

**Criminal Attitudes: Assessment and the Relationship with
Psychopathy and Response Latencies**

by

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Abstract

The purpose of this study is fourfold. First, to validate a new measure of criminal attitudes. Second, to test the theory that response latency to attitude items represents attitude accessibility with criminal attitudes. Third, to explore the relationship of psychopathy with antisocial attitudes and their response latencies and fourth, to investigate if psychopaths' inability to make a moral/conventional distinction extends to an inability to discriminate an item's moral tone. One hundred and twenty federally incarcerated offenders were administered the Measures of Criminal Attitudes and Associates (MCAA) by microcomputer to assess both their level of antisocial attitudes and the response latencies to the attitude items. The MCAA is a newly developed measure and part of the study was given to the validation of the instrument. Measures of convergent validity included the Criminal Sentiments Scale, the Pride In Delinquency Scale, and the Psychopathy Checklist - Revised. Divergent validity was examined with measures of negative affect: the Beck Depression Inventory, the State-Trait Anxiety Inventory, and the State-Trait Anger Expression Inventory. Measures with concurrent validity included criminal history variables and self-report of criminal associations. The MCAA was found to have acceptable validity and reliability within this sample. The response latencies to the MCAA items were examined for each of the four scales (Violence, Entitlement, Antisocial Intent, and Associates). The attitude accessibility model predicts that response latencies will be faster for those participants for whom the target attitudes are most salient (accessible). In this study the target attitudes were antisocial, and those participants for whom the attitudes should be most salient are those reporting lower and higher antisocial attitude endorsement and those who scored

lower and higher on psychopathy. The results did not support the attitude accessibility model of response latency. Participants who responded faster to the attitude items were generally more antisocial, and those whose response latencies to antisocial attitude items differed least from their response latencies to neutral items were also more antisocial. The data support the response modulation hypothesis offered to explain the information processing of psychopaths. Response latency differences between neutral and antisocial attitude items were significantly less for those higher on psychopathy than for those lower on psychopathy. Although response latencies were generally related to prior criminal offending, when psychopathy was partialled out of the response latencies the relationship was mostly extinguished. Additionally, the results of the study suggest that psychopaths are able to make a distinction in an item's moral tone. The results are discussed in terms of the contribution that response latencies can make to the understanding of criminal attitudes and the information processing of psychopaths.

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Introduction

Delinquent groups share antisocial and criminal attitudes. Recent meta-analysis confirms that antisocial attitudes are among the best predictors of both criminal conduct and prison misconduct (Gendreau, Goggin, & Law, 1997; Gendreau, Little, & Goggin, 1995). Attitude strength has been shown to moderate the relationship between attitude and behaviour (Fazio & Williams, 1986). Traditional cumulative measures of attitude, which may produce equal attitude scores, may reflect differing attitude strengths (Fazio, 1989). Fazio (1989) focuses on attitude accessibility (attitude strength) as operationalized by response latency as the key to the attitude-behaviour relationship. While ample research supports Fazio's model of attitude accessibility, it has not been tested in the domain of criminal attitudes.

Psychopathy, a personality construct, is consistently associated with antisocial and criminal behaviour. Psychopaths comprise between 15 and 25 percent of prison populations, and are more likely to be arrested at an early age, commit more offences, have poorer release outcomes, and employ more threats and violence (Hare, 1996; Wong, 1984). Psychopathy, as measured by the Hare Psychopathy Checklist (Hare, 1991), contains two factors: a constellation of personality traits, and a social deviance component related to an unstable and antisocial lifestyle (Harpur, Hare, & Hakstain, 1989; Templeman & Wong, 1994). Research confirms that the social deviance component of psychopathy is more strongly associated with antisocial attitudes than is the personality component (Simourd, 1997). However, attitude strength has not been considered in the relationship between antisocial attitudes and psychopathy.

The purpose of this study is first to validate a new measure of criminal attitudes. Second, to test the theory that response latency to attitude items represents attitude accessibility with criminal attitudes. Third, to explore the relationship of psychopathy with antisocial attitudes and their response latencies and fourth, to investigate psychopaths inability to make a moral/conventional distinction extends to an inability to discriminate an item's moral tone.

This introduction begins with a review and evaluation of existing research conducted on the attitude-behaviour, personality (trait)-behaviour relationships. This will include a review of the importance of attitude strength, and the attitude-trait interaction in the attitude-behaviour relationship. In addition, the literature on antisocial attitudes and antisocial behaviour will be reviewed, followed by an examination of existing measures and a discussion of a new measure of antisocial attitudes. This new measure includes the dimensions of violence, entitlement, general antisocial intent and associates. Because self-report measures can be influenced by social desirability factors, a review of the literature on social desirability will assist in producing a strategy for managing this effect in the chosen attitude measure. The construct of psychopathy will be reviewed with specific consideration given to the measurement of the construct, its pertinence to antisocial and criminal behaviour, and the differential relationship of the two factors (social deviance and personality traits) with various measures of psychopathology and existing antisocial attitude measures. Finally, hypotheses will be advanced in regard to the measurement of criminal attitudes, and the nature of the attitude-psychopathy relationship.

The Concepts of Attitude and Trait

Social psychology and personality psychology have traditionally taken divergent paths in attempting to understand and explain human behaviour (Blass, 1984). Blass pointed out that social psychologists have assumed situational factors are the primary causal determinants of behaviour, whereas personality psychologists have assumed that enduring personal dispositions brought to the situation are the most important causal determinants of behaviour. In fact, dispositional explanations are central to both approaches: the trait concept to personality psychology, and the attitude concept to social psychology (Ajzen, 1988). These concepts were developed to account for differences among and consistencies within individuals (Zanna & Olson, 1982).

An examination of their respective definitions may assist in distinguishing between these two concepts. For example, following a review of several contemporary definitions of attitude, Allport (1935) offered his own definition: "An attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related" (p. 810). Allport suggested that the common feature among all of the definitions was the idea of "preparation or readiness for response", a precondition of behaviour. More recently, Ajzen (1988) defined attitude as "a disposition to respond favorably or unfavorably to an object, person, institution, or event" (p. 4), with the recognition that the central characteristic of an attitude is its evaluative nature. In contrast, Ajzen defined a trait as "a characteristic of an individual that exerts pervasive influences on a broad range of trait-relevant responses" (p. 2). In addition to the different definitions already offered, greater clarification of the two concepts of attitude

and trait may be advanced through a closer comparison of their similarities and dissimilarities.

Early on, Allport (1935) attempted to disentangle attitude and trait concepts by suggesting that attitudes have an object of reference and a clear direction (valence), which is not the case with traits. "An individual's point of view toward war, liquor, the church, or capital punishment are clearly attitude and not traits; but his talkative, shy, or emphatic manner of behaving are traits. The former are clearly less intimate and less personal than the latter" (p. 837). Ajzen (1988) noted that both personality traits and attitudes are hypothetical constructs that must be inferred from measurable responses, a view that is supported by Jaccard (1974).

Sherman and Fazio (1983) also considered the similarities and differences between the constructs of trait and attitude. Included among the similarities are: both constructs are within-person and useful for predicting behaviour; both are hypothetical constructs, and are inferences drawn from the observation of behaviour; and both allow for a simplification of information. In addition, Bieri (1967) suggested that both constructs are often viewed as dimensional in nature. For example, an attitude toward an object can range along a continuum from very positive to very negative. Similarly, a personality dimension such as introversion-extroversion may also be viewed as a continuum. In contrast, Sherman and Fazio observed three differences between the constructs: attitudes must reference an object whereas traits are more global and do not need an object to be meaningful; attitudes involve an evaluative behaviour towards an object, whereas traits may include an evaluation but involve many kinds of behaviour toward many objects; and attitudes are generally considered more likely to change than

traits. Despite the differences between these two constructs, Ajzen (1988) suggested that it is mostly "historical and largely artificial boundaries...that have tended to obscure the conceptual similarities and common vicissitudes of the trait and attitude concepts" (p. 25).

The Relationship Between Attitudes and Traits

Some researchers have sought to determine if individual differences or traits moderate the attitude-behaviour relationship. Zanna, Olson, and Fazio (1980) investigated two individual difference variables as possible moderators of the behaviour-attitude link: level of self-monitoring¹ and individual variability of behaviour. They hypothesized that low self-monitoring and low behavioural variability would result in a stronger relationship between the expressed attitude and subsequent behaviour. The results supported the hypothesis. Participants who were classified as low on self-monitoring and low on behavioural variability (as determined by median split) had significantly greater attitude-behaviour consistency than other participants.

In another study, Olson and Zanna (as cited in Zanna & Olson, 1982) proposed that personality traits can moderate the attitude-memory relationship. These authors conducted an experiment that examined the personality dimensions of repression-sensitization, self-esteem, internal-external locus of control, and dogmatism as they related to a recall task (selective learning). The results showed that those participants

¹ Self-monitoring is a construct developed by Snyder (1974). Low self-monitors assert that they are guided by dispositions, whereas high self-monitors see their behaviour as stemming from situational cues that determine what is socially acceptable.

who were high in self-esteem, had a defensive style, and had an internal locus of control exhibited better recall of attitude consistent information. However, when the personality measures were taken into account, there was clear support for the moderating effects of personality dimensions on the attitude-memory relationship.

Kardes, Sanbonmatsu, Voss, and Fazio (1986) studied the relationship between the personality trait of self-monitoring and attitude accessibility (attitude strength). Attitude accessibility was operationalized in terms of response latency to attitudinal inquiries². The results revealed a significant relationship between self-monitoring and the attitude accessibility scores: accessibility scores were faster for low self-monitoring participants. The authors concluded that attitudes are more accessible for low self-monitoring individuals. Other research has shown that self-monitoring moderated the values-attitude link (Mellema & Bassili, 1995).

These studies suggest that personality dimensions do have an impact on attitudes through attitude accessibility, the attitude-behaviour relationship, the attitude-memory relationship, and the values-attitude relationship. Attitude accessibility (attitude strength) as operationalized by response latency is the focus of the next section.

Attitude Strength and Response Latency

Krosnick and Petty (1995) provided a working definition of attitude strength that includes the concepts of durability and impactfulness. Each of these two concepts has two manifestations. Durability is revealed in an attitude's persistence and resistance,

² The use of response latencies as a measure of attitude accessibility/attitude strength is explained more fully in the following section.

whereas attitudinal impact is seen in an attitude's influence on information processing, judgments, and influence on behaviour. Krosnick and Petty identified these four manifestations as strength features with obvious emphasis on the outcome or influence of attitude strength. Citing reviews by Scott (1968) and Raden (1985), Krosnick and Petty listed the many strength-related attributes of attitude strength found in the literature: extremity, intensity, ambivalence, salience, affective salience, cognitive complexity, overtness, embeddedness, flexibility, consciousness, accessibility, evaluative-cognitive consistency, certainty, direct behavioural experience, importance, latitudes of acceptance/rejection, and vested interest. Of these many attributes of attitude strength, attitude accessibility was seen by Fazio, Chen, McDonel, and Sherman (1982) as central to attitude strength, and as directly reflecting the many other attributes.

