example, those who were physically abused were most likely to be physically violent and those who were sexually abused were more likely to be sexually violent. Witnessing spousal abuse also greatly increased the chances of men committing wife assault.

Following the “violence breeds violence” hypothesis, research has included the indirect effects of children witnessing spousal abuse within their family. A study by Hotelling, Straus, and Lincoln (1989) found that children who were both victims of abuse and witnesses to parental violence were more likely to assault a child than were children from non-violent homes. A similar relationship was found to extend into adulthood. That is, male children who witnessed their father physically abusing their mother were more likely to become violent husbands (Straus & Gelles, 1980). This may be because children who witness such violence learn to endorse inappropriate attitudes that violence is an adequate means of resolving conflict and may be more willing to use violence themselves compared with children not exposed to spousal abuse (Jaffe, Wilson, & Wolfe, 1985).

Since not all victims of child abuse commit later crimes and not all those who commit criminal acts as adults were victims of child abuse, it is unlikely that a clear causal relationship exists between abuse and criminality. Being abused as a child may increase the risk for committing crime, but it is likely that certain mediating variables may influence the final outcome. Protective factors (qualities or factors that moderate one’s exposure to risk) among children who lack caring and supportive homes may serve as buffers against criminality. Mundy (1996) has found that the presence of a good social

support system can help fill a void in an abused child's life and lessen the chances of him or her forming attachments through antisocial friendships. In particular, the presence of one nurturing adult in an abused child's life has been found to be an important buffer against criminality (Steele, 1986).

On the other hand, a mediating variable that may increase an abused child's risk for committing crime is the development of antisocial attitudes. Perhaps children who experience negative family relationships form a negative, or deviant, value system. That is, abused children may develop pro-aggression attitudes in which they think that acting aggressively produces positive outcomes and reduces aversive stimulation. They may also think that they are worthless in their parents' eyes, which may lead to a general distrust of parental or adult authority. This can influence the development of non-conformist thinking, which may increase rebellion against societal or legal rules.

Purpose/Rationale of the Present Study

This literature review has provided evidence of the following relations among offenders: (1) antisocial attitudes are correlated with criminal behavior, (2) associating with antisocial peers is correlated with criminal behavior, and (3) experiencing a negative family background is correlated with criminal behavior. Although such relations have been demonstrated across numerous studies, their predictive nature is somewhat controversial. Moreover, the literature revealed that, of the validated scales used to measure antisocial attitudes, most focus specifically on procriminal attitudes.

Given these limitations, the purpose of this thesis is two-fold: (1) to investigate the construct of non-conformity as another facet of antisocial attitudes and (2) to investigate the mediating effects of antisocial attitudes. It is hypothesized that antisocial

attitudes will mediate the relation between associating with antisocial peers and criminal behavior, in addition to mediating the relation between a negative family background and engaging in criminal behavior (See path model in Appendix A). This model predicts that antisocial peers will have a direct effect on criminal behavior and an indirect effect through antisocial attitudes. As well, it is predicted that a negative family background will have a direct effect on criminal behavior and an indirect effect through antisocial attitudes.

Since past research has reported similar levels of antisocial attitudes among offenders and non-offenders, this study will also compare attitudes among these groups. To accomplish this, analyses will be conducted separately among offenders and non-offenders.

Hypotheses:

- 1) Consistent with other measures of antisocial attitudes, non-conformity will be related to criminal behavior.
- 2) The Phoenix Opinion Survey is a valid and reliable measure of non-conformity.
- 3) Offenders will score higher than non-offenders on the non-conformity construct.
- 4) The relation between antisocial peers and criminal behavior is mediated by antisocial attitudes.
- 5) The relation between negative family background and criminal behavior is mediated by antisocial attitudes.

Method

Participants

Participants in this study consisted of 55 incarcerated male offenders and 32 male non-offenders. The offender sample was selected from Collins Bay Institution, a medium security federal correctional institution, located in Kingston, Ontario. Participants ranged in age from 19 to 49, with a mean age of 30.2, $SD = 7.7$. The majority of the sample (67.3%) were White, while the remainder were Black (27.3%), Native Indian (3.6%), or Asian (1.8%). The education attained of the sample was: 3.6% completed Grades 1 to 6, 60% completed Grades 7 to 10, 29.1% completed Grades 11 to 13, and 7.3% completed some college or university.

For their current conviction, 81.8% were convicted of at least one violent offense, while 18.2% were convicted of a non-violent offense only. The most severe types of current violent convictions were for murder (21.8%), manslaughter (9.1%), attempted murder (1.8%), assault (25.5%), robbery (16.4%), and arson (1.8%). Information on criminal history was unavailable for two of the offenders because they were not Canadian residents prior to their current charges. Of the offenders for whom criminal history information was available, all had committed previous offenses, except two. Of the repeat offenders, 79.2% committed at least one previous violent offense, while 20.8% were previously convicted of a non-violent offense only.

Eighty percent of offenders served finite sentences with the mean sentence length being 120.9 months ($SD = 383.2$). The remaining 20% were serving life sentences.

Non-offenders consisted of university undergraduate students enrolled in various undergraduate Psychology courses at Carleton University. The sample ranged in age

from 17 to 61, with a mean age of 25.19 (SD= 8.76). Again, the majority of the sample were White (56.3%), while 31.3% were Asian, 6.3% were Black, 3.1% were Metis, and 3% were of another ethnicity.

Measures

Materials used included an informed consent form and a debriefing letter specific to each sample (see Appendices B through E). Data for the present study was obtained through the following self report questionnaires:

Criminal Sentiments Scale-Modified. The Criminal Sentiments Scale-Modified (CSS-M; Shields & Simourd, 1991: See Appendix F) has 41 items, with 3 subscales measuring procriminal attitudes, values, and beliefs. The first subscale, “Attitudes Toward Law, Courts, and Police”, has 25 items, such as ‘the police never help people’. The second, “Tolerance for Law Violations”, has 10 items including ‘it’s okay to break the law as long as you don’t get caught’; and lastly, “Identification With Criminal Others” subscale, has 6 items such as ‘I have very little in common with people who never break the law’. To score the CSS-M, each endorsement of an antisocial statement (or rejection of a prosocial one) yields 2 points, whereas rejection of an antisocial statement (or acceptance of a prosocial one) yields 0 points. Undecided responses are scored as 1. Thus, higher scores reflect increasing criminal attitudes. The original version of the CSS (Roy & Wormith, 1985) has satisfactory validity, as does the CSS-M (Simourd, 1997; Simourd & van de Ven, 1999), which is expected given the relatively minor changes in the revised version.

Pride in Delinquency Scale. The Pride in Delinquency Scale (PID; Shields & Whitehall, 1991: See Appendix G) is a ten item self report measure developed as an

extension to the CSS. It was designed to measure attitudes towards engagement in various criminal activities. The scale asks the respondent to indicate the degree to which he or she would experience pride or shame in committing specific criminal acts, like selling cocaine or committing a sexual assault. Responses are rated on a Likert-type scale ranging from -10 to +10. Negative numbers (-1 to -10) indicate shame, a score of 0 indicates an undecided response, and positive numbers (+1 to +10) indicate pride in committing the act. Scores are totalled and added to a constant of 100 to ensure that all scores are within a positive range. Higher scores reflect increasing criminal attitudes. A recent factor analysis of the scale using a sample of violent offenders (Simourd, 1997) uncovered two factors: an "Attitudes Towards Offenses" factor and a "Criminal Subculture" factor. This scale has satisfactory psychometric properties and construct validity (Simourd, 1997) and also has been found to be related to one year recidivism ($r = .38$) (Shields & Whitehall, 1991).

Phoenix Opinion Survey. The POS (Simourd, 1998: See Appendix H) was developed for the present study and consists of 46 items designed to assess non-conformist thinking. The PDS was theoretically and rationally derived from two related works. For example, the CSS-M (measuring procriminal attitudes) was correlated with criminal behavior criterion variables. For items that yielded the highest correlation with criminality, the underlying concept was incorporated in the POS. As well, items in the POS were modelled after the findings reported by Cochrane (1971) and Toler (1975) on the value systems of offenders. That is, items in the POS measure attitudes reflecting societal values such as responsibility, remorse, sense of accomplishment, family security, national security, and independence.

The POS is scored on a 5-point Likert type scale ranging from strongly disagree (-2), undecided (0), to strongly agree (+2), with higher scores resulting in higher non-conformity. Scores are summed and added to a constant of 100 to ensure all scores are within a positive range. Items 1, 2, 5, 10, 11, 13, 15, 16, 20, 22, 26-28, 33, 35-37, 41-43, 45, and 46 were reverse scored. No psychometric data exists on this scale to date.

Antisocial Behavior Scale. The ABS (Forth & Brown, 1993: See Appendix I) is a 42-item self report scale used to assess criminal behavior. It measures the frequency and versatility of engaging in various non-violent and violent antisocial behaviors. Participants are asked how often they have ever engaged in a variety of antisocial acts which fall under seven broad categories: shoplifting, school-related delinquency, driving offences, vandalism, drug and/or alcohol related offences, theft, and verbal or physically assaultive acts. This measurement scale was slightly modified to a 4-point Likert scale ranging from never (0) to often (3) and some item wording was changed such that antisocial behaviors were written in terms of socially deviant acts rather than the terminology used in the Criminal Code. For example, 'Have you ever engaged in prostitution?' was changed to 'How often have you been paid for sexual acts?' Previous research has shown the ABS to have good validity (Forth, Brown, Hart, & Hare, 1996). During the analysis, items in the ABS were divided into non-violent and violent categories based on severity of criminal behavior (see Appendix O). Categories were determined subjectively based on the definition of the offense as stated in the Canadian Criminal Code (Rodrigues, 1998) and the severity of sentence length. All person-based crimes were classified as violent, whereas most drug, property, and driving offenses were classified as non-violent. To determine prevalence rates of non-violent and violent

criminal behavior, each item in the ABS was re-coded from its ordinal scale to a dichotomous yes/no response scale. For example, participants were given a '1' for committing a violent offense if they had answered yes to committing at least one violent act (based on a minimum requirement of ever "carried a weapon, i.e., gun, knife, excluding pocket knives, which you were not licensed to carry?") and a '0' if they had not committed any violent behaviors. Similarly, non-violent prevalence rates were also dichotomously re-coded with a minimum requirement of ever "sped 20 km/hr above the speed limit".

Social Support for Crime. The SSC (Andrews, 1980: See Appendix J) is an 11 item self report questionnaire, scored on a 4-point scale, designed to measure antisocial associates. It assesses the intimate association with criminal others, exposure to criminal models, and access to criminal resources. The scale is comprised of two subscales: "Affective Ties to Offenders" and "Criminal Resources/Models" which have good internal consistency ($\alpha = .80$ and $.81$, respectively). In a sample of adult offenders, the SSC scale has demonstrated construct validity as it is correlated with the CSS ($r = .48$) and with criminal personality scales ($r = .33$) (Andrews, 1985). It also has good predictive ability in that it is correlated in a sample of adult probationers with unofficial recidivism ($r = .42$) and with official recidivism ($r = .30$) (Andrews, 1985). In order to compute a composite score for the entire scale, all items were standardized prior to summing the items. This was completed since the subscales were scored on different rating scales in order to ensure equivalent weightings among the subscales.

Family Background Scale. This self report measure was developed for the present study in order to broadly assess an individual's family history (see Appendix K). The

item content of the scale was derived from the Early Family Background Interview developed by Forth (1995). A total of 23 items are used to investigate three subscales: parental supervision, parental deviance, and childhood maltreatment. Similar to the modifications made to the Social Support for Crime scale, all items were standardized prior to summing the items. This was completed in order to ensure equivalent weightings among the subscales since they were scored on different rating scales.