Fazio's process model of the attitude-behaviour relationship was recapitulated in Fazio and Williams (1986):

According to the process model, the chronic accessibility of an attitude is a function of the associative strength of the attitude object and the evaluation that the individual holds of the object. That is, attitudes are characterized as object-evaluation associations and the strength of the association acts as a determinant of the accessibility of the attitude. The stronger the association, the greater the likelihood that the evaluation will be activated spontaneously upon the individual's encountering the attitude object (p. 505).

Sherman and Fazio (1983) suggested that two individuals could hold the same evaluation of an object (as traditionally measured) but have different strengths of object-evaluation association. This may be due in part to qualities of the attitude, such as degree of certainty (Fazio & Zanna, 1978), salience of particular object attributes

(Shavitt & Fazio, 1991), or self-awareness (Zanna, Olson, & Fazio, 1981). The strength of the object-evaluation association determines attitude accessibility (salience), which operates at an information processing level (Fazio, 1989); for the purpose of their research, attitude accessibility is operationally defined as the speed of a response to an attitudinal inquiry (response latency).

In a series of experiments, Fazio et al. (1982) empirically tested the hypothesis that attitude accessibility is a central element in the relationship between attitude and behaviour. Further, they hypothesized that attitude accessibility can be influenced by the means of attitude formation and attitude expression. In the first experiment, participants' attitudes towards five different puzzles were formed by either direct or indirect experience. The results showed that those participants who had direct experience with the puzzles responded faster to the attitude inquiries. The authors acknowledged that the results may reflect greater attitude accessibility, or they may reflect that the participants in the direct experience condition had the opportunity to formulate more fully an attitude towards the puzzles (attitude consolidation). To address this question, another experiment was conducted.

The second experiment was much like the first, except that the participants were divided into two additional groups: consolidation versus non-consolidation. The consolidation group was given more opportunity to formulate their attitude through the use of a questionnaire which asked how 'interesting' was each of the five puzzles. The results confirmed those of the earlier study and showed that participants who had direct experience responded faster than those with indirect experience. Furthermore, participants who had a chance to consolidate their attitudes responded faster than

those who did not have the same opportunity. The authors concluded that direct experience appears to enhance attitude formation and attitude accessibility.

In their third experiment, Fazio et al. (1982) examined the effect of repeated attitude expression on the object-evaluation association. They hypothesized that repeated expression would strengthen the object-evaluation and be reflected in the attitude accessibility; specifically, they predicted shorter response times. The results showed that repeated expression of the attitude was associated with shorter response times, and led to the conclusion that repeatedly associating an object and an evaluation of it enhances attitude accessibility. This finding was later supported by research conducted by Powell and Fazio (1984), who discovered that repeated attitude expression decreases response latency but initial expressions of 1 or 3 times had greater incremental impact than 6 expressions. The results showed that attitude extremity correlated modestly with response latency ($r = .30$). However, given that both response latency and reported attitude extremity are considered estimates of attitude strength, the correlation was considered low.

The results of these experiments are important for a number of reasons. First, they provide empirical support for the hypothesis that attitude accessibility is an indicator of object-evaluation strength (attitude strength). Second, they demonstrate that the method of attitude formation (direct or indirect) and the qualities of the attitude (consolidation or expression) have a direct impact on attitude accessibility. Third, the experiments operationalize the measurement of attitude accessibility and therefore attitude strength through the use of response latencies.

Perhaps one of the earliest response latency experiments was conducted by Lange (1888; as reported in Allport, 1935). Lange found that participants who were consciously prepared to press a telegraph key immediately upon receiving a signal did so faster than those who were focused more on the incoming stimuli. This notion of being consciously prepared (salience) is still being studied over 100 years later using response time. Fazio (1990) identified three uses that have been made of response latency: a measure of spontaneous construct formation (the computing or judgment of an attitude toward a novel object); a measure of processing efficiency (see Geller & Shaver, 1976); and a measure of associative strength in memory.

Associative strength has been found to moderate both the formation of attitudes and the consequent behavioural expression of attitudes. Fazio and Williams (1986) found that participants with relatively accessible attitudes (fast response latencies) to attitudinal inquiry showed both greater selective perceptions of candidates' debate performance and greater consistency with voting in accord with the expressed attitude. Their research provides support for the hypothesis that attitude accessibility moderates both the processing of attitude relevant information (antecedents) and subsequent attitude relevant behaviour (consequences).³ This is consistent with other research which has shown that biased information processing leads to attitude polarization (Lord, Ross, & Lepper, 1979). It is also consistent with research conducted by Bassili (1995), which examined the voting intentions of participants. He found that those participants with accessible voting intentions (fast response latencies) have more stable and

³ A recent volume entitled "Attitude Strength: Antecedents and Consequences" (1995), edited by R. Petty and J. Krosnick, provides further evidence of the impact of strongly held attitudes.

predictable patterns of attitudes and behaviour than those participants with inaccessible voting intentions.

Despite the utility of attitude accessibility as a measure of associative strength, response latency does not have strong correlations with other measures of attitude strength (Krosnick & Petty, 1995; Powell & Fazio, 1984). One explanation for this phenomenon is found in the research of Roese and Olson (1994) who studied response latency and participant stated attitude importance while manipulating attitude accessibility by varying the frequency of expression. Consistent with earlier findings, repeated expression resulted in reduced response latency and greater perceived attitude importance. However, further analysis revealed that the effect of repeated expression on latencies remained when importance ratings were controlled, but the effect of repeated expression on importance was removed when latencies were controlled. This led the authors to conclude that attitude accessibility is “a heuristic cue for perceived attitude importance, such that attitudes are judged to be more important when they are highly accessible” (p. 47). In a similar line of research, Bassili (1993) compared two measures of attitude strength, an expression of attitude certainty and response latency, and found response latency to better account for discrepancies between voting intentions and voting behaviour. From these results, Bassili suggested that response latency was an operative index, whereas certainty was a meta-attitudinal measure, and the directly measurable nature of response latency was postulated to account for its accuracy.

Bassili (1996) suggested that self-report measures of attitudinal strength in general represent a meta-attitudinal index, which is broadly defined as a respondent's

impression of his/her attitudes. In the two studies reported (Bassili, 1996), participants' response latencies consistently performed better than other operative measures in accounting for variance in the relationship between attitude stability and pliability (likelihood of reversal given a counter argument). This led Bassili to dub response latency a "star" among measures of attitude strength.

This brief review of attitude strength delineates its importance in the attitude-behaviour and attitude-trait relationships. Consequently, accounting for attitude strength in the study of criminal attitudes is viewed as theoretically relevant, and response latency is an empirically supported method to measure attitude strength. With this in mind, the review now turns to the attitude-behaviour relationship more specific to this study: antisocial attitudes and antisocial behaviour.

Antisocial Attitudes and Antisocial Behaviour

The importance of attitudes in predicting criminal behaviour among delinquent and criminal adults has long been asserted (see Glueck & Glueck, 1930; 1934). Early studies with prisoners identified the presence of attitudes of self-justification, loyalty, belief in luck, and the tendency to exaggerate society's shortcomings (Mylonas & Reckless, 1963). In addition, attitudes towards legal institutions, legal authority, and criminal others (Gendreau, Grant, Leipziger, & Collins, 1979), along with shame or pride in delinquent acts (Shields & Whitehall, 1994), have all been associated with criminal offending or antisocial behaviour. Generally, correlations among these dimensions of antisocial attitudes are moderate to strong, which is not unexpected. In a series of studies, Millar and Tesser (1986) examined the effect of thought and schema on attitude polarization. They found that a greater correlation among an attitude's

dimensions is associated with increased polarization of the attitude. The application to antisocial attitudes suggests that a negative attitude in a particular dimension (i.e., social authority) could result in a generalized antisocial attitude.

Several theories of behaviour examine the criminal attitude-criminal behaviour relationship. According to Differential Association Theory (Sutherland, 1947), criminal behaviour is learned through association within social groups, and an element of that learning includes the development of attitudes specific to the social group.

In a more recent model of criminal behaviour, Andrews and Bonta (1994) sought to focus on "a rational empirical understanding of individual differences in criminal activity" (p. 1). While this approach differs substantially from the sociological perspective of Sutherland (1947), it shares the belief that attitudes are important contributors to criminal behaviour. "Thus, both personal attitudes and social facts regarding the dominant attitudes of groups are highly relevant variables in a psychology of crime" (Andrews & Bonta, 1994, p. 15).

Research has supported the criminal attitude-criminal behaviour relationship. In a meta-analysis of predictors of criminal behaviour, Gendreau, Goggin, Chanteloupe, and Andrews (1992) found that antisocial attitudes/associates provided the strongest correlation with criminal conduct ($r = .22$) of six groups of risk factors. The five other groups included social class, personal distress or psychopathology, educational/vocational achievement, parental/family factors, and temperament/personality. Similar findings were evident in another meta-analysis conducted on 133 studies to determine the best recidivism predictor domains (Gendreau, Little & Goggin, 1995). The results showed that the best predictor domains

in order of mean correlation values were adult criminal history, companions, criminogenic needs (including anti-social attitudes), and antisocial personality (including psychopathy). In addition to community criminal behaviour, antisocial attitudes were found to be among the strongest of 16 domains in the prediction of prison misconduct (Gendreau, Goggin & Law, 1997).

Antisocial Associates and Antisocial Behaviour

Antisocial attitudes and antisocial associates are closely tied both theoretically and empirically. When studying marijuana use in adolescence, Andrews and Kandel (1979) found that peer influence has a considerably stronger additive effect than attitude in the subsequent use of marijuana. The authors found the norms of the peer group that are favourable towards the behaviour interact with the positive attitude towards the behaviour to produce the highest rates of the behaviour. Drawing a similar conclusion, Bagozzi and Burnkrant (1979) suggested that the attitude-behavior relationship is more consistent when normative pressures are consistent with the attitude. That is, if the social milieu supports the attitude, the relationship between attitude and behavior is stronger. Additional empirical support comes from Gendreau et al. (1992) who applied meta-analysis to 372 studies that reported correlations on recidivism. The domain of companions, drawn from 46 studies, was the single best predictor of recidivism using a standardized correlation coefficient. The authors concluded that future research in the area of criminal classification and recidivism should focus on the domains of criminal associations and criminal attitudes.

Antisocial associates play a major role in criminology theories and research. Agnew and White (1992) compared elements of general strain theory with social control

theory and differential association/social learning theory. They concluded that whereas strain theory focuses on negative relationships, social control theory focuses on the absence of positive relationships, and differential association theory focuses on the positive relationships with deviant others. An obvious outcome of the comparison is the central role that relationships with others have within each of the three theories. Agnew and White (1992) then went on to empirically compare their general strain theory to differential association theory within a delinquent sample. They found that the differential association variable of 'Friend's Delinquency' was the strongest predictor variable of both delinquency and drug use.

The research presented demonstrates the importance of both antisocial attitudes and delinquent associates in the prediction of antisocial behaviour. The measurement of antisocial attitudes and associates is the focus of the next section that begins with a review of existing measures.

Existing Measures of Antisocial Attitudes and Associates

The Criminal Sentiments Scale

The Criminal Sentiments Scale (CSS; Gendreau et al., 1979) is a self-report measure of criminal attitudes which was developed from the work of Mylonas and Reckless (1963). More specifically, the CSS assesses three content areas: attitudes towards the law, courts and police (LCP); tolerance for law violations (TLV); and identification with criminal others (ICO). The scale has been used on a number of forensic populations including probationers (Andrews & Wormith, 1984), young offenders (Robertson, 1998), and adult offenders (Simourd, 1997). Furthermore,

researchers and practitioners have used the CSS in sampling surveys, evaluation of probation services, controlled experiments of therapeutic intervention, prediction of reoffending and release failure (Wormith, 1984; Wormith & Andrews, 1995), and specialized groups of offenders (child molesters) (Horley, Quinsey, & Jones, 1995).

Previous research has shown the CSS to be predictive of recidivism within samples of provincial probationers (Andrews & Wormith, 1984; Andrews, Wormith & Kiessling, 1985) and provincial incarcerates (sentences less than two years) (Bonta, 1990). Within a sample of federal inmates ($n=458$, with sentences two years or more), the CSS was shown to be weakly postdictive when age of the offender was controlled (Roy and Wormith, 1985). Mills and Kroner (1997) found the CSS to be generally postdictive of prior incarcerations and prior convictions in a sample of federally incarcerated men. However, the CSS was not predictive of release outcome.

Psychometrically, the CSS consists of two factors labeled Contempt for Criminal Justice Personnel (Factor 1) and Disrespect for Conventional Law (Factor 2) (Kroner & Mills, 1998). Further inspection of the two factors found Factor 1 to be comprised of mostly true-keyed items and Factor 2 to be comprised of mostly false-keyed items. The authors suggested that an acquiescent response style among their sample of federally incarcerated males may have contributed to this finding. A more thorough psychometric examination of the CSS was conducted by Simourd (1997). Simourd modified the original CSS slightly, and administered the instrument (CSS-M) verbally to 114 male federally incarcerated offenders. The verbal administration reduced the mean scores as compared to a paper and pencil administration. The author suggested that this might be the influence of participants' desiring to present in a more prosocial manner when the

questions were administered in person⁴. Simourd found internal reliability as measured by coefficient alpha to be .73, .70, .73, and .73 for the subscales of LCP, TLV, ICO, and the full scale, respectively. Correlations of the scale with offence-based criteria (convictions, property offences, criminal versatility, violent offences, and institutional misconducts) were poor, with only the total number of institutional misconducts showing a significant relationship with the scale. Simourd (1997) concluded that the CSS-M is linked to deviant behaviour "albeit in an indirect way" (p. 67). These results suggest that the CSS performs better for samples of probationers and parolees than for samples of those federally incarcerated. This is not necessarily unexpected because the CSS was developed on probationer samples, which would be a much more heterogeneous group than a federal inmate sample. The CSS could therefore distinguish the first and only time probationer (generally prosocial attitudes) from the person who is starting out a life-long criminal career (more entrenched antisocial attitudes). Distinguishing among offenders who are all serving federal sentences of two years or more is a more daunting task if the antisocial attitudes are more extreme and homogeneous.

Pride In Delinquency Scale

The Pride In Delinquency (PID) scale was developed by Shields and Whitehall (1991) for use with juvenile offenders. This brief 10-item self-report instrument is designed to measure the extent to which a person would experience pride or shame if he/she committed the 10 behaviours. The responses are made on a 21-point Likert-

⁴ This was not the first study to find anomalies with the score means. Langevin and Forth (1998) found CSS scores of their student sample to be similar to scores of federally incarcerated offenders.

type scale (-10 to +10). Scores are summed and added to 100 to ensure a positive final score. Despite the scale's brevity, the PID performed well in terms of its psychometric properties and validity. Simourd (1997) verbally administered the PID to federal offenders. A factor analysis suggested the presence of two factors labeled "Attitude Toward Offences" and "Criminal Subculture". The internal reliability, as measured by the alpha coefficient, was .75 for the full scale. The PID was significantly related to all of the offence-based criteria. Simourd (1997) noted that the PID is more strongly linked to risk prediction measures, and concluded that the PID outperforms the CSS-M. The psychometric and predictive problems of the CSS within samples of federal offenders, as well as the limitation of the single dimension of the PID, prompt the consideration of a new measure of criminal attitudes for this population of offenders. This measure is the focus of the next section.

Measures of Criminal Attitudes and Associates (MCAA)

Over the past three years a new measure of criminal attitudes consisting of four subscales was developed on successive samples of federally incarcerated male offenders (Mills, 1997). The development of the initial items and subscales was based on clinical impressions and research with a view to developing a scale that tapped dimensions of practical and theoretical relevance to criminal behaviour. Furthermore, it was hoped that developing the scale with federal offenders would maximize the sensitivity of the measure to this rather homogeneous group.

This section describes the theoretical rationale for the MCAA's subscales and items. Researchers involved in scale construction (Jackson, 1971; Novaco, 1994) have underscored the importance of having a theoretical rationale. Further, it briefly

chronicles the development of the Measures of Criminal Attitudes and Associates (MCAA) through its four developmental versions. The scale in its current form is comprised of two parts. Part I is a quantifiable measure of criminal associates, and Part II measures the domains of Attitudes Towards Violence, Sentiments of Entitlement, Antisocial Intent, and Attitudes Towards Associates (see Table 1). In addition to the specified domains, the scale makes a unique contribution to the measurement of attitudes and associates through the use of rationalization/justification item couplets, and through a self-reported and quantifiable method of measuring criminal associates.

Criminal Associates

Research has shown that criminal associates is the single best predictor of criminal behaviour (Gendreau, 1997). Yet the literature lacks a consistent method of measuring or quantifying criminal associates. To that end, the new scale includes a section devoted to assessing degree of criminal association. This self-report measure of criminal associates asks for information on the four adults the respondent spends the most time with in the community. For each of these adults the respondent reports how much spare time is spent with them, and then responds to the following four questions regarding their criminal involvement: Has this person ever committed a crime? Does this person have a criminal record? Has this person ever been to jail? and Has this person tried to involve you in a crime? From these questions we can determine if the participant regularly associates with criminal others, how much time he/she spends with them, and the degree of his/her associates' criminal involvement. In addition to the

Table 1

Measures of Criminal Attitudes and Associates

Part I	Part II
	Scales
Quantified Measures of	Attitudes Towards Violence*
Criminal Associates	Sentiments of Entitlement*
	Antisocial Intent
	Attitudes Towards Associates

Note. *These scales include Rationalization/Justification Couplets

quantified measure just described, the MCAA contains a scale that measures respondents' attitudes towards antisocial others. This provides both a quantifiable measure as well as an attitude measure of the same construct.

Attitudes Towards Violence

Identifying offenders at high risk for interpersonal violence is important. As such, a scale of the MCAA was created in an attempt to measure attitudes towards violence. There is support in the literature for the construct validity of violence using concurrent or postdictive measures as the outcome variable. Caprara, Cinanni, and Mazzotti (1989) psychometrically tested a scale that measured tolerance toward violence. In addition to determining the psychometric properties of the instrument, these researchers found that tolerance toward violence was more strongly associated with postdictive involvement in violence than any socioeconomic variable measured. Similarly, measures of physical aggression were significantly associated with the postdictive criminal indices of prior assaults in a sample of violent offenders (Mills, Kroner, & Weekes, 1998). These studies suggest that self-report measures of attitudes towards violence and aggression are associated with both self-reports and official reports of violent behaviour.

Sentiments of Entitlement

Clinically, a sense of entitlement is often detected through the course of interviews and interventions with offenders. This attitude of entitlement often underlies the reason offenders engage in antisocial behaviour. Walters and White (1989) considered entitlement to be a criminal thinking style. Their focus on the cognitive characteristics of criminals led to the identification of eight primary cognitions, one of

which is entitlement. Walters and White (1989; Walters 1995a) viewed entitlement as the cognition that “tells them they have a right to take whatever they want from whoever has what they desire.” (p. 4). A psychometric evaluation of Walter’s (1995b) Inventory of Criminal Thinking Styles showed that entitlement was one of two cognitions most highly correlated with age of first arrest and age of first incarceration. Entitlement was generally more strongly correlated with the other thinking styles, suggesting a broad relationship with many criminal cognitions. In addition, research among sex offenders also reports the prevalence of criminal entitlement.

Hanson, Gizzarelli, and Scott (1994) investigated the differences between incest offenders and two comparison groups, male batterers and a community group, on cognitive distortions. Results showed more deviant attitudes among the incest offenders, including: a perception of children as being sexually attractive, a minimization of harm to the victim, and an endorsement of male sexual entitlement. The identification of male sexual entitlement is also evident in the rape literature (Scully & Marolla, 1984). For these reasons, the MCAA contains the subscale of Sentiments of Entitlement.

Rationalization/Justification: A Distinction In Moral Disengagement

A theoretical framework which distinguishes rationalizations from justifications was imposed on the scales measuring violence and entitlement. Rationalizations are commonly employed by most, if not all, people in excusing inappropriate behaviour (e.g., late for work, losing one’s temper, etc.). Rationalization of criminal behaviour is not an uncommon phenomenon, and can be predictive of antisocial behaviour (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). Rationalizations typically involve the use of external attributions as explanations for behaviour. There are also

occurrences when offenders justify their behaviour. Justification is viewed as a more forceful defence of behaviour in that it changes the wrongfulness or antisocial nature of the behaviour into appropriate behaviour (Bandura et al., 1996).