Paulhus Deception Scales. The Paulhus Deception Scales (PDS; Paulhus, 1999: See Appendix L), is the revised version of the Balanced Inventory of Desirable Responding (BIDR). The PDS examines the degree to which an individual attempts to present him or herself in a favourable light (i.e., socially desirable responding). It is important to measure biased responding when measuring personal attributes since respondents may fake their responses in order to feel accepted. Within the field of corrections, it is especially important to measure faking since most offenders fear the ramifications of revealing personal information. The 6th version of the BIDR (Paulhus & Reid, 1991) was included in this study in order to reduce the confounding effects of socially desirable responding through statistical manipulation.

The PDS is a 40-item questionnaire that measures two factors (20 items each) defining social desirability: “Self Deception” and “Impression Management”. Self Deception occurs when an individual responds in an over-confident manner resulting in positively biased responses (e.g., “I never regret my decisions”). Impression management is characterized by a desire to create a favourable impression on others by intentionally exaggerating positive attributes while minimizing negative ones (e.g., “When I hear people talking privately, I avoid listening”). The scale uses a 7-point Likert

scale ranging from not true to very true. Extreme responses (6 or 7) yielded one point such that scores ranged from 0 to 20 for each subscale. Higher scores reflect higher levels of response bias. This scale has demonstrated acceptable internal consistency ($\alpha = .70$) and test-retest reliability ($r = .81$). As well, it appears to have excellent construct-related validity (Paulhus, 1984; Paulhus, 1999; Paulhus & Reid, 1991).

Procedure

Offenders were randomly selected from the inmate nominal role and sent an institutional pass informing them of an appointment in the Psychology Department. Upon their arrival, they were asked to volunteer in the study, which would take approximately one hour to complete. They were informed that the study involved completing several self report questionnaires related to their attitudes, friends, family background, and antisocial behavior. They were also informed of the anonymity and confidentiality in the study and that they could withdraw at any time without consequences. Offenders were also asked to sign a consent form allowing the researcher access to their institutional file to gather information pertaining to their criminal history.

Seventy-nine offenders attended their appointment, with 55 (70%) agreeing to participate in the study. Of those who did not participate, 21 refused due to lack of interest, while three refused due to difficulties understanding the English language.

Following completion of the questionnaires, a debriefing form was given that further explained the study and provided a list of community and/or prison referrals should an individual have experienced anxiety as a result of answering the questionnaires.

The recruitment of student participants involved the researcher entering various Psychology courses at Carleton University. A brief presentation describing the study was

made in front of the entire class and those interested were advised to meet after class.

The study was described in the same manner as with the offenders. All interested students were given the opportunity to participate directly after class in their classroom or to sign up for a later date. A sign-up sheet was also posted on the Psychology Bulletin Board to further recruit students enrolled in the Introductory Psychology class. These latter students who participated were given one experimental credit for successful completion of the study. Of those who agreed to participate, all successfully completed the study.

Results

Descriptives

The mean and standard deviation of the scales are displayed in Table 1. To examine differences between the samples, a multivariate analysis of variance was conducted on the variables. All of the assumptions of MANOVA were met prior to analysis: normality, homogeneity of variance, linearity, and homogeneity of regression. Wilk's Lambda criterion indicated that the linear combination of dependent variables were significantly different between the groups (students vs. offenders), $F(13, 67) = 14.02, p < .001$. The results demonstrate a moderately strong relationship between level of group and the combined variables, $\eta^2 = .61$.

To explore where these differences occurred, several univariate analysis of variance tests were performed with group level as the independent variable. Inspection of Table 1 shows that offenders had greater mean scores than students on: CSS-M "Attitudes Towards Law, Courts, and Police" $F(1,79) = 4.25, p < .05$, CSS-M "Identification with Criminal Others" $F(1,79) = 8.63, p < .05$, and Pride in Delinquency $F(1,79) = 21.88, p < .001$. Not surprisingly, offenders also had greater mean scores than students on criminal behavior (ABS total score) $F(1,79) = 43.18, p < .001$, non-violent criminal behavior $F(1,79) = 36.64, p < .001$, and violent criminal behavior $F(1,79) = 40.76, p < .001$, as well as Social Support for Crime $F(1,79) = 15.75, p < .001$. Interestingly, the groups did not differ on the following measures: CSS-M total score, CSS-M "Tolerance for Law Violations", POS, Family Background scale, and the PDS.

Table 2 displays the prevalence rates of self reported criminal behavior (as measured by the ABS) and official criminal behavior for the samples. All participants

self reported engaging in at least some form of non-violent antisocial behavior.

Offenders self reported committing significantly more violent behaviors than students $\chi^2 = 20.27, p < .001$. For offenders, there was a slight increase in the amount of self reported violent and non-violent offenses compared to official criminal records.

Table 1.

Descriptive Statistics and Univariate F Tests for the Measures by Group (N=87)

SCALE	Offenders M (SD)	Students M (SD)	F	η^2
Criminal Sentiments Scale	37.10 (15.60)	30.61 (13.53)	3.59	0.04
LCP	23.06 (10.07)	18.43 (09.16)	4.25*	0.05
TLV	8.61 (05.36)	8.67 (04.35)	0.003	0.11
ICO	5.04 (02.37)	3.47 (02.26)	8.63*	0.00
Pride In Delinquency	81.84 (28.72)	51.30 (27.76)	21.88**	0.20
Phoenix Opinion Survey	102.86 (15.34)	103.65 (17.22)	0.08	0.00
Antisocial Beh. Scale Total	55.46 (23.39)	22.52 (18.70)	43.18**	0.36
Non-Violent	44.64 (18.86)	19.95 (15.57)	36.64**	0.31
Violent	10.71 (06.26)	2.50 (04.20)	40.76**	0.33
Social Support for Crime	2.69 (06.33) ^a	-3.30 (06.90) ^a	15.75**	0.16
Family Background	0.16 (09.55) ^a	-2.85 (07.06) ^a	2.26	0.04
Paulhus Deception Scales	10.75 (05.44)	9.70 (04.62)	0.78	0.01
IM	3.90 (03.11)	4.27 (03.33)	0.25	0.00
SD	6.84 (03.41)	5.43 (03.16)	3.41	0.04

^a Scores denoted with an asterisk were calculated using standardized scores.* $p < .05$, ** $p < .001$ η^2 (Eta squared): Variance explained in the variable of interest by differences between groups

Table 2.

Prevalence Rates of Criminal Behavior (N=87)

SCALE	Offenders	Students
Self Reported Criminal Behavior (ABS)		
Non-Violent	100.00%	100.00%
Violent	98.20%	62.50%
Official Criminal Behavior (CPIC)		
Non-Violent	93.00%	N/A
Violent	93.00%	N/A

Reliability Analyses

Reliability refers to the consistency and stability of a measure and is based on the relative proportion of true and error variance within a measure (Hoge & Andrews, 1996).

Reliability analyses of the scales were performed using Chronbach's index of internal consistency (alpha) which measures the degree of homogeneity between test items (Goldstein & Hersen, 1990). A very low alpha (e.g., .30) means that the test is too short or the items have very little in common, while an ideal alpha level would be approximately .90 (Nunnally, 1967).

The alpha levels for measures in this study are displayed in Table 3. Each of the scales had acceptable reliabilities, however alpha levels were at the low-moderate range for the CSS-M "Identification with Criminal Others" subscale ($\alpha = .56$) and the PDS Impression Management subscale ($\alpha = .63$).

Originally, internal consistency was low on the Phoenix Opinion Survey ($\alpha = .67$). Due to the experimental nature of this scale, the following changes were made in order to enhance the scale's psychometric properties: a frequency of endorsement analysis was conducted on each item to investigate participants' response set, in order to ensure sufficient variability in the responses for each item. If the total sample's responses were skewed greater than 90% in one direction (Spector, 1992), that item was deleted from the scale. Using this criterion, items 1 and 5 were deleted from the scale. As well, each item in the scale was examined to ensure that a high score on each item reflected greater deviance. In consultation with the author of the scale, it was decided that item 2 should be reverse scored, while three items (7, 30, 34) that were originally reverse scored should not be. With these changes, reliability was improved within the scale to ($\alpha = .79$) (See Table 3).

Table 3.

Chronbach's Alphas of Measures (N=87)

SCALE	Chronbach's α
Criminal Sentiments Scale	.91
Law, Courts, Police	.89
Tolerance for Law Viol.	.81
Ident. With Criminals	.56
Pride In Delinquency	.80
Phoenix Opinion Survey	.79
Antisocial Behavior Scale	.95
Social Support for Crime	.86
Family Background	.84
Paulhus Deception Scales	.79
Impression Management	.63
Self Deception	.82

Inter-Correlations Among Scales: Total Sample

Inter-correlations among the measures were examined for the total sample (See Table 4). As can be seen, the pattern of results is one in which measures of similar constructs have the greatest inter-correlations. For example, the CSS-M, PID, and POS are all highly interrelated. As well, all of the measured risk factors (antisocial attitudes, peers, and negative family background) were significantly correlated with self reported criminal behavior. Examination of socially desirable responding revealed that the Impression Management subscale had a moderate to strong correlation with virtually all

measures. To explore a purer understanding of the inter-relationships of the measures, the inter-correlations were repeated with Impression Management partialled out. Table 5 presents these results. Inspection of this table shows that controlling for Impression Management reduced the magnitude and significance of some inter-correlations.

Table 4.

Inter-correlations of Measures for Total Sample (N=87)

	ABS	PID	POS	CSS Total	CSS LCP	CSS TLV	CSS ICO	SSC	FAM	PDS Total	PDS IM	PDS SD
ABS												
PID	.55**											
POS	.29**	.46**										
CSS Total	.39**	.64**	.71**									
CSS LCP	.34**	.52**	.65**	.92**								
CSS TLV	.22*	.57**	.59**	.83**	.60**							
CSS ICO	.49**	.58**	.37**	.60**	.37**	.58**						
SSC	.74**	.59**	.47**	.56**	.48**	.48**	.47**					
FAM	.39**	.31**	.09	.19	.16	.13	.27*	.40**				
PDS Total	-.31**	-.21	.22**	-.14	-.08	-.20	-.11	-.26**	-.14			
PDS IM	-.51**	-.46**	-.39**	-.34**	-.32**	-.08	-.20	-.45**	-.24*	.77**		
PDS SD	.02	.08	.01	.07	.13	-.20	-.01	.02	.06	.80**	.23*	

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

Table 5.

Partial Correlations Among Measures for the Total Sample^a (N=87)

	ABS	PID	POS	CSS Total	CSS LCP	CSS TLV	CSS ICO	SSC	FAM
ABS									
PID	.48**								
POS	.14	.30**							
CSS Total	.13	.41**	.67**						
CSS LCP	.20	.40**	.62**	.87**					
CSS TLV	.54**	.70**	.38**	.61**	.53**				
CSS ICO	.46**	.54**	.26*	.50**	.31**	.64**			
SSC	.70**	.47**	.33**	.37**	.39**	.59**	.42**		
FAM	.32**	.26*	.03	.10	.13	.21	.26*	.33*	

^a Controlled for age and impression management.* $p < .05$, ** $p < .001$ **Inter-Correlations Among Scales: Offender Sample and Student Sample**

Separate analyses were conducted on the offender and student sample. Table 6 and 7 present the inter-correlations of scales for the offender and student sample, respectively.

The tables revealed that the attitudinal scales were significantly interrelated in both samples. Also, the risk factors for criminal behavior were significantly correlated with self reported criminal behavior (ABS), except the CSS-M total score, CSS-M “Law,

Courts, Police” and CSS-M “Tolerance for Law Violations” subscales in the offender sample and Family Background Scale in the student sample.

Examination of response bias showed that only Impression Management was significantly correlated with self reported criminal behavior (ABS), antisocial attitudes (PID, POS, CSS), and antisocial peers (SSC) in both samples. As well, age was negatively correlated with PID ($r = .41, p < .001$; $r = -.50, p < .001$) and SSC ($r = .37, p < .001$; $r = -.36, p < .001$) in offenders and students, respectively. Age was also negatively correlated with CSS-M total score ($r = .28, p < .001$) among offenders. Given these correlations, further analyses controlled for the confounding effects of impression management and age.

Table 6.

Inter-correlations of Measures for the Offender Sample (N=55)

	ABS	PID	POS	CSS Total	CSS LCP	CSS TLV	CSS ICO	SSC	FAM	PDS IM	PDS SD	AGE
ABS												
PID	.36**											
POS	.28*	.50**										
CSS Total	.25	.61**	.61**									
CSS LCP	.16	.47**	.69**	.91**								
CSS TLV	.26	.64**	.61**	.88**	.64**							
CSS ICO	.28*	.49**	.36**	.56**	.28*	.65**						
SSC	.72**	.47**	.47**	.40**	.32*	.46**	.31*					
FAM	.38**	.26	.26	.16	.11	.15	.20	.38**				
PDS IM	-.62**	-.39**	-.38**	-.33**	-.35**	-.21	-.13	-.49**	-.27			
PDS SD	-.25	.04	-.03	-.01	.07	-.07	-.12	-.06	-.01			
AGE	-.22	-.41**	-.25	-.28*	-.23	-.26	-.15	-.37**	-.19	.15		-.10

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

Table 7.

Inter-correlations of Measures for the Student Sample (N=32)

	ABS	PID	POS	CSS Total	CSS LCP	CSS TLV	CSS ICO	SSC	FAM	PDS IM	PDS SD	AGE
ABS												
PID	.52**											
POS	.60**	.56*										
CSS	.54**	.63**	.63**									
Total												
CSS	.45*	.48**	.65**	.93**								
LCP												
CSS	.38*	.63**	.56*	.82**	.59**							
TLV												
CSS	.63*	.57**	.45**	.63**	.40*	.56**						
ICO												
SSC	.65**	.60**	.69**	.78**	.64**	.66**	.56**					
FAM	.28	.23	-.25	.19	.17	.10	.28	.31				
PDS	-.53**	-.64**	-.42*	-.37*	-.26	-.40*	-.28	-.42*	-.18			
IM												
PDS	-.16	-.12	-.09	-.05	.14	-.11	.03	-.07	.07			
SD												
AGE	-.07	-.50**	-.20	-.29	-.21	-.27	-.30	-.36**	-.28	.17	.39*	

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

Partial Correlations Between Scales: Offender Sample and Student Sample

Tables 8 and 9 present partial correlations among the measures, controlling for the PDS and age separately for offenders and students, respectively. Among offenders, removing impression management and age from the correlations had a minimal effect on the inter-correlations between the attitudinal scales. However, the correlations between risk factors and self reported criminal behavior were greatly altered. That is, only antisocial peers (SSC), and the “Identification with Criminal Others” subscale of the CSS-M remained significantly correlated with self reported criminal behavior (ABS).

Among students, controlling for impression management and age did not greatly change the results. Most intercorrelations remained significant, with the exception of PID and the CSS-M “Tolerance for Law Violations” subscale with criminal behavior.

Table 8.

Partial Correlations Among Measures for the Offender Sample ^a (N=55)

	ABS	PID	POS	CSS Total	CSS LCP	CSS TLV	CSS ICO	SSC	FAM
ABS									
PID	.14								
POS	.07	.36**							
CSS Total	.05	.49**	.65**						
CSS LCP	-.05	.31*	.67**	.88**					
CSS TLV	.18	.54**	.54**	.82**	.58**				
CSS ICO	.27*	.44**	.24	.51**	.21	.65**			
SSC	.60**	.25	.21	.26	.03	.35**	.24		
FAM	.27	.21	.12	.09	.08	.15	.20	.29*	

^a Controlled for age and impression management.* $p < .05$, ** $p < .001$

Table 9.

Partial Correlations Among Measures for the Student Sample (N=32)

	ABS	PID	POS	CSS Total	CSS LCP	CSS TLV	CSS ICO	SSC	FAM
ABS									
PID	.34								
POS	.49**	.41*							
CSS Total	.44**	.50**	.71**						
CSS LCP	.37*	.37**	.62**	.90**					
CSS TLV	.22	.48**	.57*	.78**	.53**				
CSS ICO	.57*	.44**	.39**	.57**	.40*	.49**			
SSC	.59**	.38**	.61**	.67**	.56**	.55**	.43*		
FAM	.21	.02	-.11	.14	.17	.03	.28	.18	

^a Correlations are partial correlations with age and impression management partialled out of variables.

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

Multiple Regression Analysis

A primary purpose of the present study was to examine whether the construct of non-conformity was distinct from that of procriminal attitudes, and if so, how it may be related to negative outcomes. To address this, a series of stepwise regression analyses were performed separately for each sample, controlling for impression management and age. The assumptions of normality, linearity, homoscedasticity, and independence of residuals were met prior to the analyses.

Among the offender sample, there were no significant results using the ABS total

score as the criterion measure and CSS, PID, and POS as the independent variables. However, since the correlations between the CSS, PID, POS and previous number of convictions were: $r(n = 52) = .13$, ns; $r(n = 52) = .05$ ns; and $r(n = 52) = .27$, $p < .05$, respectively, the regression was performed using these variables. When using previous number of convictions as the criterion variable, the POS alone accounted for 8% of the variance in criminal behavior (Adjusted $R^2 = .08$), $F(1, 50) = 5.31$, $p < .025$. These results are presented in Table 10.

Among the student sample, ABS total score was used as the criterion variable and CSS, PID, and POS as the independent variables. Results showed that the POS alone accounted for 21% of the variance in total self reported criminal behavior (Adjusted $R^2 = .21$), $F(1, 30) = 9.29$, $p < .005$. These results are presented in Table 11.

Table 10.

Offenders: Stepwise Multiple Regression of Antisocial Attitudes and Previous Number of Convictions^a (N =52)

	Adjusted R²	Beta	t	p
POS	.08	.31	2.30	.025
PID		.02	0.11	.91
CSS-M		-.01	-.06	.95

^a Partial correlations controlling for age and impression management.

Table 11.

Students: Stepwise Multiple Regression of Antisocial Attitudes and Self Reported Criminal Behavior (total)^a (N=32)

	Adjusted R²	Beta	t	p
POS	.21	.49	3.05	.005
PID		.16	0.94	.36
CSS-M		.20	0.88	.39

^a Partial correlations controlling for age and impression management.

Comparisons Between Offenders and Students (Controlling for IM and age)

To examine differences between the samples, a multivariate analysis of covariance was conducted on the following dependent variables: Criminal Sentiments Scale, Pride in Delinquency, Phoenix Opinion Survey, Antisocial Behavior Scale, Social Support for Crime, and Family Background.

Wilk's Lambda criterion indicated that the linear combination of dependent variables was significantly different between the groups (students vs. offenders), $F(9, 70) = 14.02$, $p < .001$. The results demonstrate a moderately strong relationship between level of group and the combined dependent variables, $\eta^2 = .64$.

To explore where these differences occurred, several univariate analysis of covariance tests were performed with impression management and age as covariates, and

level of group as the independent variable (see Table 12). Similar to Table 1, offenders had higher mean scores than students on all variables that distinguished the groups. Self reported criminal behavior accounted for the greatest difference between offenders and students ($F(1, 78) = 62.33, p < .001, \eta^2 = .44$). Among the attitudinal measures, the Pride in Delinquency Scale significantly distinguished between the groups ($F(1, 78) = 39.20, p < .001, \eta^2 = .33$), as did the CSS-M total score ($F(1, 78) = 6.33, p < .01, \eta^2 = .08$), CSS-M “Law, Courts, Police” ($F(1, 78) = 6.10, p < .05, \eta^2 = .07$), and CSS-M “Identification with Criminal Others” subscale ($F(1, 78) = 11.54, p < .001, \eta^2 = .13$). As well, Social Support for Crime distinguished between the groups ($F(1, 78) = 29.12, p < .001, \eta^2 = .27$), as did the Family Background Scale ($F(1, 78) = 4.00, p < .05, \eta^2 = .05$). However, the groups did not differ on the CSS-M “Tolerance for Law Violations” and the POS.

Table 12.

ANOVA between Samples Controlling for Impression Management and Age (N = 86)

	Offenders M (SD)	Students M (SD)	F	P <	η^2
CSS Total+	37.12 (05.88)	29.86 (04.90)	6.33	.01*	.08
CSS LCP+	23.20 (03.45)	8.67 (04.35)	6.10	.02*	.07
CSS TLV+	8.61 (05.36)	8.53 (01.72)	0.20	.65	.00
CSS ICO	5.04 (02.37)	3.47 (02.26)	11.54	.001**	.13
PID+	81.01 (14.50)	52.03 (20.47)	39.20	.000**	.33
POS+	103.23 (05.67)	103.65 (07.20)	0.01	.93	.00
ABS+	54.29 (14.93)	21.62 (09.71)	62.33	.000**	.44
SSC+	2.07 (03.79)	-3.40 (03.48)	29.12	.000**	.27
FAM	0.16 (09.55)	-2.85 (07.06)	4.00	.05*	.05

+Means adjusted for age and impression management.

^a ANCOVAs with age and impression management partialled out.** $p < .001$ ***Path Analysis***

A secondary purpose of the current study was to investigate possible mediating effects of antisocial attitudes on criminal conduct. Mediating effects are investigated through path analysis. This technique separates zero order correlations between variables into direct and indirect effects. Variables in the model are included based on theory and are given a predictive, but not causal, ordering.

When conducting a path analysis, the sample size can be comprised of fewer than

ten participants per estimated parameter and residuals if the effect size is meaningful (Tabachnick & Fidell, 1996). The proposed model in this study has five estimated parameters (represented by the arrows in Figure 1, Appendix A), and two residuals. Consistent with the guidelines surrounding expected sample size, the path model was not conducted with students ($n = 32$). Thus, an exploratory path model was conducted with the offender group only ($n = 55$).

Since the path model is interested in the relations between antisocial attitudes, peers, family background, and criminal behavior, intercorrelations among these variables were first examined.

Antisocial Peers and Criminal Behavior

Antisocial peers were measured by the Social Support for Crime scale. As seen in Table 13, associating with antisocial peers is positively correlated with committing both non-violent and violent criminal behavior. Both subscales, “Affective Ties to Offenders” and “Access to Criminal Resources/Models” are also highly correlated with non-violent and violent criminal behavior.

Table 13.

Correlations between Antisocial Peers and Criminal Behavior ^a (N=54)

	ABS Total	ABS Non-Violent	ABS Violent
Social Support Total	.60**	.56**	.49**
Social Support Offender Ties	.54**	.50**	.44**
Social Support Crime Resources	.51**	.47**	.42**

^a Partial correlations controlling for age and impression management.

** p < .001

Family Background and Criminal Behavior

Family background was separated into parental supervision, childhood maltreatment, and parental deviance. Interestingly, as illustrated in Table 14, experiencing a negative family background is correlated with violent criminal behavior only. This correlation holds true for two of the measure's subscales ("Parental Supervision" and "Childhood Maltreatment") as well. Non-violent criminal behavior appears not to be related to experiencing any form of negative family upbringing.

Table 14.

Correlations Between Negative Family Background and Criminal Behavior^a (N=54)

	ABS Total	ABS Non-Violent	ABS Violent
Family Total	.27	.19	.39**
Supervision	.35*	.26	.47**
Maltreatment	.21	.15	.27*
Parental Deviance	.12	.08	.18

^a Partial correlations controlling for age and impression management.