Rather than adding up a number of items considered relevant to an attitude domain (a purely cumulative model), the rationalization/justification dichotomy allows for the items' content area to be examined for degree of moral attachment. That is to say, if people rationalize their criminal or antisocial behaviour, they are employing a common defence mechanism (often external attributions) to allay personal responsibility, whereas if people justify their behaviour, they are asserting the correctness of their actions and hence their strong identification with the appropriateness of their behaviour. There is both theoretical and empirical support for this dichotomization.

Agnew's (1995) review of the motivational processes behind leading crime theories led to the consideration of the moral evaluation of crime. Agnew observed that Differential Association Theory accounted for the moral evaluation of crime by the greater presence of definitions favourable to crime offered through criminal associations. Agnew suggested that measuring moral evaluation would include determining the level of approval of a criminal act, which has been shown to be associated with engaging in the criminal behaviour (Hindelang, 1974). Additionally, it was considered important to measure the degree of "moral pressure exerted by individuals beliefs" (p. 380). Elaborating on this point, Agnew stated "For example do individuals believe that violence is a required and approved response to certain types of insult, or do they simply view violence as an excusable response to insult" (p. 380).

A distinction has been made between excuses and justifications in studying the accounts of rapists (Scully & Marolla, 1984) and interpersonally violent offenders (Henderson & Hewstone, 1984). These distinctions interacted with level of admittance in the former study and attribution in the latter. The distinction between the two types of accounts is based on Scott and Lyman's (1968) definition. An excuse is a denial of personal responsibility or causality for the act, often attributing cause to external factors, whereas justification is an acceptance of personal responsibility but with an attempt to justify the act (deny it was wrong) in terms of social norms.

Justifications in particular have been shown to relate to different intrusive and antisocial behaviour. For example, Blumenthal (1973) examined the difference between students who were arrested or participated in street disturbances for social change and college students in general. The arrestees were more likely to have negative attitudes towards the police, and most of the differences could be accounted for by the arrestees' justification of violence.

Justifications also played a role in college students' proclivity to rape. Osland, Fitch, and Willis (1996) studied the proclivity to rape or force sex in college males. The 34% who reported some proclivity to rape or force sex gave more justifications in the more violent scenarios than those who did not report any proclivities. Those who reported no proclivities were more likely to report that violence was not justified under any circumstances. An important finding in the research was that the perception of the level of violence in each of the scenarios did not differ between groups.

Two scales which tap, in different ways, the issue of justifiability have been shown to account for antisocial behaviour. Bandura et al. (1996) refer to "moral

justifications" as a mechanism of moral disengagement which is employed directly towards the behaviour in the process of re-construing the antisocial behaviour to be more personally and socially acceptable. These authors employed a scale measuring moral disengagement in their study of elementary and junior high school children. The results showed that high moral disengagers were more likely to exhibit delinquent behaviour, were less prosocial, and were less troubled by 'anticipatory' guilt.

The implications of the involvement of justification (moral explanations) in antisocial and aggressive behaviour is further supported by the work of Forgas, Brown, and Menyhart (1980) who sought to identify the primary attributes used to discriminate between a broad range of typical aggressive situations. These researchers found that justifiability was one of the four cognitive dimensions that accounted for 70% of the variance. Moral considerations have also been found to assist in explaining the intention-behaviour relationship by distinguishing between moral and non-moral situations. Gorsuch and Ortberg (1983) tested the Fishbein and Ajzen (1975) model of behavioural intention, and found that moral considerations added to the variance accounted for by attitude and social norms in the relationship with behavioural intention. This finding held true in 'moral' situations but not so in 'non-moral' situations.

Moral evaluations of crime are central to neutralization theory (Sykes & Matza, 1957). In opposition to the theories of subculture values and attitudes, Sykes and Matza (1957) proposed that delinquents used techniques of neutralization to temporarily inhibit conventional morality. Neutralization techniques include: (a) denial of responsibility, (b) denial of injury, (c) denial of the victim, (d) condemning the condemners, and (e) appealing to higher loyalties. Minor (1981) suggested that not all delinquents need to

neutralize because certain individuals do not have much moral inhibition against certain offences. Agnew and Peters (1986) suggested that people need to be in a situation deemed appropriate for the neutralization to lead to deviance. Research has generally supported the relationship between neutralization and deviance (Atkinson, 1998; Ball, 1983; Ball & Lilly, 1971; Shields & Whitehall, 1994). As an example, Shields and Whitehall (1994) found that neutralization scores could distinguish between delinquents. Their scale consisted of four vignettes which were followed by five questions "asking whether or not a fictional protagonist is morally justified in committing these delinquent acts in light of various neutralizations" (p. 227). Scores on the neutralization scale were significantly higher for predatory offenders and for delinquent recidivists.

In keeping with Agnew's (1995) observation previously discussed and the research just reviewed, it was felt that the rationalization (excuse) versus justification distinction might add valuable information by accounting for some degree of moral disengagement in support of the attitude. Therefore, to account for both rationalizations and justifications within the same item content domain, the scales of violence and entitlement included item couplets which measure the same content area but one is phrased as a rationalization, and the other is phrased as a justification. For example, an item couplet drawn from the Attitudes Towards Violence scale dealing with violence towards sex offenders reflects rationalization with the wording "Child molesters get what they have coming", and justification with the wording "There is nothing wrong with beating up a child molester".

Antisocial Intent

Recent research has shown that the Alienation scale of the Basic Personality Inventory (BPI; Jackson, 1989) is predictive of criminal offending (Palmer, 1997) and institutional misconduct (Mills, Kroner, & Forth, 1997). A closer examination of the scale revealed many items to be future oriented or expressing an intention. This is consistent with theory and research in the attitude literature (Ajzen, 1988; Ajzen & Fishbein, 1980) which shows behavioural intention to be a better predictor of future behaviour than attitudes in general. As such, a scale covering general antisocial attitudes expressed as intent has been included in the MCAA.

Development Of The MCAA

Through a process of development and revision the MCAA is currently in its fourth version. This section will briefly recapitulate the scale's development.

The initial scales developed included Attitudes Towards Violence, Sentiments of Entitlement, General Antisocial Attitudes, Attitudes Towards Associates, and Attitudes Towards the Police. Attitudes Towards The Police was thought to measure attitudes towards authority, as the police are often the first line of societal authority encountered by criminals. The first three scales were also developed to include the rationalization/justification item couplets.

The primary focus of these three developmental studies was to identify items of extremely frequent or extremely infrequent endorsement, to identify items that were more closely associated with their scale than with any other, and to develop scales that were not strongly correlated with each other. These steps are consistent with the construct-approach to scale development (Jackson, 1970). Items were considered too

frequently endorsed if they were endorsed by 90% or more of respondents. In the opposite direction, items were considered too infrequently endorsed if they were endorsed by 10% or less of the respondents. In addition, items were expected to correlate more strongly with their own scale than any other, and a target of .60 for scale intercorrelation was set.

Study 1

In the first study, 74 federally sentenced men completed the 47-item MCAA Developmental Version 1 (DV.1) within their first week of arrival at a federal prison. They were volunteer offenders who participated in the study during orientation week at the institution. The MCAA (DV.1) was administered as a paper and pencil test. Participants were tested in groups of fifteen to twenty under the supervision of the author in a room away from the secure living unit. The subsequent two studies also employed the same methodology.

The means of each scale fell in the bottom portion of the possible range of scores, suggesting overall low endorsement of the items. Coefficient alpha for the scales ranged from .58 to .81 with a total scale alpha reliability of .92. The scales were generally moderately to highly correlated, with intercorrelations ranging from .48 to .65. It was believed that rationalization items would be more frequently endorsed than justification items. For the most part, this held among the item couplets.

The Attitudes Towards the Police scale was dropped in its entirety due to its high correlation (.65) with General Antisocial Attitudes. Many of the items in the former tapped a general antisocial orientation and not a distinctive domain of attitudes towards authority as originally intended. The rationalization/justification dichotomy seemed to be

tentatively validated by the higher endorsement rates of rationalization items over justification items. This was not the case for each couplet, but the general trend suggested that, at some level, offenders are making the distinction between the items. Many of the items were not endorsed (< 10%) and were changed or deleted. Due to this problem with item endorsement, more items were created and added to the scale.

Study 2

In the second Study, 62 federally sentenced men completed the 53-item MCAA (DV.2). Incorporating the changes discussed in Study 1 resulted in four scales being included in the MCAA (DV.2): Attitudes Towards Violence, Sentiments of Entitlement, General Antisocial Attitudes, and Associates. As before, the first three scales were also developed to include the rationalization/justification item couplets. The purpose of this developmental round was to identify and reduce the number of items with extreme endorsement/non-endorsement, to examine the internal consistency of the scales more closely, and to ensure the efficacy of the rationalization/justification dichotomy.

The means of the scales again fell in the lower half of the possible range of scores. Item endorsement/non-endorsement improved over the MCAA (DV.1), as did internal reliability (alpha) of the scales. Items were also examined for their corrected item-total correlation. In general, corrected item-total correlations below .30 result in a reduction of the scales internal consistency. For the Associates and Sentiments of Entitlement scales, there were no items which fell below .30 corrected item-total correlation. The Attitudes Towards Violence and General Antisocial Attitudes scales had two and three items below .30 corrected item-total correlation, respectively.

The rationalization/justification couplets continued to show the trend of differential endorsement overall, but there were a number of couplets which did not meet the criteria (i.e. the justification item was endorsed more than the rationalization item). All of these couplets were examined closely and changes made while keeping the items consistent with their content focus and rationalization or justification orientation. It became apparent that items which used language suggesting absolutes (e.g., completely, always) were not appropriate for rationalization items. Intuitively, this makes sense, because rationalizations are not absolutes by nature.

Part I (self-reported criminal friends) differentially correlated with the attitude scales. The attitude scale of Associates correlated more strongly with the self-reported criminal association measures (Part I) than it did with the antisocial attitude scales of Attitudes Towards Violence, Sentiments of Entitlement, and General Antisocial Attitudes. The results also showed that the scales General Antisocial Attitudes, Attitudes Towards Violence, and Sentiments of Entitlement remained highly correlated. It was expected that different domains of criminal attitudes would be moderately to highly correlated. However, in order to make a distinction between the domains of criminal attitudes, a minimum goal of scale intercorrelations below .60 was set, with preference for intercorrelations below .50. At this point, additional items were added to the scale in order to facilitate the elimination of items that correlate highly with other scales in the next round of development.