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

Antisocial Attitudes and Criminal Behavior

When criminal behavior is separated into non-violent and violent forms, the PID and the CSS-M “Identification with Criminal Others” subscale are the only measures that are significantly correlated with criminal behavior. This correlation exists mostly with violent criminal behavior.

Table 15.

Correlation Between Antisocial Attitudes and Criminal Behavior^a (N=54)

	ABS Total	ABS Non-Violent	ABS Violent
CSS-M Total	.05	-.14	.18
CSS-M LCP	-.06	-.12	.12
CSS-M TLV	.18	.13	.25
CSS-M ICO	.27*	.20	.33*
PID	.14	.07	.29*
POS	.07	.03	.18

^a Partial correlations controlling for age and impression management.

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

Given the intercorrelations between the measures in Table 15, it was decided to modify the original path model so that the criminal behavior measure no longer represented total criminal behavior (that is, non-violent and violent forms together). Instead, violent criminal behavior was used as a criterion variable in the regression analyses since two of the predictors, negative family background and antisocial attitudes (PID) were significantly correlated only with violent criminal behavior. Furthermore, since the original path model did not specify which attitudinal measure would be used, it was decided to include the attitudinal measure with the strongest zero-order correlation with criminal behavior. Therefore the Pride in Delinquency Scale was used in the model as a measure of antisocial attitudes.

To investigate the path model, a series of regressions was conducted. First,

antisocial attitudes (controlling for impression management and age) was regressed on antisocial peers (controlling for impression management and age) and negative family background. The second step involved regressing violent criminal behavior (controlling for impression management) on antisocial attitudes (controlling for impression management and age), antisocial peers (controlling for impression management and age), and negative family background.

In order to determine the magnitude of the direct effect of one variable on another, standardized betas (ρ) were computed for each effect.

To examine whether antisocial attitudes mediates the relation between peers and violent criminal behavior, the indirect effect of peers and criminal behavior was calculated. This is performed by multiplying the direct effects of peers and attitudes ($\rho = .17$) and of attitudes and violent crime ($\rho = .16$). Therefore, the indirect effect of antisocial peers and violent crime is .03 (i.e., $.17 \times .16$), while the direct effect of peers and violent crime was $\rho = .33$. Similarly, the indirect effect of family background and violent crime was also $\rho = .03$ (i.e., $.16 \times .16$), in comparison to the direct effect of $\rho = .21$. These results suggest it is possible that antisocial attitudes may act as a very mild mediator between antisocial peers and violent crime, and between negative family background and violent crime. However, since the magnitude of the indirect effects are small relative to the direct effects, it is more likely that both peers and family are directly linked with violent crime. It is also possible that another mediator may better explain the relation between these variables and violent criminality.

Figure 1. Path model with antisocial attitudes (measured by the Pride in Delinquency scale) as a mediating variable between antisocial peers, negative family background, and criminal behavior (all variables controlled for impression management and age when applicable).

Discussion

This study examined the following risk factors: antisocial attitudes, antisocial associates, and a negative family background, in relation to criminal behavior. Both students and offenders were sampled and group differences were examined on the measured variables.

The primary purpose of the study was to contribute to the current research on antisocial attitudes by exploring two issues: (1) the relationship between the construct of non-conformity and other forms of antisocial attitudes, and (2) the mediating effect of antisocial attitudes.

The findings will be organized such that socially desirable responding results will first be discussed, followed by an examination of antisocial attitudes results, and the prevalence rates of criminal behavior. Then the relation between the remaining risk factors with criminal behavior for each sample and the mediating effect of antisocial attitudes will be examined. Finally, limitations of the study and directions for future research will be discussed.

Socially Desirable Responding

Response bias, otherwise known as socially desirable responding, refers to “the tendency of individuals to present themselves favourably with respect to current social norms and standards” when answering self report questionnaires (Zerbe & Paulhus, 1987, p. 250). Thus, socially desirable responding is viewed as a contaminant to the accuracy and content validity of self reports (Zerbe & Paulhus, 1987). That is, individuals scoring high on socially desirable responding scales are assumed to be “faking to look good” such

that self reports of these individuals are considered invalid because they confound information content with response style (Zerbe & Paulhus, 1987). This confound is often controlled by partialling out the effect of socially desirable responding using regression or partial correlation techniques (Ganster, Hennessey, & Luthans, 1983).

The Paulhus Deception Scales (PDS) were included in this study to assess the degree of response bias and to determine if there was a need to control for its confounding effect. The reliability of the PDS was within acceptable ranges (Chronbach's $\alpha > .60$) (Paulhus, 1999). Consistent with past research (e.g., Paulhus, 1984), PDS subscales were highly correlated with the PDS total score and the two subscales, Impression Management and Self Deception had a minimal intercorrelation (See Table 4).

The mean levels of PDS scores were similar to those reported in other samples of male violent offenders. For example, Simourd and Mamuza (1999) report a mean of 6.4 for impression management and a mean of 7.5 for self deception. A study of male violent and sexual offenders reported somewhat lower means: impression management mean was 5.3 and the mean for self deception was 2.2 (Kroner & Weekes, 1996). This difference may be due to response style differences among sexual offenders versus violent offenders. Among students, Paulhus (1999) reported similar PDS rates. For example, the impression management mean was 5.3 and the self deception mean was 2.1 (Paulhus, 1999).

Although confidentiality was ensured in this study, socially desirable responding was significantly negatively correlated with most measures in both samples. This finding is not surprising for two reasons: incarcerated offenders, in comparison to the general

population, are often more fearful of the potential repercussions of disclosing personal information in assessment studies with respect to decisions regarding their future release. Secondly, most scales included in this study measured antisocial attitudes and behaviors, which are constructs that have negative social implications associated with them. Generally, individuals are less likely to admit to socially undesirable issues such as criminal behavior (DeKeseredy & Schwartz, 1996), antisocial attitudes, and antisocial friends. The only measure that was not influenced by socially desirable responding was the Family Background scale. This may have occurred because respondents have control over the attitudes they hold, the friends they associate with, and the behaviors they engage in, whereas they generally lack control over their family experiences. Since respondents may not attribute responsibility to themselves for their family background experiences, they may have been more inclined to respond truthfully to familial questions. As well, for offenders who deny or minimize their offenses, it may be self-serving to place responsibility for their wrong-doings on a maladaptive family environment, such that they are portrayed more as a victim than a perpetrator. However, this is speculation given denial and minimization were not measured among the participants.

In the present study, students and offenders engaged in similar patterns of socially desirable responding; they both had high levels of impression management and low levels of self deception. The groups put forth a conscious attempt to present themselves favourably when completing the questionnaires, but they did not unconsciously distort their responses to coincide with an idealized self concept. That is, they did not actually believe their positively biased self reports. Respondents who engage in impression

management may do so to seek approval or to avoid disapproval. Offenders, in particular, may use impression management because they feel embarrassed about their propensity towards criminality or they feel a need to present 'macho' attitudes of self sufficiency. Additionally, they may reject any personal characteristics that might incriminate them for offenses that they deny or they may create a favourable impression because they hope for parole or early release (Kroner & Weekes, 1996).

Since impression management was moderately significantly correlated with self reported criminal behavior, antisocial attitudes, and antisocial peers, it was important to examine non-biased results for these variables. Indeed, the results revealed that as the level of impression management increased, the level of self reported criminal behavior, antisocial attitudes, and antisocial peers decreased. This suggests that participants underestimated their involvement with each in order to present themselves favourably. In order to reduce the confounding effect of response bias, statistical controls (whereby impression management was partialled out of variables) were implemented in further analyses with these variables. Analyses controlling for impression management removed the shared variance of impression management from variables and thereby reduced significant correlations between risk factors and criminal behavior, for the most part.

Procriminal Attitudes and Criminal Behavior

Measures of procriminal attitudes (Criminal Sentiments Scale-Modified, CSS-M; and Pride in Delinquency, PID) were included in this study to investigate their relations to criminal behavior. These measures both demonstrated acceptable psychometric properties with the exception of the ICO subscale of the CSS-M. This low reliability ($\alpha = .56$) is consistent with past research using the CSS ($\alpha = .53$; Andrews et al., 1985).

Robertson (1999) suggests the low internal consistency to be a result of double negatives used in the wording of some items in this subscale.

In comparison with past research on offenders, the mean level of CSS-M reported in this sample is somewhat higher (Offender Unadjusted¹ $\underline{M}$ = 37.1; Student Unadjusted $\underline{M}$ = 30.6), suggesting that the present sample have stronger criminal attitudes. For example, an aggregated mean level of the original CSS (adjusted to match the modified scoring version used in the present study) and CSS-M from previous studies is 26.0 from samples of violent offenders, violent and non-violent offenders, and a sample of pooled offenders (Simourd, 1997; Simourd & van de Ven, 1999; Andrews & Wormith, 1985, respectively).

Additionally, the mean score for the PID is higher than that found in previous research among offenders. For example, previous mean scores were, on average, 20 points lower (Simourd, 1997; Simourd & van de Ven, 1999) than the unadjusted mean of 81.8 in this study. The higher criminal attitudes among the present sample may be due to the lengthy and serious criminal histories of these offenders. For example, this sample consisted of mostly repeat offenders, comprised of a greater number of murderers than previous samples.

Similarly, compared to previous research among students, CSS-M scores were also higher in the present study (Unadjusted $\underline{M}$ = 30.6). For example, Robertson (1996) reported mean levels of 26.5 among male and female university students ($\underline{N}$ = 46) and Langevin and Forth (1999) reported a mean of 21.0 in 87 male students using the original CSS. Again, scoring using the original scale was adjusted to match the modified scoring

¹ Unadjusted means are reported for comparison with unadjusted means of prior research. Adjusted means

version used in the present study. The slight differences among the modified and original version of the CSS may contribute to some of the differences in the scores, although this explanation is not overly tenable since modifications made to the CSS were relatively minor.

For the PID, mean scores among students were similar to those found in past research on male and female students (Robertson, 1996) but lower than those found by Langevin and Forth (1998) where male students' mean score was 61.5.

In the present study, offenders reported significantly greater criminal sentiments (total score), greater identification with criminal others, and negative attitudes towards law, courts, and police. Offenders also reported greater pride in delinquency than students. Intuitively, this finding appears to be reasonable since offenders in this study are typically "hardened criminals" so to speak, who are more likely to exhibit these characteristics than university students. However, students and offenders reported similar mean levels of tolerance towards law violations. Similar views among the groups may be a factor of one's interpretation of the severity of law violation. Since the "Tolerance for Law Violations" subscale does not measure the severity of offenses, it is possible that students interpreted law violations to be relatively minor offenses compared to offenders. Interestingly, as reported above, Langevin and Forth (1999) reported mean levels of criminal sentiments and pride in delinquency among students that were similar or higher than means reported in previous research on offenders. It is possible that both offenders and students share similar procriminal views, but only the offenders repeatedly act on such attitudes through involvement in illegal acts. According to Ajzen and Fishbein

(with impression management and age partialled out) are located in Table 12.

(1980), intention is the primary antecedent to criminal behavior, which is influenced by one's attitudes, the perceived social pressures for and against engaging in the behavior, and the motivation one has to comply with these pressures. Future studies should examine intention to perform criminal behavior among offender and student samples.

Previous research has found a link between antisocial attitudes and criminal behavior in both students and offender samples (Bonta, 1990; Robertson, 1996). In this study, students' criminal sentiments correlated significantly with criminal behavior, especially negative "Attitudes Towards the Law, Courts, and Police", and "Identification with Criminal Others". Among the offenders, only "Identification with Criminal Others" was significantly correlated with criminal behavior once Impression Management was controlled for. Similar results were reported by Mills and Kroner (1997) in a sample of federally incarcerated violent offenders. They found only the ICO subscale was correlated with postdictive criminal behavior, while other subscales and the total score were not postdictively or predictively correlated with crime. They postulated that the CSS may discriminate well between criminal and non-criminal attitudes. Therefore, the CSS may have better results distinguishing between probationers (e.g., Andrews et al., 1985) because they comprise a more heterogeneous group of offenders. That is, probationers include those beginning a life of crime and others who are one-time offenders, whereas federal offenders generally have lengthy criminal records and thus may have more entrenched criminal attitudes.

After Impression Management was partialled out, the Pride in Delinquency scale was also no longer significantly correlated with self reported criminal behavior in either sample. These results suggest that other factors in addition to procriminal attitudes

account for criminal behavior in this sample of federal offenders. This finding attests to the complicated nature of criminal behavior, which is a result of a variety of environmental, social, and psychological factors (Simourd & Mamuza, 1999).

Non-conformist Attitudes

Non-conformist attitudes were included in this study to measure antisocial attitudes characterized by thinking in conflict with prevailing social norms. It was hypothesized that non-conformist attitudes, as measured by the Phoenix Opinion Survey (POS), would be correlated with commonly used measures of antisocial attitudes. This was supported since the POS was correlated with the PID and the CSS-M total score and most subscales in each sample. The highest correlation was observed between the POS and the CSS-M scale total score. This may be due to a similarity between some of the item content in the scales. As stated earlier, during the development of the POS (Simourd, 1998), some items included in the scale were modelled from items in the CSS-M that were highly linked with criminal behavior. Prior to analyses, redundancy between similar items in each scale was measured by examining their intercorrelations. Any redundant items would then be removed from one of the scales. However, correlations were within acceptable ranges (Nunnally, 1967), thus all items remained intact.

It was also hypothesized that the POS would be a reliable and valid measure of non-conformity. Reliability analyses revealed that the POS had acceptable internal consistency. Construct validity was examined by correlating POS scores with existing measures of antisocial attitudes (CSS-M and PID). Simple and partial correlations (controlling for impression management) revealed that the POS was significantly correlated with both the CSS-M and the PID in both samples. Thus, construct validity

was acceptable. To measure criterion validity, antisocial attitudes should be strongly related to criterion variables, such as criminal history. In the student sample, the POS was significantly correlated with self reported criminal behavior. In the offender sample, simple correlations revealed that the POS was significantly correlated with self reported crime, yet this relationship was no longer significant once impression management was controlled for. However, the POS was significantly related to total number of previous convictions (as coded from official records), which was not influenced by impression management.

Multiple regression analyses revealed that the POS was a better instrument to predict self reported criminal behavior than the CSS-M or the PID in the student sample. It was also better able to predict total number of previous convictions than the CSS-M or the PID among offenders. Therefore, the POS showed satisfactory criterion validity. Past research has also found support for the link between non-conformist attitudes and criminal behavior. In particular, Gleuck and Gleuck (1950) reported a link between unconventional and non-submissive feelings toward authority and criminal behavior. As well, Hoge et al. (1994) reported links between rejection of conventional values and criminal behavior.

Overall, these psychometric results suggest that the POS has promising qualities as a measure of non-conformity. However, future research should examine predictive, convergent, and discriminant validity.

Contrary to the final hypothesis concerning non-conformity, students and offenders did not significantly differ on the amount of non-conformist attitudes they held. This may be due to non-conformity being an underlying antisocial attitude that is held by

people in the general population other than convicted criminals. Perhaps students choose not to act upon these attitudes and beliefs, or they express such attitudes in less threatening avenues than offenders. For example, perhaps students do not conform to certain legal activities, such as attending school or recycling, or they commit less serious forms of illegal activity. Further research would have to be conducted to explore these issues. According to the results in this study, offenders held certain procriminal attitudes that students did not, for example, pride in delinquency, negative attitudes towards law, courts, and police, and identification with criminal others. It is therefore possible that non-conformist attitudes are a precursor to more entrenched procriminal attitudes such that offenders are more likely to have both non-conformist and procriminal attitudes. It would be interesting to examine non-conformity in various groups to further explore this issue. For example, past research (e.g., Cochrane, 1974; Toler, 1975) found that in comparison to the general population, alcoholics and drug addicts rejected traditional social values, such as responsibility, world at peace, equality, family security, and national security. Addicts and alcoholics seem to form a subgroup of the population, similar to what is proposed in Subcultural Theory (Cloward & Ohlin, 1960). A subculture exists when members of the community who hold values and beliefs that are incongruent with those of the larger society congregate to form a subgroup, such as youth gangs. It is possible that subgroups of this nature begin holding non-conformist attitudes initially and then develop more procriminal attitudes with time.

Prevalence Rates of Criminal Behavior

Individuals are likely to perform a particular behavior when they hold a positive attitude toward the behavior and when they perceive others to be supportive of them

performing the behavior (Ajzen & Fishbein, 1980). Within the field of adult corrections, this and other studies (e.g., Bonta, 1990; Robertson, 1996) have found a relation between antisocial attitudes and criminal behavior in both students and offender samples.

As expected and consistent with past research (McWhinnie, 1996), offenders engaged in higher amounts and varieties of criminal behavior than did students. When non-violent forms were examined, students and offenders both engaged in at least some form of non-violent criminal behavior. These frequencies were calculated based on committing at least one non-violent act. Analysis of item frequencies revealed that offenders reported engaging in a greater amount and variety of non-violent behaviors. That is, most students committed relatively minor non-violent criminal acts, such as traffic violations and thefts. A group comparison of violent criminal behavior revealed that the majority of offenders (98%) engaged in at least some form of violent criminal activity, compared to a significantly lower proportion of students (62.5%). Again, item frequencies revealed that offenders reported engaging in a greater number and variety of violent behaviors, and committed more severe violent behaviors, such as murder or manslaughter. Items 25-27 concerning carrying a weapon, and assaulting/injuring others contributed to the majority of violent criminal acts committed by students.

Information was also available on offender criminal history from official records. Not surprisingly, offenders reported committing a greater amount of criminal behavior than they were officially convicted for, supporting the commonly held view that official crime statistics tend to underestimate the frequency of criminal behavior.

There were differences, however, in the items included in the self reported crime scale versus official records. For example, in comparison with official records, the self

report scale did not include all criminal behaviors for which a person can be convicted. It is thus possible that the prevalence of self reported criminal behavior may have been higher had the scale included a greater variety of criminal behaviors.

Correlations between impression management and self reported criminal behavior suggest that impression management greatly influenced participants' responses to their criminal history. That is, as offenders engaged in higher levels of impression management, they reported less criminal behavior. It is possible that self reports may have underestimated the actual frequency of criminal behavior for both samples.

Antisocial Peers

Consistent with results found in samples of young and adult offenders (Elliott et al., 1985; Goggin, et al., 1998), this study reiterates the importance of examining offenders' social supports for crime. That is, offenders reported greater association with antisocial peers, including greater affective ties to offenders, and greater access to criminal resources and opportunities than students.

For both samples, associating with antisocial peers (total score), as well as the subscales "Affective Ties to Offenders" and "Access to Criminal Resources/Models" were highly correlated with non-violent, violent, and total criminal behavior. The exception to this was that the "Affective Ties to Offenders" subscale was not correlated with non-violent criminality among students.

Since the present research supports the influence of antisocial peers on criminal behavior within federal violent offenders and students, intervention strategies should be aimed at reducing the number of procriminal associates, the amount of time spent with them, and the influence such peers may have. Targetting antisocial peers during

treatment is currently conducted with young offenders using multisystemic treatment (MST) practices. MST believes that in order to reduce recidivism, all facets of an individual's life should be included within the intervention. Thus, intrapersonal (e.g., cognitive) and systemic (school, family, and peers) factors should be addressed (Borduin, Mann, Cone, Henggeler, Fucci, Blaske, & Williams, 1995).

Negative Family Background

Previous research on negative family upbringing has found inconsistent results regarding its relation with criminal behavior. That is, not all people who have experienced a negative family background engage in future criminal activity and not all offenders experienced maladaptive family environments.

In the present study, offenders reported significantly higher amounts of negative family experiences, as measured by the Family Background total scale. However, the Family Background global rating was not significantly correlated with criminal behavior or antisocial attitudes in either sample. However, the "Parental Supervision" subscale was significantly correlated with self reported criminal behavior in both samples. When criminal behavior was separated into violent and non-violent forms, family total score, supervision, and maltreatment were significantly correlated with violent criminality in the offender sample. This is consistent with the results of a study conducted by Dutton (1992) in which male adult offenders who were abused as children were at a greater risk of committing violent offenses than those who weren't abused.

For the student sample, only supervision was significantly correlated with both non-violent and violent criminal behavior. Overall, these findings suggest that family background is related more with violent criminality than non-violent criminal behavior.

It is important to consider that the lack of significant findings between family and total criminal behavior may be due to limitations of the family measurement. The scale was developed in order to gain a general understanding of one's family environment, thus questions were asked broadly. For example, questions concerning abuse and neglect did not address the nature and severity of maltreatment, age of the child when the abuse/neglect occurred, or characteristics of the abuser. Similarly, questions about substance abuse among family members did not measure severity or length of substance problems. Also, some participants may have lived with numerous families or been exposed to one caring, prosocial parent and one abusive or neglectful parent. For children in such situations, the outcome depends largely on the relationship the child developed with each parent and the joint effect these parents had. This scale was limited in that some questions did not allow participants to differentiate between each parent's behaviors.

Modelling theory proposes that people imitate the behaviors and adopt the attitudes that are modelled by significant others (Bandura, Barbaranelli, Caprara, & Partorelli, 1996). However, this theory does not take into account the relationship one has with the role model. Some children who have been exposed to negative models purposely behave in direct opposition to the negative modelling they have witnessed so as not to perpetuate the dysfunction (Herrenkohl, Herrenkohl, & Egolf, 1994). As well, since familial experiences are subjective, some people who have experienced a neglectful childhood may not realize the extent of the neglect relative to the experiences of others.

It would have been interesting to measure coping mechanisms, academic success, or the presence of a prosocial role model that could have counteracted the negativity they

experienced in the family. Future research should include more sensitive measures to assess family dynamics.

Mediating Effects of Attitudes

The final hypotheses postulated in this study involved assessing the probability that antisocial attitudes act as a mediating variable between antisocial peers and criminal behavior, and between a negative family background and criminal behavior. It was thought that associating with antisocial peers who potentially hold antisocial attitudes, and/or experiencing a negative family background might contribute to the development of antisocial attitudes. Therefore, developing such attitudes may be the mediating variable that determines whether one will commit crime if he or she associates with antisocial peers or experiences a negative family upbringing.

As previously discussed, the small sample size obtained with students prevented an examination of the proposed path model (Appendix A). For offenders, partial correlations between antisocial attitudes and violent criminal behavior were significant, but not between antisocial attitudes and criminal behavior total score. Given these results, a post-hoc path model was performed using violent criminal behavior as the criterion variable. Although this analysis could have inflated the chances of finding meaningful results, it was completed on an exploratory basis since there is a paucity of research examining the proposed relations among these variables.

The exploratory post-hoc path analysis revealed that the model was not supported by the data. It may be possible that other mediating variables could be used in the model, such as hostility, anger, or antisocial personality. As well, perhaps antisocial attitudes are developed prior to associating with antisocial peers and experiencing a negative family

upbringing. That is, people who think a certain way tend to associate with others who hold similar views, and perhaps having negative attitudes about authority and abiding by society's rules can contribute to experiencing some negative family experiences during childhood.

Although previous researchers (e.g., Tabachnick & Fidell, 1996) have stated that less than ten participants per parameter is acceptable for conducting a path analysis, it is possible that the sample size of 55 offenders may have been inadequate to find meaningful effects. It is also possible that the Family Background Scale, in particular, may not have been sensitive enough to capture the differential family dimensions examined.