Study 3

Ninety-five federally sentenced men completed the 67-item MCAA (DV.3). Official criminal history data was collected on 73 of these offenders. For each of the

offenders, the number of convictions, incarcerations, assaults, sexual assaults and break and enters was calculated.

The scales were the same as in the MCAA (DV.2). Extreme item endorsement/non-endorsement had been reduced to seven items with greater than 85% endorsement, of which only two exceeded 90% endorsement. Given the low proportion of items with extreme endorsements, greater emphasis was placed on other issues in scale development.

Measures of internal consistency remained moderate to high. Scale intercorrelations were reduced slightly from the earlier version (see Table 2). However, General Antisocial Attitudes continued to be highly correlated with the other scales.

There was a marked improvement found in the area of rationalization/justification dichotomy. The means of the rationalization and justification items within the three scales were compared and the differences were found to be statistically significant: Attitudes Towards Violence $t(95) = 7.4, p < .001$; Sentiments of Entitlement $t(95) = 7.7, p < .001$; and General Antisocial Attitudes $t(95) = 7.0, p < .001$. The Associates scale continued to be more strongly associated with the self-reported measure of criminal associations than with the other scales, as shown in Table 3.

The scales and self-report measures of criminal association were correlated with criminal history for 73 participants; the correlations are reported in Table 4. Overall, the Associates scale was the most strongly correlated with criminal history, followed closely by the Criminal Friend Index (the number of affirmative responses to questions of friends' criminal behaviour from Part I). The other attitude scales did not correlate with

Table 2

Intercorrelations Of The MCAA DV.3 Subscales

		1	2	3	4
General Antisocial Attitudes	1	-			
Sentiments of Entitlement	2	.58	-		
Attitudes Towards Violence	3	.70	.60	-	
Associates	4	.29	.26	.30	-

Table 3

Correlations Of The MCAA DV.3 Subscales With Self-Reported Criminal Associations.

Subscale	Number of Criminal Friends	Index of Criminal Association
Antisocial	.27*	.27*
Entitlement	.24*	.30**
Violence	.37***	.39***
Associates	.56***	.57***

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

Table 4

Postdictive Correlations Of The MCAA DV.3 (N = 73)

	Number Of Convictions	Number Of Incarcerations	Assaults	Sex Assaults	Break & Enter
General Antisocial Attitudes	.16	.12	.09	-.24*	.16
Sentiments of Entitlement	.03	.00	.17	-.08	-.13
Attitudes Towards Violence	.16	.14	.26*	-.08	.08
Associates	.42***	.34**	.18	-.09	.24*
Criminal Friend Index	.27*	.26*	.25*	.03	.17
Number of Criminal Friends	.21	.21	.16	.03	.18

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

criminal history in general, but there were specific instances of significant relationships. Attitudes Towards Violence correlated .26 with the number of assault convictions. General Antisocial Attitudes correlated significantly and negatively with sexual assault convictions. Interestingly, the number of criminal friends did not correlate with criminal history unless one accounted for the friends' degree of criminal activity as reflected in the Criminal Friends Index.

The MCAA (DV.3) item endorsement and internal reliability issues have been resolved for the most part. The primary concern at this point in the scale's development was the high intercorrelation of three of the attitude scales: General Antisocial Attitudes, Sentiments of Entitlement, and Attitudes Towards Violence. Ten of the eighteen General Antisocial Attitude items correlated with the two other scales with greater or closer association than they did with their own scale. Reducing the high intercorrelations between these scales was the focus of the MCAA's next developmental stage.

Theoretically, General Antisocial Attitudes is likely to overlap with other scales. However, Sentiments of Entitlement and Attitudes Towards Violence are theoretically different enough to make pursuing their development worthwhile. For instance, conceptually an offender could have a strong sense of entitlement, which may contribute to his property offending, yet he may not endorse violent behaviours. However, this same offender is very likely to have more general antisocial attitudes.

Substantial changes were undertaken at this point in order to make the General Antisocial Attitudes scale conceptually distinct from the other scales. First, the rationalization/justification dichotomy was dropped, and second, the existing items were

reworked and new ones added to reflect Antisocial Intent. A total of 19 items, both positively and negatively keyed, were created for the scale. The additional items created the current 72-item version of the MCAA.

Socially Desirable Responding

The tendency for people to present themselves in a positive light may confound self-report measures, such as attitude questionnaires or trait inventories. This tendency has been labeled socially desirable responding. Much heated discussion regarding social desirability has occurred in the literature (Block, 1990). According to Nederhof (1985), social desirability is "the tendency...of subjects to deny socially undesirable traits and to claim socially desirable ones, and the tendency to say things which place the speaker in a favourable light." (p. 264).

Following a review of research, Furnham (1986) argued in favour of interpreting social desirability as a trait, citing the consistent and stable individual differences in socially desirable responses. Walsh, Tomlinson-Keasey, and Klieger (1974), who developed a childhood measure of social desirability, concluded that there was ample support for a social reinforcement theory for the acquisition of socially desirable responding, citing empirical evidence that social desirability is measurable at an early age and increases through the childhood years.

In addition to varying opinions on the nature of social desirability, researchers suggest varying methods for controlling it. Alexander and Beggs (1986) and Arnold and Feldman (1981) are among the researchers who suggested employing indirect methods of information gathering as a method for controlling social desirability. Messick (1962) suggested a statistical method for controlling response biases, such as statistically

partialing out independent measures of response sets from content scores. The drawback to this approach is that certain personality traits or features may be related in some manner to response sets; consequently, this approach may limit the measurement of the trait (Paulhus, 1984). Theoretically, this argument would not apply to the measurement of attitudes, because an attitude has been defined as an object-evaluation association. Thus, the statistical removal of social desirability would not be as limiting a factor and may be a reasonable approach in accounting for the possible influence of response sets.

Psychometric analysis of social desirability is consistent in finding two factors that adequately represent the construct. Reporting on a series of studies, Paulhus (1984) demonstrated the two-dimensional nature of socially desirable responding: self-deception and impression management. Self-deception is viewed as an unconscious defensiveness that defends against thoughts and feelings that threaten the "psyche", whereas impression management focuses on the self's representation to others. Other research has confirmed this factor structure. Factor analysis of three different measures of social desirability yielded a 2-factor higher order solution whether the factor analysis was first completed on the instruments separately, or if the items from all instruments were considered together (Holden & Fekken, 1989). The resulting two orthogonal factors were described as self versus other oriented. Following a review of research in social desirability, Nederhof (1985) also concluded that social desirability is comprised of self-deception and other deception. Self-deception occurs when the person believes a statement to be true of him or herself, even though it is not true, whereas purposely misrepresenting the truth to avoid negative evaluation is defined as other-deception

(impression management). Research in an offender sample has supported both two and three-dimensional models (Kroner & Weekes, 1996). The two dimensional model has identified one dimension which focuses on the self (self-deceptive) and one dimension which focuses on others (impression management). The former dimension can be considered as two separate dimensions in the three dimensional model: denial of the negative and over-confident rigidity.

Social desirability has been shown to account for a large portion of the variance associated with the self-report measurement of psychopathology (Edwards & Edwards, 1991; Jackson & Messick, 1962). There is also evidence that social desirability can influence reported attitudes. Sjöberg (1982) found that correlations between the reported attitudes toward international aid and subsequent behaviour was in large part accounted for by social desirability. Therefore, accounting for social desirability is an important step towards meaningfully interpreting self-report information. This is necessary in order for constructs being measured "to reflect relatively independent substantive domains" (Holden & Fekken, 1989, p. 181). Holden and Fekken recommend that both factors of social desirability be considered in the development of psychological measures, contrary to the opinion of Paulhus (1984). Paulhus showed that impression management differed between an anonymous versus public review of the responses, whereas the corresponding self-deception measure did not. Paulhus recommends that the impression management component in self-report scales should be controlled: "There is little reason to believe that individual differences in impression management bear any intrinsic relation to central content dimensions, so its elimination can be generally recommended" (p. 608).

This research on social desirability would strongly suggest that accuracy in measuring a psychological construct will be enhanced when the influence of socially desirable responding is minimized. Identifying self-report items that are susceptible to impression management and removing them from the self-report inventory is one strategy that can attenuate the influence of social desirability. This procedure is suggested as part of the continuing development of the MCAA.

The review thus far has shown that the social psychological construct of antisocial attitudes has a strong relationship with antisocial behaviour. In addition, current measures of antisocial attitudes have been examined and a new measure covering theoretically relevant domains has been offered. Finally, it has been suggested that accounting for impression management in self-report measures of antisocial attitudes will enhance the accuracy of the measure. At this point the review will focus on the personality construct of psychopathy; specifically, it will focus on how psychopathy is measured and the relationship this personality pathology has with antisocial behaviour.

Psychopathy

Construct and Measurement

Psychopathy is a personality disorder described as a pattern of interpersonal, affective, and behavioural symptoms (Hare, 1996; Hart, Hare, & Harpur, 1992). Interpersonally the prototypical psychopath is grandiose, egocentric, manipulative, dominant, forceful, and cold-hearted. Affective symptoms include shallow and labile emotions, inability to form enduring bonds, a profound lack of empathy, and absence of

anxiety, guilt or remorse. Behaviourally, psychopaths are impulsive, sensation-seeking, antisocial and often criminal, and fail to meet social obligations and responsibilities. Neuropsychological screening tests of psychopaths provided no support for a brain-damage hypothesis of psychopathy (Hart, Forth, & Hare, 1990).

The most widely employed measure of psychopathy is the Hare Psychopathy Checklist - Revised (PCL-R; Hare, 1991), a revision of the original checklist. The original PCL (22-item) version was found to be very reliable and highly associated with global ratings of psychopathy (Schroeder, Schroeder, & Hare, 1983). This is true for both white and black inmate populations, despite minor differences in terms of factor structure and score distribution (Kosson, Smith, & Newman, 1990). Although a five factor solution was first described (Hare, 1980), further research supported a homogeneous, unidimensional scale with a two factor structure (Harpur, Hare, & Hakstian, 1989; Templeman & Wong, 1994). Factor 1 is described as a constellation of personality traits (affective and interpersonal) central to the construct of psychopathy, and relates to egocentricity, manipulateness, and the callous, and remorseless use of others. Factor 2 reflects the chronically unstable and antisocial lifestyle. This social deviance component is more strongly related to antisocial personality disorder than are the interpersonal and affective symptoms (Factor 1) (Hare, Hart, & Harpur, 1991; Harpur, et al., 1989).