Limitations of the Study

There are a number of limitations of this study design that should be considered when interpreting the results. First, the sample size was smaller than expected ($n = 55$ offenders, $n = 32$ students). In order to avoid over-analysis of the data, type and quantity of analyses performed was limited. For example, an investigation of the path model with respect to students was not possible due to the small sample size.

A second limitation of this study concerns its retrospective nature. That is, questionnaires measuring antisocial behavior and family background required respondents to recall events that may have occurred years ago. This reliance on memory may have resulted in inaccurate responses.

At the time of data collection, offenders had been incarcerated for differing lengths of time which may have impacted the level of antisocial attitudes they exhibited. It is possible that offenders' attitudes regarding the justice system worsen due to the

effects of 'prisonization'. Clemmer (1940) describes prisonization as taking on the folkways, mores, customs, and general culture of the prison environment. It is also possible that offenders who have been participating in treatment programs may have experienced a reduction in their antisocial attitudes as a result. Unfortunately, treatment program participation was not measured. To reduce these effects, it may be more reliable to assess antisocial attitudes immediately following incarceration.

During data collection, 27 percent of offenders refused to participate in the study due to lack of interest. Given the nature of this study, in that it assessed antisocial attitudes, it is possible that those who refused to participate exhibited greater levels of antisocial attitudes than those who volunteered their time to participate. This also holds true for students who did not approach the researcher to participate in the study.

The validity of the results is also threatened due to the use of self report scales as the primary method of data collection. Participants may not have fully understood the questions they were answering and did not ask for clarification. Self report measures were also subjected to response bias since participants answered question(s) in ways that presented themselves favourably, or that they felt pleased the researcher. In order to reduce this confounding effect, impression management was controlled when it was found to correlate with scales. However, in a practical setting there is no mechanism by which one can control for socially desirable responding. In practice, high scores on the PDS can simply caution the assessor that the validity of self reports completed by this individual is weakened. Thus, controlling for socially desirable responding in research may decrease the generalizability of results to applied settings. As well, in the PDS, some items in the impression management subscale seem to measure accordance with

prosocial behaviors (this is not the case for the self deception subscale). It is possible that the high negative correlation observed between impression management and antisocial behaviors and attitudes may also be related to a similarity among the content of the constructs.

Surprisingly, most published studies with offenders have neglected to measure socially desirable responding (Kroner & Weekes, 1996), while some unpublished studies have measured and controlled for its confounding effects (e.g., Mailloux, 1999; McWhinnie, 1996). It is important to recognize both the benefits and weaknesses of controlling for socially desirable responding and future studies should investigate its utility in corrections research. Although this debate was beyond the scope of the current study, interested readers can refer to Appendixes O-R to examine multiple regression and path analysis results without controls for impression management.

Finally, the offender sample used in this study consisted of federally incarcerated violent offenders, which limits the generalizability of this study. Although violent offenders are thought to represent a heterogeneous group of offenders, they have unique risk and need factors (Serin, 1995). Since this sample is not representative of all offenders, the results of this study cannot be applied to all types of offenders (e.g., non-violent, sexual, women, aboriginal). Future research should be conducted with other offender types to determine if the present results are comparable.

Directions for Future Research

The current study introduced the POS as an additional measure of the antisocial attitudinal construct. However, this study does not provide definitive conclusions regarding measures of antisocial attitudes and their relation with criminal behavior, as

other measures of antisocial attitudes are available. For example, the Neutralization scale (Shields & Whitehall, 1994) and the newly developed Measures of Criminal Attitudes and Associates (MCAA; Mills & Kroner, 1999) are other measures that can be included in future research studies. It may also be beneficial to employ interview based measures to assess attitudes and peers. In fact, Simourd (1997) found that an interview versions of the CSS-M and the PID were less affected by response bias than self report measures.

Although the path model proposed in this study was not supported, future research should examine other potential mediating variables, such as anger, hostility, or antisocial personality. It would also be interesting to variate the order effects of the model, to examine how attitudes might influence peer and family dynamics. Research on the effects of prisonization (Bukstel & Kilmann, 1980) reveal that attitudes and incarceration have a bidirectional influence on each other. That is, incarceration itself has an influence on the development of antisocial attitudes. A longitudinal repeated measures design would allow the researcher to measure antisocial attitudes in different time periods: prior to incarceration and while incarcerated to examine the effects of prisonization. Successful completion of treatment programs targetting antisocial attitudes while incarcerated should also be measured and controlled for.

A meta-analysis conducted by Simourd and Andrews (1994) reported no differences between male and female young offenders on the influence of antisocial attitudes and peers in the prediction of criminal behavior. However, few studies have examined antisocial attitudes among females. In fact, there are no published studies examining antisocial attitudes among female offenders using the attitude scales used in this study. Research should be conducted to validate such scales for use with female

offenders and to further investigate the effects of attitudes on criminal behavior in this group. It would also be beneficial to generalize these findings to other samples, such as young offenders, aboriginal offenders, and sexual offenders.

Recidivism measures should also be included in future research to examine the predictive validity of the attitudinal scales included in this study. Traditionally, criminal attitude scales have had mixed predictive results (Simourd, 1997). It would be interesting to explore if the POS has greater predictive ability of recidivism than procriminal measures.

Implications and General Conclusions

This study added to the existing research investigating the antisocial attitude construct. By introducing and examining a relatively new concept, non-conformity, this study also contributes to a greater understanding of the different components of antisocial attitudes. It also replicated the findings in previous studies (e.g., Bonta 1990; Simourd & van de Ven, 1999) by reiterating the importance of attitudes in relation to criminal behavior. Indeed, partial support was provided for the leading social-psychological theory of the attitude-behavior relationship (Ajzen & Fishbein, 1980). In essence, this theory proposes that attitude toward a behavior and subjective norm (social pressures for and against a behavior) influence intention to perform that behavior. Intending to act out a particular behavior, then, is the immediate precursor to that behavior. Although this study did not measure intention, support for the attitudinal and subjective norm components were provided from the relations between antisocial attitudes, peers, and criminal behavior. Future research should include a measure of intention to examine whether relations between the predictive variables and criminal behavior will improve.

According to the principles of effective correctional intervention, treatment targets should be predictive of future criminal behavior (i.e., criminogenic areas where the offender has specific deficits or needs) and be dynamic in nature (Andrews, Bonta, & Hoge, 1990). The relation of antisocial attitudes to criminal behavior therefore has implications as a viable treatment target. Given that incarceration may foster or exacerbate antisocial attitudes through the process of 'prisonization' (Clemmer, 1940), it may be more beneficial to target such attitudes in community based programs. Research has shown that treatment has more success when delivered in the community (Gendreau, 1996; Gendreau & Goggin, 1997) since information is more easily applied when delivered in the offender's natural environment.

In order to identify attitudes as treatment targets, it is essential for programs to use valid and reliable assessment instruments to identify specific need areas. This study provided further psychometric validation of both the CSS-M and PID scales. Although these findings are preliminary, this study provides support for the POS as a measurement tool with offenders. It is relatively easy to administer and shows acceptable psychometric properties. Clinically, inclusion of the procriminal and non-conformist attitude scales might aid in the identification of more specific types of antisocial attitudes endorsed by offenders that can guide treatment programs. In addition, it is possible that they can be delivered to offenders pre and post treatment to measure treatment effects over time.

Effective intervention guidelines also identify the importance of an offender's risk level for committing future criminal conduct. Treatment studies have found that higher risk offenders should receive more intensive intervention (Andrews et al., 1985; Gendreau, 1996). Again, empirically validated assessments are needed to ensure

consistent, objective decisions regarding an offender's risk level. Currently, actuarial risk/need measures are used to classify offenders according to their risk and need areas (e.g., Level of Supervisory Inventory-Revised, LSI-R; Andrews & Bonta, 1995). The POS and other attitudinal measures included in this study may provide information that can contribute to making accurate decisions regarding risk. Recent research supports the superior use of specific attitudinal measures, such as the CSS-M and the PID in predicting criminal behavior among young offenders above and beyond broad based risk/need measures (Robertson, 1999). Future studies should examine predictive utility of these measures and the POS, in samples of adult offenders.

Another important variable contributing to treatment success is responsivity. That is, treatment services should be matched with the needs, circumstances, learning styles, and abilities of the offender (Andrews et al., 1990). Assessing responsivity factors can aid in guiding treatment type. For example, according to Hoge and Andrews (1996), knowledge that an offender holds essentially prosocial, rather than antisocial, attitudes is an important consideration in deciding the type of counselling to offer. Another responsivity factor is motivation for treatment. Many offenders who are mandated to attend treatment programs are not motivated to change their behavior. This is unwillingness to change is exacerbated when these individuals also exhibit non-conformist attitudes. It is possible that decreasing one's non-conformist attitudes may increase one's motivation to participate in treatment.

This study also provided evidence for the importance of identifying antisocial supports. As Ajzen and Fishbein (1980) proposed in their Theory of Reasoned Action, individuals behave in a certain manner based on both their attitudes and subjective norm

(the perceived social pressures to perform or not perform the behavior and the motivation to comply with these pressures). Treatment should assess and identify the social support one perceives in committing antisocial behaviors and exhibiting antisocial attitudes.

Modifications to this social network may be necessary to initiate attitude change.

Clearly, in order to further understand, manage, and treat offenders, validated assessment tools must be made available to researchers and clinicians. Given the introductory, exploratory nature of this study, future research is needed to replicate these results and to expand on the antisocial attitude-criminal behavior relationship.

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Appendix A
Proposed Model

Appendix B

INFORMED CONSENT (Offender version)

The purpose of an informed consent is to make sure that you understand the purpose of the study and how you will be involved in the project. This informed consent provides you with enough information so that you have the chance to decide if you want to participate in the study. This study is being carried out by Tracey Abbott as part of a requirement for her Masters of Arts thesis at Carleton University in Ottawa, Ontario, Canada. Please ask the researcher to clarify any questions you may have.

Purpose: The purpose of this study is to examine the relationship between attitudes, type of friends, family background, and criminal behaviors. If you participate, you will complete questionnaires asking your opinions about crime, the kinds of people you hang out with, and the type of family background you have experienced. Also, you will be asked to answer questions about past criminal behaviors you may have completed. This study will take about an hour to complete.

Anonymity/Confidentiality: Under no circumstances will any of the information you provide through this study be released to prison personnel. The information collected will be kept confidential and will be used for research purposes only. All information you provide will not identify your name. Instead, a coded number will be used at all times. You will be asked to sign this informed consent form but it will be kept separate from your questionnaire answers. Also, individual offenders will not be identified in any reports written about this study.

Distress: This study asks you questions of a personal nature, such as your family background, including any instances of abuse you may have experienced, and questions relating to your past criminal involvement. If at any time you feel uncomfortable because of certain questions, you do not have to answer them. If you wish to speak with someone about sensitive issues brought up in this study, please take the time to read the list of community services that you will be given when you complete this study.

Right To Withdraw: Your participation in this study is completely voluntary. There is no reward for participating, and no penalty will be given for not participating. You may drop out of the study at any time without consequences on the way you are treated by Correctional Services Canada, your correctional institution, or your case workers.

Signatures: I have read the above description about this research and agree to take part in this study of attitudes, friends, family, and behaviors.

Name (Print): _____

Participant Signature: _____

Date: _____

Researcher Signature: _____

Consent to Access Institutional Files

I give permission for Tracey Abbott to access my criminal record in my institutional file for research purposes only.