The PCL was subsequently revised and two items removed resulting in the PCL-R. The revised version, psychometrically assessed on male offenders, was found to correlate highly with the PCL ($r = .88$). When corrected for unreliability the correlation between the two scales lies between .95 and 1.0. As with the original, the revised scale

was found to be unidimensional containing two factors representing the personality traits and social deviance of psychopathy. Inter-rater reliability was acceptable (.86) as was internal reliability (.88) (Hare, Harpur, Hakstian, Forth, & Hart, 1990). The PCL-R was found to be reliable and valid with both male and female methadone patients (Alterman, Cacciola, & Rutherford, 1993; Rutherford, Cacciola, Alterman, & McKay, 1996).

Hare (1985) found the PCL to be a more valid method of assessing psychopathy than self-report measures such as the psychopathic deviate scale of the Minnesota Multiphasic Personality Inventory (McKinley & Hathaway, 1944), the socialization scale of the California Psychological Inventory (Gough, 1969), and an experimental psychopathy self-report questionnaire. Recently, Lilienfeld and Andrews (1996) have had success in developing a self-report measure, the Psychopathic Personality Inventory (PPI), which correlates with the central personality constructs of psychopathy in a student sample. Initial cross-validation research has shown the PPI to be more strongly associated with the core personality factor of the PCL-R than with the social deviance factor in an offender sample (Poythress, Edens, & Lilienfeld, 1998).

Psychopathy and Antisocial Behaviour

Psychopathy has long been associated with antisocial, personally intrusive, and criminal behaviour. Therefore, it is not surprising that psychopaths comprise between 15 and 25 percent of prison populations (Hare, 1996). Psychopaths are more likely than nonpsychopaths to be arrested at an earlier age, to commit more offences, employ more aliases, spend more time in prison, have poorer release outcomes, and commit more institutional offences with greater threats and violence (Wong, 1984). Moreover,

psychopathy has been associated with the poor release performance of offenders in terms of re-offending, suspensions and supervisory problems (Hart, Kropp, & Hare, 1988). Serin, Peters, and Barbaree (1990) found that the PCL predicted temporary absence and parole outcomes. Psychopaths reoffended sooner and more often than did nonpsychopaths. Psychopathy has also been useful in predicting aggression and treatment compliance in a forensic hospital setting (Hill, Roger, & Bickford, 1996).

Criminal psychopaths are more violent and aggressive than criminal nonpsychopaths (Hare & McPherson, 1984; Kosson, Steuerwald, Forth, & Kirkhart, 1997; Serin, 1996; Serin & Amos, 1995). Serin (1991) found psychopaths to have a criminal history that included more violent crimes, but not more overall convictions than non-psychopaths. Violent psychopaths reported a greater likelihood of using instrumental aggression (violent acts for purposes of control or material gain), threats, and weapons than did nonpsychopaths. Psychopathy scores of reactively violent offenders (offenders who commit an offence out of hostility in response to some provocation or perceived threat) are lower than for instrumentally violent offenders (Cornell, Warren, Hawk, Stafford, Oram, & Pine, 1996).

Psychopathy's strong relationship with criminal recidivism has resulted in its inclusion in risk prediction schemes (Rice, 1997; Webster, Douglas, Eaves & Hart, 1997) for use with both mentally disordered offenders (Harris, Rice, & Quinsey, 1993) and non-disordered offenders (Loza & Dhaliwal, 1997). In addition, when psychopathy is combined with phallometric data (sexual deviance) the variables serve to substantially improve the prediction of sexual recidivism (Rice & Harris, 1997).

Psychopathy has been shown to be a valuable predictive construct in samples other than incarcerated adults. For example, Harris, Rice and Cormier (1991) found psychopathy to predict violent re-offending in mentally disordered offenders.

Psychopathy is associated with violent offending in juveniles, particularly when considered along with family dysfunction (Forth & Burke, 1998).

Despite the early onset and enduring nature of psychopathy, there is some evidence that behavioural correlates may change over time. The reported criminal activities of psychopaths tend to decrease after the age of 40; however, violent crimes increase as a percentage of crimes committed. Factor 1 scores tend to remain stable across the life span, whereas Factor 2 scores decline with age (Hare, Forth, & Strachan, 1992; Harpur & Hare, 1994; Hare, McPherson, & Forth, 1988). Unfortunately, psychopathy has been shown to be a predictor of poor response to treatment, and within a therapeutic community treatment for mentally disordered offenders, treatment of psychopaths negatively impacted release outcome (Harris, Rice, & Cormier, 1994; Rice, Harris & Cormier, 1992; Seto & Barbaree, in press).

Blair (1995) studied the moral functioning of psychopaths through the presentation of scenarios depicting moral transgressions and conventional transgressions. The former was defined by their consequences for the rights and welfare of others, while the latter was defined as violations of behavioural uniformity that structure social interactions within a social system. Blair cited ample evidence that both children and adults judge moral transgressions as more serious than conventional transgressions. Blair's research demonstrated that psychopaths as compared with nonpsychopaths did not make a moral/conventional distinction. Contrary to

expectations, psychopaths treated all transgressions as moral. In addition, psychopathy was negatively correlated with the identification of victim welfare in the scenarios. Despite these differences in moral/conventional distinctions, there is evidence to suggest that psychopathy is not associated with level of moral reasoning once intelligence has been statistically controlled (O'Kane, Fawcett, & Blackburn, 1996).

As the social psychological construct of attitudes has been shown to be related to antisocial behaviour, so has the personality construct of psychopathy. However, there has been limited research conducted on the relationship between attitudes and personality traits or constructs that are associated with criminal behaviour. The next section will review the relationship of personality and attitudes as they relate to each other within a forensic context, with specific focus on the relationship between psychopathy and antisocial attitudes.

Antisocial Attitudes and Psychopathy

The notion of an attitude/trait relationship in criminal behaviour was raised 35 years ago. Following a study of 300 property offenders, and the resulting relationship of attitudes with individual variables, Mylonas and Reckless (1963) suggested that their study "merely senses that there are personality traits and/or self-components behind the individual variability in attitudes toward law and legal institutions" (p. 54). The authors concluded that further exploration was needed on the relationship of attitudes towards the law and personality traits.

Despite the strong criminal attitudes-criminal behaviour, and psychopathy-criminal behaviour links, few studies report on the relationship of criminal attitudes and psychopathy. Simourd (1997) used the PCL-R as a concurrent validity measure in his

evaluation of a modified CSS. The CSS-M correlated .18, .12, and .35 with the PCL-R Total, PCL-R Factor 1, and PCL-R Factor 2, respectively. The PID correlated more strongly with the same measures of psychopathy: .24, .10, and .30, respectively. The correlations of the attitude measures are more strongly associated with the social deviance aspect (Factor 2) of psychopathy than with the core personality aspect (Factor 1).

Summary

This review has shown that among the similarities of attitude and personality (traits) is their common association with behaviour. However, when personality dimensions have been studied in conjunction with attitudes, the traits chosen by researchers have been those which were thought to impact any kind of attitude. Examples of such traits include self-monitoring, dogmatism, and self-esteem which can be applied to a variety of attitudes (e.g., attitudes towards religion, politics or pizza). These traits are not directly associated with the attitude object or related behaviour. In addition, traits have been shown to influence attitudes by moderating attitude strength as operationalized by response latency. The forensic application of this research offers a unique opportunity to study the relationship between a personality construct and an attitude which share a common association with behaviour; specifically, psychopathy and antisocial attitudes have in common an association with antisocial behaviour.

Sherman and Fazio (1983) postulated that a trait dimension can affect the reconstruction of information from memory so that information consistent with the trait position is recalled better. Similarly, they suggested that "attitudes guide information processing. The importance of this attitude-perception link is that it suggests that an

individual's attitude will guide his/her perceptions of the object in the immediate situation in which the object is encountered" (p. 332). A question which arises from Sherman and Fazio's two postulates is whether a trait dimension influences (guides) the development of an attitude. Examining the relationship of a personality construct and an attitude that share similar associated behaviours would be a step towards answering this question.

Ajzen (1988) reported that personality psychologists consider personality structures in terms of "multidimensional trait configurations". Although previous research has examined the differences in attitudes along individual trait dimensions, examining the relationship between attitudes and psychopathy is an examination of attitudes and a "multidimensional trait configuration", and this is an important distinction from previous investigations into the attitude/trait relationship.

Purpose of the Study

The purposes of the current study are to (a) validate a new measure of criminal attitudes, (b) test the Fazio (1989) model of attitude accessibility with criminal attitudes, (c) explore the relationship of the personality construct of psychopathy with antisocial attitudes and their response latencies, and finally to (d) investigate if psychopaths' inability to make a moral/conventional distinction extends to an inability to discriminate an item's moral tone (i.e., rationalization versus justification).

Hypotheses 1 and 2 pertain to a new measure of criminal attitudes, the MCAA. Convergent, divergent and concurrent validity will be investigated. The relationship of the MCAA and psychopathy will be examined to determine if the new MCAA domains

hold a similar pattern with psychopathy (stronger for Factor 2 than for Factor 1) as do other measures of criminal attitudes.

Hypotheses 3 and 4 relate to testing the model of attitude accessibility. Those participants for whom attitudes are more accessible (salient) are expected to have faster response latencies to the attitude items. Participants scoring high and low on attitudes (Hypothesis 3) and on psychopathy (Hypothesis 4) are expected to have more accessible attitudes.

Finally, Hypothesis 5 pertains to the relationship of psychopathy with the difference in moral tone of the attitude items (rationalizations and justifications), which are found in the MCAA scales of Violence and Entitlement.

Hypotheses

Hypothesis 1: Validity of the MCAA

Consistent with construct validity the four attitude scales of the MCAA (Violence, Entitlement, Antisocial Intent, and Associates) will be more strongly associated with existing measures of criminal attitudes than with measures of negative affect. In addition, the MCAA scales will be positively correlated with criminal history variables.

Hypothesis 2: The MCAA and Psychopathy

Consistent with other antisocial attitude measures (Simourd, 1997), the four attitude scales of the MCAA will correlate moderately with psychopathy as measured by the PCL-R. More specifically, the MCAA will be more strongly correlated with Total Score and Factor 2 than with Factor 1.

Hypothesis 3: Antisocial Attitudes and Response Latencies

Fazio and Williams (1986) found that response latencies were associated with attitude extremity. Specifically, the more extreme the attitude the faster the response latencies. Bassili (1995) reported a significantly stronger correlation between voting intention and voting behaviour for those higher on attitude accessibility (faster response latency) than those lower on attitude (slower response latency). These findings are consistent with the Fazio (1989) model of attitude accessibility. Therefore, it is hypothesized that response latencies to the MCAA attitude items (attitude accessibility) will be related to the endorsement of those attitudes (attitude extremity) and with the criminal history measures (behaviour). For those participants who score lower and higher on the MCAA attitude scales, attitudes should be more salient, and therefore response latencies to the items should be faster. Additionally, it is hypothesized that response latency will add incremental variance accounted for in the relationship between attitudes and criminal behaviour.