Name: _____

Signature: _____

FPS #: _____

Date: _____

Researcher's Signature: _____

Appendix C **INFORMED CONSENT (Student version)**

The purpose of an informed consent is to make sure that you understand the purpose of the study and how you will be involved in the project. This informed consent provides you with enough information so that you have the chance to decide if you want to participate in the study. This study is being conducted by Tracey Abbott as part of a requirement for her Masters of Arts thesis at Carleton University in Ottawa, Ontario, Canada. Please ask the researcher to clarify any questions you may have.

Purpose: The purpose of this study is to examine the relationship between attitudes, type of friends, family background, and criminal behaviors. If you participate, you will complete questionnaires asking your opinions about crime, the kinds of people you hang out with, and the type of family background you have experienced. Also, you will be asked to answer questions about past criminal behaviors you may have completed. This study will take about an hour to complete.

Distress: This study asks you questions of a personal nature, such as your family background, including any instances of abuse you may have experienced, and questions relating to your past criminal involvement. If at any time you feel uncomfortable because of certain questions, you do not have to answer them. If you wish to speak with someone about sensitive issues brought up in this study, please take the time to read the list of community services that you will be given when you complete this study.

Right To Withdraw: Your participation in this study is completely voluntary. After participation, you will receive one experimental credit through the Psychology Dept. You may drop out of the study at any time.

Anonymity/Confidentiality: Under no circumstances will any of the information you provide through this study be released to university personnel, including your professor. The information collected will be kept confidential and will be used for research purposes only. All information you provide will not identify your name. Instead, a coded number will be used at all times. You will be asked to sign this informed consent form but it will be kept separate from your questionnaire answers.

Signatures: I have read the above description about this research and agree to take part in this study of attitudes, friends, family, and behaviors.

Name (Print): _____
 Participant Signature: _____
 Researcher Signature: _____ Date: _____

Appendix D

DEBRIEFING (Offender version)

Thank you for your participation in this study. Your time, effort, and honesty in this study are greatly appreciated. We do our best to make sure that no research participants are harmed in any way by taking part in our study. The information on this page will address this issue of harm and help to explain the purpose of this study.

This study was completed in order to help us understand the relationship between the type of people you hang out with, your attitudes, your family background, and your behaviors. During this study, you completed several questionnaires that examined your opinions about criminal behavior, the type of people you usually hang out with, the type of family background you experienced, and also a questionnaire that asked the types of deviant or criminal behaviors that you have committed. We were interested in seeing how the friends you hang out with and the type of family background you experienced may have influenced the attitudes you have about society or crime.

If you would like further information about this study, please contact:

Tracey Abbott
Dept. of Psychology
Carleton University
613-520-2644

or

Dave Simourd
Psychologist
Collins Bay Institution
613-536-6214

If you should have any ethical concerns about the way in which this research was done that have not *first* been properly addressed by the researcher, please contact one of the following people:

Mary Gick
Chair, Ethics Committee
Dept. of Psychology
Carleton University
613-520-2600, ext. 2664

or

Kim Matheson
Chair, Dept. of Psychology
Carleton University
613-520-2600, ext. 2648.

If you find this study has raised issues of a personal nature that you might like to discuss with someone, please contact one of the institutional resources below to help you deal with various issues:

Collins Bay Institution, Department of Psychology:
Pat Nugent Sherry Heaton Dr. Dave Simourd

Appendix E

DEBRIEFING (Student version)

Thank you for your participation in this study. Your time, effort, and honesty in this study are greatly appreciated. We do our best to make sure that no research participants are harmed in any way throughout their participation in our study. The information on this page will address this issue of harm and help to explain the purpose of this study.

This study was completed in order to help us understand the relationship between the type of people you hang out with, your attitudes, your family background, and your behaviors. During this study, you completed several questionnaires that examined your opinions about criminal behavior, the type of people you usually hang out with, the type of family background you experienced, and also a questionnaire that asked the types of deviant or criminal behaviors that you have committed. We were interested in seeing how the friends you hang out with and the type of family background you experienced may have influenced the attitudes you have about society or crime.

If you would like further information about this study, please contact:

Tracey Abbott
Dept. of Psychology
Carleton University
613-520-2644

or

Dave Simourd
Psychologist
Collins Bay Institution
613-536-6214

If you should have any ethical concerns about the way in which this research was done that have not *first* been properly addressed by the researcher, please contact one of the following people:

Mary Gick
Chair, Ethics Committee
Dept. of Psychology
Carleton University
613-520-2600, ext. 2664

or

Kim Matheson
Chair, Dept. of Psychology
Carleton University
613-520-2600, ext. 2648.

If you find this study has raised issues of a personal nature, such as family problems or substance use, that you might like to discuss with someone, there are services available on campus and in the Ottawa area to help you deal with various issues.

Carleton University

Mediation Centre
 2213 Dunton Tower 520-2600, ext. 5765

Women's Centre
 308 Unicentre 564-3779

Health and Counselling Services
 2600 CTTC Building 520-6674

Carleton University Chaplaincy
 Roman Catholic- ext. 2896
 Protestant- ext. 4449

Ottawa Area

Ottawa Distress Centre 238-3311

Women's Centre 729-1119

Centre for Abused Women 745-4818

Alcoholics Anonymous 236-4674

Narcotics Anonymous 236-4674

Appendix F

CRIMINAL SENTIMENTS SCALE-MODIFIED (CSS-M)

Read each statement carefully and decide how you feel about it.

Circle A if you agree, D if you disagree, and U if you can't make up your mind.

LAW

1. Pretty well all laws deserve our respect	A U D
2. It's our duty to obey all laws	A U D
3. Laws are usually bad.	A U D
4. The law is rotten to the core.	A U D
5. You cannot respect the law because
it's there only to help a small and
selfish group of people	A U D
6. All laws should be obeyed just
because they are laws.	A U D
7. The law does not help the average
person.	A U D
8. The law is good.	A U D
9. Law and justice are the same thing.	A U D
10. The law makes slaves out of most
people for a few people on the top.	A U D

Law Total: ____

COURTS

11. Almost any jury can be fixed.	A U D
12. You cannot get justice in court.	A U D

13. Lawyers are honest.	A U D
14. The crown often produces fake witnesses.	A U D
15. Judges are honest and kind.	A U D
16. Court decisions are pretty well always fair.	A U D
17. Pretty well anything can be fixed in court if you have enough money.	A U D
18. A judge is a good person.	A U D
Courts Total: ____	

POLICE

19. The police are honest.	A U D
20. A cop is a friend to people in need.	A U D
21. Life would be better with fewer cops.	A U D
22. The police should be paid more for their work.	A U D
23. The police are as crooked as the people they arrest.	A U D
24. Society would be better off if there were more police.	A U D
25. The police almost never help people.	A U D
Police Total: ____	

TLV

26. Sometimes a person like me has to break the law to get ahead in life	A U D

27. Most successful people broke the law to get ahead in life.	A U D
28. You should always obey the law, even if it keeps you from getting ahead in life	A U D
29. It's OK to break the law as long as you don't get caught.	A U D
30. Most people would commit crimes if they know they wouldn't get caught.	A U D
31. There is never a good reason to break the law.	A U D
32. A hungry man has a right to steal.	A U D
33. It's Ok to get around the law as long as you don't actually break it.	A U D
34. You should only obey those laws that are reasonable.	A U D
35. You're crazy to work for a living if there's an easier way, even if it means breaking the law.	A U D

TLV Total: _____

ICO

36. People who have broken the law have the same sorts of ideas about life as me.	A U D
37. I prefer to be with people who obey the law rather than people who break the law.	A U D
38. I'm more like a professional criminal than the people who break the law now and then.	A U D
39. People who have been in trouble with	A U D

the law are more like me than people
who don't have trouble with the law.

40. I have very little in common with A U D
people who never break the law.

41. No one who breaks the law can be A U D
my friend.

ISO Total: ____

CSS Total: ____

Appendix G

PRIDE IN DELINQUENCY SCALE

Listed below are some behaviors. You may or may not have done some of them in the past. It doesn't really matter if you have done them or not. What you are to do is to imagine for a moment that you have just done each behavior. Then think about how proud or ashamed you would feel if you actually did them. You are to rate your pride or shame according to the scale below.

Rate each statement on this scale that goes from positive 10 to negative 10. You give a positive number if you would be proud to do it and a negative number if you'd be ashamed to do it. The bigger the number, the more proud or ashamed you'd be.

So if you give it a +8, +9, or +10, you'd be extremely proud to do it.

If you gave it a -4, -5, or -6, you'd be moderately ashamed to do it.

If you gave a +1 or +2, you'd be just a little bit proud.

If you'd be neither proud nor ashamed you'd be right in the middle and you'd give it a 0.

Let me give you a few examples before we begin. Most people would give a +10 to saving the life of a drowning child, because they'd be extremely proud to do a thing like that. Most people would give a -10 to murdering a young child, because they'd be extremely ashamed to do a thing like that. Most people would give a 0 to waking up in the morning because they wouldn't be proud or ashamed, they would just get up and get going. Now remember, you are to rate each behavior on how *you* would feel about doing each of these things, not how most people would feel.

1. _____ Beating up a child molester.
2. _____ Committing a sexual assault.
3. _____ Breaking into a family's home when no-one is in and stealing jewelery and a VCR.
4. _____ Seeing a store being robbed and not calling the police.
5. _____ Driving home after a party when you've had too much to drink.

6. _____ Striking someone who insults you.
7. _____ Selling cocaine.
8. _____ Carrying a concealed weapon, like a pistol, without a license.
9. _____ Pointing a shotgun at a store clerk your own age and telling him/her to hand over all the money in the till.
10. _____ Getting away from the police after a high speed chase.

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UMI

Appendix I

ANTISOCIAL BEHAVIOR SCALE

	Never 0	Once or Twice 1	3 or 4 times 2	More than 4 times 3
1. How often have you sped over 20 km/hr?	0	1	2	3
2. How often have you committed minor traffic violations, i.e., running traffic signs, red lights, use old plates, etc?	0	1	2	3
2. How often have you damaged a parked vehicle without notifying the owner or the police?	0	1	2	3
3. How often have you injured a pedestrian while driving and left without checking to see if he/she was alright?	0	1	2	3
4. How often have you driven while impaired?	0	1	2	3
5. How often have you driven under the influence of drugs?	0	1	2	3
6. How often have you engaged in vandalism, i.e., breaking windows, defacing/damaging property?	0	1	2	3
7. How often have you made harassing phone calls?	0	1	2	3
8. How often have you verbally insulted someone, i.e., police officers, teachers, security guards, etc?	0	1	2	3
9. How often have you intentionally set fire to something valuable?	0	1	2	3
10. How often have you stolen items from a store worth less than \$50	0	1	2	3
11. How often have you stolen items from a store worth more than \$50?	0	1	2	3

	Never 0	Once or Twice 1	3 or 4 times 2	More than 4 times 3
12. How often have you gone on property that you know you were not supposed to?	0	1	2	3
13. How often have you broken into someone's house?	0	1	2	3
15. How often have you stolen someone's purse or wallet?	0	1	2	3
16. How often have you mugged someone without using a weapon?	0	1	2	3
17. How often have you mugged someone with a weapon?	0	1	2	3
18. How often have you stolen a bicycle or bicycle parts?	0	1	2	3
19. How often have you stolen a car?	0	1	2	3
20. How often have you stolen a car stereo, speakers, or any other property from a vehicle?	0	1	2	3
21. How often have you had stolen property in your possession?	0	1	2	3
22. How often have you stolen money from a store, gas station, bank, or any other 'business' without using a weapon?	0	1	2	3
23. How often have you stolen money from a store, gas station, bank, or any other 'business' and used a weapon?	0	1	2	3
24. How often have you threatened someone with a gun, knife, or any other weapon?	0	1	2	3
25. How often have you carried a weapon, i.e., gun, Knife, (excluding pocket knives) for which you were not licensed to carry?	0	1	2	3