Hypothesis 4: Psychopathy and Response Latencies

Psychopathy's positive correlation with antisocial attitudes (Simourd, 1997) would suggest that as in Hypothesis 3, for those participants lower and higher on psychopathy, attitudes should be more salient therefore response latencies to the items should be faster. Specifically, those who score lower and higher on the measure of psychopathy will respond more quickly than those who have a moderate score.

Hypothesis 5: Psychopathy and the Endorsement of Moral Tone

It is hypothesized that those scoring high on psychopathy will endorse more rationalization and justification items than those scoring low on psychopathy. In

addition, based on Blair's (1995) finding that psychopaths did not make a moral/conventional distinction between negative actions described in a series of vignettes, it is hypothesized that there will be no difference in the number of rationalization and justification items endorsed by those scoring high on psychopathy, while there will be significantly fewer justification than rationalization items endorsed by those scoring low on psychopathy. No hypothesis is made concerning the those who score moderately on psychopathy.

Method

Participants

Participants were 120 incarcerated males convicted of an offence for which they were serving a sentence of two years or more. The age of the participants ranged from 20 to 69 years of age with a mean of 35.8 years ($SD = 11.5$). The racial composition consisted of 76.7% Caucasian, 12.5% Black, 8.3% Native, and 2.5% other. Confining offences for the participants were categorized as assaultive (22%), robbery (23%), sexual (35%), property (10%), criminal negligence or driving related (5%), and drug related (5%).

Measures

Hare Psychopathy Checklist - Revised (PCL-R)

The PCL-R (Hare, 1991) is a 20-item symptom rating scale which measures the personality and social deviance traits of psychopathy (see Appendix A). A rating for each item is made on a 3-point scale from 0 (does not apply) to 2 (does apply) based upon detailed criteria contained in the manual. The combined scores of the ratings can range from 0 to 40, and reflect the participant's correspondence to the prototypical

psychopath. Ratings are made following a semi-structured interview and file review (Hare, 1991).

Measure of Criminal Attitudes and Associates (MCAA)

The MCAA (Mills, 1997) is a two part self-report measure of criminal attitudes and associates. Part A is a measure intended to quantify criminal associations. Participants are asked to recall the four adults with whom they spend the most free time. For each adult they then indicate how much of their free time is spent in their associates' company (0-25%, 25-50%, 50-75%, 75-100%). The participant then answers four questions regarding the degree of the criminal involvement of their associates. This provides both a measure of time spent and criminal involvement for the participant's closest associates (Appendix B). Part A of the MCAA was used to calculate two measures of criminal associates. The first, "Number of Criminal Associates" was calculated by adding up the number of friends for whom the participant had answered 'yes' to any of the questions of criminal involvement. This meant the participant could indicate zero to four criminal associates. The second measure is the "Criminal Associate Index". This measure is calculated by assigning a value of one through four to the percentage of time spent with each identified associate (see Table 5). That number is then multiplied by the number of yes responses to the four questions of criminal involvement. Each of the resulting products are added together to produce the Criminal Associate Index.

Part B is a 72-item measure of attitudes that is comprised of four scales: Violence (18 items), Entitlement (24 items), Antisocial Intent (19 items), and Associates

Table 5

 The MCAA ~ Part A

Consider the 4 adults you spend the most time with in the community, when you answer Part I.

No names please of the people you are referring to. Then answer the questions to the best of your knowledge.

1.

A. How much of your free time do you spend with person #1? (Please Circle Your Answer)

less than 25%	25% - 50%	50% - 75%	75% - 100%
(1)	(2)	(3)	(4)

B. Has person #1 ever committed a crime?	Yes (1)	No (0)
C. Does person #1 have a criminal record?	Yes (1)	No (0)
D. Has person #1 ever been to jail?	Yes (1)	No (0)
E. Has person #1 tried to involve you in a crime?	Yes (1)	No (0)

(11 items). Unique to the MCAA is the inclusion of item couplets which tap the same content area but differ in moral tone. For identification purposes, these differences in moral tone are called rationalization and justification. Justification items are more absolute in moral tone and include such phrases as "... there is nothing wrong with...", whereas rationalization items avoid explicitly using moral language. For example, from the Violence scale the item "People who get beat up usually had it coming" is considered a rationalization item. This item's justification counterpart is "There is *nothing wrong* with beating up someone who asks for it". There are equal numbers of rationalization and justification items since each content area is tapped with each level of moral tone. Participants respond to a dichotomous choice of agree/disagree (Appendix C).

Criminal Sentiments Scale (CSS)

The CSS (Gendreau et al., 1979) is a 41-item measure of anti-social attitudes. This self-report measure is comprised of 3 subscales: Attitudes Towards the Law, Courts and Police (ALCP, 25 items); Tolerance for Law Violations (TLV, 10 items) and Identification with Criminal Others (ICO, 6 items) (Appendix D). Participants respond using a five point Likert scale. Items from the ALCP are scored so that higher scores are indicative of positive attitudes towards the law, courts and police. High scores on the TLV and ICO scales indicate pro-criminal attitudes. For the purpose of this study, the ALCP items were reversed-keyed so that a high score indicated pro-criminal attitudes, similar to the TLV and ICO scales.

Pride In Delinquency Scale (PID)

The PID (Shields & Whitehall, 1991) is a 10-item self report instrument that measures the pride or shame a participant would feel about an antisocial behaviour (Appendix E). Responses are made on a 21-point scale from -10 (very ashamed) to +10 (very proud). The responses to the 10 items are summed and added to 100 to produce a positive score. The PID was administered by microcomputer for the purposes of this study. In order to adapt the measure to the microcomputer the scale was altered to a 9-point Likert type scale from 1 (ashamed) to 9 (proud).

Balanced Inventory of Desirable Responding (BIDR)

The BIDR (Paulhus, 1994) is a 40-item self-report measure of the tendency to give socially desirable responses on self-reports (Appendix F). The measure is comprised of two subscales: Self-Deceptive Enhancement (SDE, 20 items), which measures the tendency to give honest (though self-deceived) but inflated self-descriptions; and Impression Management (IM, 20 items), which measures the tendency to give situationally defined inflated self-descriptions. Responses are made on a 1 to 7 scale anchored by "not true" (1) and "very true" (7). To reduce the influence of social desirability on scale items, Paulhus (1984) recommends the elimination of those items strongly associated with impression management. To that end, the IM scale of the BIDR will be employed in this study. Internal consistency for the IM scale as indexed by coefficient alpha ranged between .80 and .86 for student samples (Paulhus, 1994). Kroner and Weekes (1996) confirmed the 2-factor structure, reliability and validity within an offender sample.

State-Trait Anger Expression Inventory (STAXI)

The STAXI (Spielberger, 1988) is a combination of Spielberger's earlier work in the area of state-trait anger (Spielberger, Jacobs, Russell, & Crane, 1983), and anger expression (Spielberger et al., 1985). The structure of the anger expression subscales has been replicated in an offender sample (Kroner & Reddon, 1992). However, the authors concluded that the state and trait subscales were confounded by anger expression. Subsequently, the State Anger and Trait Anger scales are not included, and only the anger expression components were used in this study. The three anger expression scales are anger-in (8 items; expression of anger inwardly), anger-out (8 items; outward expression of anger), and anger-control (8 items; controlling the expression of anger). Responses are made on a 1-4 scale anchored by "almost never" (1) and "almost always" (4), with higher scores indicating greater presence of anger-in, -out, -control. Kroner and Reddon (1992) reported measures of internal consistency in an offender sample of .72, .80, and .87 for the scales of anger-in, anger-out, and anger-control, respectively.

State-Trait Anxiety Inventory (STAI)

The STAI (Spielberger, 1983) is a 40-item self-report instrument which measures of anxiety. Twenty items ask how the respondent feels "right now" (state anxiety) and 20 questions ask how the respondent "generally feels" (trait anxiety). Answers to the state anxiety items are made on a 4-point scale from "not at all" (1) to "very much so" (4). Answers to the trait anxiety items are made on a similar 4-point scale from "almost never" to "almost always". Spielberger (1983) reports test-retest stability of trait anxiety among male and female college students over a 104 days period to be .73 and .77

respectively. Test-retest reliability for state anxiety was expectedly lower for the same sample and time period, .33 for males and .31 for females. Spielberger (1983) has demonstrated the STAI's convergent and divergent validity in relationship with other anxiety measures and the Personality Research Form (Jackson, 1967).

Beck Depression Inventory (BDI)

The BDI (Beck & Steer, 1987) is a 21-item self-report instrument designed to measure the severity of depression. The symptoms and attitudes associated with depression are measured through the presentation of four response alternatives. In each case the first response alternative is a neutral statement of the symptom, which is then followed by three progressively severe statements of the symptom. As a result the items are measured on a 4-point scale ranging from 0 to 3. Beck and Steer (1987) report internal consistency ranging from .79 to .90 in samples of depressed and addicted participants. BDI norms for offenders have been shown to be elevated over norms for the general population (Boothby & Durham, 1999).

Criminal History Variables

Official criminal records were obtained for all participants. For each participant, the total number of criminal convictions and total number of incarcerations were calculated. From the total number of convictions, the number of (a) violent, (b) non-violent, and (c) sexual assault convictions were calculated.

Institutional Misconduct Variables

The number of institutional misconducts for which the offender was found guilty was determined by a review of institutional files. The misconducts were classified as either major or minor offences, a distinction which is made by the correctional system in

determining how to proceed with the misconduct. Well-defined guidelines are established within the correctional system for determining which institutional offences are considered major and which are considered minor. Minor offences are formally dealt with within the participant's living unit by a senior security staff. They include, but are not limited to, offences such as improper dress, disrespect towards an officer, non-compliance of direction, failing to show oneself for an institutional count, etc. Major offences are presented at the institutional court, which is presided over by an independent chairperson, usually a lawyer from the community. These offences include, but are not limited to, alcohol/drug use or possession, threatening, inciting, refusing urinalysis, and refusing an order. Evidence is presented by senior security officers, and the offender is given the right to legal counsel if he should choose. The right to appeal a decision is also a part of the process.

Response Latency Variables

Response latencies were measured and recorded by a micro computer. The computer presented the instructions (which includes the use of the response alternatives) followed by a command to press a key when the participant was ready to proceed. The item then appeared on the screen accompanied by the response alternatives. When the participant made his response, the computer recorded the response and response latency, cleared the screen, and presented the next item.