	Never 0	Once or Twice 1	3 or 4 times 2	More than 4 times 3
26. How often have you injured someone using a weapon, i.e., a knife, gun, rock, baseball bat?	0	1	2	3
27. How often have you injured someone badly? i.e., left bruises, caused visible bleeding, or broken bones?	0	1	2	3
28. How often have you killed anyone intentionally excluding self-defense)?	0	1	2	3
29. How often have you killed anyone accidentally i.e., car accident)?	0	1	2	3
30. How often have you tried marijuana and/or hash?	0	1	2	3
31. How often have you tried LSD/psychedelics, cocaine, heroin, or crack?	0	1	2	3
32. How often have you used uppers or downers excluding prescribed medication)?	0	1	2	3
33. How often have you sold drugs?	0	1	2	3
34. How often have you drank alcohol in public places illegally?	0	1	2	3
35. How often have you bought alcohol for minors?	0	1	2	3
36. How often have you been paid for sexual acts?	0	1	2	3
37. How often have you lived off money made from the selling of sexual acts?	0	1	2	3
38. How often have you resisted arrest?	0	1	2	3
39. How often have you violated the conditions of your release from prison?	0	1	2	3

Never 0	Once or Twice 1	3 or 4 times 2	More than 4 times 3	
40. How often have you stolen a credit card?		0	1	2 3
41. How often have you forged a cheque?		0	1	2 3
42. How often have you 'conned' someone out of money, drugs, or possession(s)?		0	1	2 3

Appendix J

SOCIAL SUPPORT FOR CRIME

None	Few	Several	Most
------	-----	---------	------

1. Think of your best friends:

a) How many of them are involved in activities such as stealing (cars, money, property, or fraud)?	None	Few	Several	Most
b) How many of them are the type of person who enjoys fighting and/or destroying things and/or gets into fights whether they enjoy it or not?	None	Few	Several	Most

2. Think of the other people you know other than your best friends:

a) How many of them are involved In activities such as stealing (cars, money, property, or fraud)?	None	Few	Several	Most
b) How many of them are the type of person who enjoys fighting and/or destroying things and/or gets into fights whether they enjoy it or not?	None	Few	Several	Most

	Definitely Yes	Yes	Not Sure	No
1. If I want to purchase some stolen goods at a reduced price, I'd know where to go or who to see.	Definitely Yes	Yes	Not Sure	No
2. If I want to get some money for some stolen goods, I'd know where to go, or who to see.	Definitely Yes	Yes	Not Sure	No
3. If I was planning to commit, a crime, I know some people who could and would help me plan it.	Definitely Yes	Yes	Not Sure	No
4. While I might not call them friends, I know some people who are involved in criminal activity.	Definitely Yes	Yes	Not Sure	No
5. I know of at least one person in my neighborhood or area of town who appears to be doing "just fine" as a result of his or her criminal activity.	Definitely Yes	Yes	Not Sure	No
6. In my neighborhood or area of town, there are people who are involved in criminal activity and they are liked and respected by others in the neighborhood.	Definitely Yes	Yes	Not Sure	No
7. In my neighborhood or area of town, there are people who are involved in criminal activity and they are disliked and not respected by others in the neighborhood.	Definitely Yes	Yes	Not Sure	No

Appendix K

FAMILY BACKGROUND SCALE

Please answer the following questions about your family experiences during childhood. For each question, circle the number that best describes your experiences.

	Never	Rarely	Usually	Most of the Time
	0	1	2	3
1) As a child, how often did your parents know your whereabouts while you were outside of the home?	0	1	2	3
2) How often did you witness your parents fight physically?	0	1	2	3
3) As a child, how often were you physically punished by your parents?	0	1	2	3
4) By your definition, were you physically abused by a family member as a child?	0	1	2	3
5) By your definition, were you physically abused by a someone other than a family member as a child?	0	1	2	3
6) By your definition, were you sexually abused by a family member as a child?	0	1	2	3
7) By your definition, were you sexually abused by a someone other than a family member as a child?	0	1	2	3

	Never	Rarely	Usually	Most of the Time
	0	1	2	3
8) As a child, were you left alone to take care of yourself without parental or adult supervision?	0	1	2	3
9) How often were you deprived of necessities as a child (food, shelter, or clothing, etc..)?	0	1	2	3
10) How often were you removed from your home by the Children's Aid Society or a similar organization and/or changed foster parents?	0	1	2	3
11) Did a parent ever suggest to you that doing crime was "okay" (e.g., stealing, drug use)?	0	1	2	3
12) Did your parents encourage you to stay in school, find a responsible job, etc.?	0	1	2	3
13) Were either of your parents involved in any criminal activity (other than drug use and minor traffic violations) while you were growing up?	0	1	2	3
14) Were any of your brothers or sisters involved in any criminal activity (other than drug use) while you were growing up?	0	1	2	3
15) Did your parents hang out with friends who were involved in criminal activity?	0	1	2	3

	Negative -1	Neutral 0	Positive +1	Don't Know DK
--	------------------------------	----------------------------	------------------------------	--------------------------------

1) When you were growing up, what was your mother's general attitude toward the police, lawyers, and the courts?	-1	0	+1	DK
2) When you were growing up, what was your father's general attitude toward the police, lawyers, and the courts?	-1	0	+1	DK
3) When you were growing up, what was your mother's attitude towards violations of the law?	-1	0	+1	DK
4) When you were growing up, what was your father's attitude towards violations of the law?	-1	0	+1	DK

	No 0	Yes 1	Don't Know 2
--	-----------------------	------------------------	-------------------------------

1) Did your mother have a drinking problem?	0	1	2
2) Did your father have a drinking problem?	0	1	2
3) Did your mother have a drug problem?	0	1	2
4) Did your father have a drug problem?	0	1	2

Appendix L

PDS: BALANCED INVENTORY OF DESIRED RESPONDING

Not True			Somewhat True			Very	
1	2	3	4	5	6	7	
1. My first impressions of people usually turn out to be right.				1	2	3	4
2. It would be hard for me to break any of my bad habits.				1	2	3	4
3. I don't care to know what other people think of me.				1	2	3	4
4. I have not always been honest with myself.				1	2	3	4
5. I always like to know why I like things.				1	2	3	4
6. When my emotions are aroused, it biases my thinking.				1	2	3	4
7. Once I've made up my mind, other people can seldom change my opinion.				1	2	3	4
8. I am not a safe driver when I exceed the speed limit.				1	2	3	4
9. I am fully in control of my own fate.				1	2	3	4
10. It's hard for me to shut off a disturbing thought.				1	2	3	4
11. I never regret my decisions.				1	2	3	4
12. I sometimes lose out on things because I can't make up my mind soon enough.				1	2	3	4
13. The reason I vote is because my vote can make a difference.				1	2	3	4
14. My parents were not always fair when they punished me.				1	2	3	4
15. I am a completely rational person.				1	2	3	4
16. I rarely appreciate criticism.				1	2	3	4

Not True True	Somewhat True						Very 7
	1	2	3	4	5	6	
17. I am very confident of my judgements.	1	2	3	4	5	6	7
18. I have sometimes doubted my ability as a lover.	1	2	3	4	5	6	7
19. It's all right with me if some people happen to dislike me.	1	2	3	4	5	6	7
20. I don't always know the reasons why I do the things I do.	1	2	3	4	5	6	7
21. I sometimes tell lies if I have to.	1	2	3	4	5	6	7
22. I never cover up my mistakes.	1	2	3	4	5	6	7
23. There have been occasions when I have taken advantage of someone.	1	2	3	4	5	6	7
24. I never swear.	1	2	3	4	5	6	7
25. I sometimes try to get even rather than forgive and forget.	1	2	3	4	5	6	7
26. I always obey laws, even if I'm unlikely to get caught.	1	2	3	4	5	6	7
27. I have said something bad about a friend behind his or her back.	1	2	3	4	5	6	7
28. When I hear people talking privately, I avoid listening.	1	2	3	4	5	6	7
29. I have received too much change from a salesperson without telling him or her.	1	2	3	4	5	6	7
30. I always declare everything at customs.	1	2	3	4	5	6	7
31. When I was young, I sometimes stole things.	1	2	3	4	5	6	7
32. I have never dropped litter on the street.	1	2	3	4	5	6	7
33. I sometimes drive faster than the speed limit.	1	2	3	4	5	6	7

Not True True	Somewhat True					Very	
	1	2	3	4	5	6	7
34. I never read sexy books or magazines.	1	2	3	4	5	6	7
35. I have done things that I don't tell other people about.	1	2	3	4	5	6	7
36. I never take things that don't belong to me.	1	2	3	4	5	6	7
37. I have taken sick leave from work or school even though I wasn't really sick.	1	2	3	4	5	6	7
38. I have never damaged a library book or store merchandise without reporting it.	1	2	3	4	5	6	7
39. I have some pretty awful habits.	1	2	3	4	5	6	7
40. I don't gossip about other people's business.	1	2	3	4	5	6	7

Appendix M
GENERAL INFORMATION SHEET

Please answer each of the following questions:

1. Your age: _____

2. What is the highest year of education you have completed (please circle):

None

Grade 1-6

Grade 7-10

Grade 11-13

Some College or University

3. Your ethnicity (please circle):

White

Black

Asian

North American Indian

Metis

Hispanic

Other

6. Were you raised by your natural parents (please circle)?

Yes

No

7. Are your parents (please circle):

Still Together

Divorced

Separated

Not Applicable

Appendix N

Antisocial Behavior Scale- Non-Violent/Violent Rating

Non-Violent (n= 33)

A. Driving	
- Speeding	- Minor traffic violations
- Damaged park vehicle w/o reporting	- Impaired driving (alcohol)
- Impaired driving (drug)	
B. Property	
- Vandalism	- Harrassing phone calls
- Verbally insulted authority	- Theft under \$50
- Theft over \$50	- Trespassing
- Stolen bicycle and/or parts	- Stolen car accessories
- Possession of stolen property	
C. Drugs/Alcohol	
- Used marijuana	- Used hard drugs (e.g., LSD, cocaine)
- Abused uppers or downers	- Drank alcohol in public
- Bought alcohol for minors	
D. Other	
- Break and entry	- Violated conditions of release
- Stolen someone's purse/wallet	- Stolen a car
- Forged a cheque	- Stolen a credit card
- Sold drugs	- Engaged in prostitution
- Living off avails of prostitution	- Resisted arrest
- Conned someone out of money, possessions, etc	

Violent (n=9)

- Arson	- Threaten with weapon
- Robbery w/o weapon	- Robbery with weapon
- Carry unlicensed weapon	- Assault
- Assault with weapon	- Murder
- Killed someone accidentally	- Mugged someone with weapon
- Injured pedestrian while driving and left	- Mugged someone w/o weapon

Appendix O

Offenders: Stepwise Multiple Regression of Antisocial Attitudes and ABS total (N =55)

	Adjusted R²	Beta	t	p
PID	.11	.36	2.77	.008
POS		.13	.90	.374
CSS-M		.05	.27	.786

Appendix P

Offenders: Stepwise Multiple Regression of Antisocial Attitudes and Previous Number of Convictions (N =53)

	Adjusted R²	Beta	t	p
PID	.06	.27	2.03	.05
POS		-.12	-0.74	.374
CSS-M		-.15	-0.76	.786

Appendix Q

Students: Stepwise Multiple Regression of Antisocial Attitudes and ABS total (N =32)

	Adjusted R²	Beta	t	P
POS	.33	.60	4.06	.000
PID		.27	1.55	.132
CSS-M		.22	1.00	.331

Appendix R

Path model with antisocial attitudes (measured by the Pride in Delinquency scale) as a mediating variable between antisocial peers, negative family background, and criminal behavior among offenders.