Prior to calculating the mean response latency measures, response latencies shorter than 1 second and greater than 30.0 seconds were eliminated. These latencies are considered outliers produced by not reading the item before responding, and distraction from the item, respectively.

Response latencies were adjusted to account for person differences as recommended by other researchers (Fazio, 1990; Holden, Fekken, & Cotton, 1991; Holden & Kroner, 1992). Fazio (1990) suggested accounting for the possibly confounding influence of reading speed through one of two methods. The first is to statistically remove the influence of reading by partialing out the response latencies associated with items neutral to the attitude being considered. The second is to produce a difference score through subtraction of the response latency of the attitude items from the response latency of the neutral items.

Methods of calculating response latencies differ and this variance is due to the type of data and method of collection. This study examined response latencies gathered in a unique manner from a unique population and in keeping with an exploratory approach, three response latency measures will be included in the analysis.

The "Mean Response Latency" is a simple calculation of the mean response time to the MCAA scale items. For each participant there were four Mean Response Latency measures, one for each of the scales of Violence, Entitlement, Antisocial Intent, and Associates.

Two additional measures of response latency were calculated which mathematically account for reading speed in two different ways. Individual reading speed was approximated by measuring the response latency to items not associated with the MCAA scales. To accomplish this, all items comprising the BIDR were correlated with the four MCAA scales. The BIDR items which were not significantly correlated to any of the MCAA scales were considered neutral to antisocial attitudes and were included as a measure reading speed. Ten items met this criterion and they

are reported in Appendix I along with the correlations to the MCAA scales. The mean response latency to these items was calculated and considered to represent the response latency to items neutral to antisocial attitudes and an approximation of reading speed.

The "Partialled Response Latency" measure was calculated by predicting the Mean Response Latency from the mean neutral item response latency (response latencies to the BIDR items described above) and saving the residuals. This resulted in four measures, one for each of the MCAA scales, and represented the response latency to the MCAA scale items with the influence of the neutral item response latencies partialled out.

The mean "Difference Response Latency" also accounted for responses to neutral items through the subtraction of the mean response time to the MCAA scales from the mean response time to the neutral items. For example, a mean response latency to the items of the Associates scale may be 3500 milliseconds for a participant and the mean response latency to the neutral items may be 4500 milliseconds. The Difference Response Latency for that participant would then be 1000 milliseconds.

Procedure

All participants were drawn from offenders who were consecutive admissions to the Millhaven Assessment Unit and who participated in a psychological assessment during their fourth or fifth week at assessment unit. Psychological assessments required by the Correctional Service Canada and the National Parole Board are generally for two purposes: the first at intake to determine the level of risk and needs and to make recommendations for programming, and the second as a pre-release assessment to

determine the level of risk and to identify appropriate supervision strategies. In either instance, the PCL-R is completed by the interviewer, and in most cases the offender completes a battery of self-report measures.

Offenders who participated in a psychological assessment were approached to participate in this study. Prior to testing and completion of a psychological assessment, offenders are asked to read and sign a consent form for that purpose. At this time, offenders will be asked if they would consent to participation in this study, and agreement would be indicated by the signing of a consent form for this study (Appendix G). A Debriefing Information Sheet explaining the study to the participants is found in Appendix H.

The BIDR, PID, MCAA and CSS were administered by microcomputer (Computerized Item Management System; Kroner, Muirhead & Mills, 1997). Differences between self-report measures administered on computer as compared with paper-pencil administration are sufficiently small so as not to threaten their validity (Miles & King, 1998). In addition to the computer recording the item responses, the response latency to each item was also measured. Criminal history data was gathered from RCMP records. For a sub-sample of 69 offenders, six or more months had passed since the testing was completed, which allowed the number of misconducts incurred in the 6-months following their transfer out of the Millhaven Assessment Unit to be gathered from file information.

Analysis

MCAA - Social Desirability Issues

Prior to undertaking the analysis to test the hypotheses, consideration was given to the influence of social desirability in the attitude measure. In order to avoid the possible confound of impression management in the MCAA items, the BIDR, specifically the Impression Management scale, was employed to control for impression management through the removal of items which correlated with the Impression Management scale more strongly than they do with their own scale.

Psychopathy and the PCL-R

Livesley, Jackson and Schroeder (1992) viewed personality disorders as a cluster of traits, and examined categorical and dimensional models for classifying personality disorders by comparing a clinical sample with a general population sample. The results showed a similar 15-factor solution in both samples supporting the dimensional model of personality pathology. The authors concluded, "personality pathology in a clinical population appears to differ in quantity rather than quality" (p. 438). In arguing in favour of his two-dimensional organization of personality disorder, Blackburn (1987) drew a similar conclusion when he noted that classification systems of personality disorder are unreliable and "impose artificial discontinuities between disorder and normality" (p. 81). Despite the diagnostic ability of the PCL-R, research has found the PCL-R to be more reliable as a dimensional measure than as a categorical measure (Rutherford et al., 1996). For these reasons, the PCL-R data are analyzed primarily from a dimensional perspective. In addition, by using the PCL-R as

the measure of psychopathy, the pitfall of comparing self-report with self-report is avoided. In this study, attitudes are being measured by self-report, whereas psychopathy is being assessed through interview where style and content are assessed and rated, as well as through the corroboration of historical data of behavioural responses.

Results

Descriptive Statistics of the Measures

The descriptive data for the instruments are presented in Table 6. The mean scores for the total MCAA and its composite scales were generally in the lower third of the response ranges. For example, the range of MCAA total scores was 61 (3 to 64), and the mean was 22.5 (SD = 12.6). Mean responses for the CSS indicate greater item endorsement. For example the mean CSS total score was 88.7 which falls in the upper half of the range of scores (maximum 162 minus minimum 50 equals 112). The CSS means were similar to those reported on another sample of federally incarcerated offenders (M = 14.3, SD = 3.3, ICO; M = 23.6, SD = 5.5, TLV; M = 54.8, SD = 13.9, LCP, Mills & Kroner, 1997). Endorsement of the PID was similar to the MCAA in that the mean score fell in the lower third of the response range.

Internal consistency was assessed by Cronbach's coefficient alpha, and ranged from .71 to .93 for the attitude measures. One exception was the ICO scale which had an alpha of .48. This was likely due to the few number of items in this scale. The mean

Table 6

Descriptive Statistics and Alpha for Scales

Scale	# of Items	Mean	SD	Minimum	Maximum	Alpha
MCAA	72	22.5	12.6	3.0	64	.93
Violence	18	5.2	4.1	0	17	.86
Entitlement	24	7.9	4.1	0	22	.79
Antisocial Intent	19	4.2	4.1	0	16	.87
Associates	11	5.3	3.3	0	11	.87
CSS	41	88.7	25.5	50	162	.93
LCP	25	54.2	17.9	25	110	.92
TLV	10	21.1	6.5	10	38	.71
ICO	6	13.4	3.9	6	26	.48
PID	10	21.6	12.2	10	69	.84
Impression Management	20	76.6	22.4	20	132	.86
PCL-R	20	19.3	8.0	3	37	.85
Factor 1	8	6.6	4.0	0	16	.83
Factor 2	9	9.7	4.7	0	18	.82
Number of Criminal Associates	-	1.3	1.3	0	4	-
Criminal Associate Index	-	6.3	7.4	0	32	-

scores for the PCL-R are similar to scores collected previously at the same facility ($M = 19.2$, $SD = 8.9$, PCL-R Total; $M = 7.6$, $SD = 3.6$, Factor 1; $M = 8.9$, $SD = 4.9$, Factor 2, Kroner, 1999).

Validity of the MCAA (Hypothesis 1)

MCAA Items and Impression Management

All items of the MCAA were correlated with both the scale to which they belong and with the Impression Management scale of the BIDR. Items which correlated more strongly with the Impression Management scale than their own scale would be removed from the analysis in an attempt to reduce the influence of item social desirability. Appendix J contains all of these item correlations. None of the items met the criterion for exclusion, thus the 72-item MCAA was employed in the subsequent analyses.

Intercorrelations of the MCAA Scales

Scale intercorrelations were moderate (see Table 7) and range from .42 to .66 ($M = .54$). Scales most highly correlated were Violence and Entitlement and scales least correlated were Entitlement and Antisocial Intent.

Convergent Validity

The relationship of the MCAA scales with other measures of antisocial attitude and measures of antisocial associates was examined; the resulting correlations are reported in Table 8. Correlations were moderate to high and spanned the range of .47 to .69 with other measures of antisocial attitudes. The Violence scale was most strongly correlated with both the CSS and PID, and the Associates scale was least strongly

Table 7

Intercorrelations of the MCAA Scales

Scale	MCAA	Violence	Entitlement	Antisocial Intent
MCAA	-			
Violence	.85	-		
Entitlement	.81	.66	-	
Antisocial Intent	.79	.56	.42	-
Associates	.78	.48	.53	.57

Table 8

Correlations Between the MCAA and Other Measures of Antisocial Attitudes and Associates

Scales	CSS	LCP	TLV	ICO	PID	# of Criminal Associates	Criminal Associate Index
MCAA	.77	.68	.74	.69	.72	.56	.62
Violence	.68	.63	.65	.51	.69	.35	.42
Entitlement	.65	.54	.70	.57	.48	.42	.46
Antisocial Intent	.59	.54	.52	.53	.67	.41	.50
Associates	.55	.47	.50	.63	.47	.67	.66

Note. All correlations exceed $p < .001$. CSS = Criminal Sentiments Scale, LCP = Law, Courts and Police subscale, TLV = Tolerance For Law Violations, ICO = Identification With Criminal Others, PID = Pride In Delinquency Scale.

correlated with the same two measures. As expected the Associates scale was most strongly associated with ICO ($r = .63$) and self-reported criminal associates (Number of Criminal Associates ($r = .67$) and Criminal Associate Index ($r = .66$)).

Divergent Validity

The MCAA scales were correlated with measures of negative affect (depression, anxiety, and anger) in order to investigate the relationship with constructs not directly relevant to antisocial attitudes. The range of absolute values of the correlations spanned .04 to .38 and are reported in Table 9. This range of correlations was weaker and does not overlap with the range of correlations between the MCAA scales and other measures of antisocial attitudes (.47 to .77).

Criterion Validity

Descriptive statistics for the criminal history indices are reported in Table 10. The mean number of convictions and incarcerations were, 20.3 and 7.1 respectively, which is not unexpected given that most federally sentenced offenders are recidivists. The total number of convictions were broken down into violent, non-violent, and sexual offences. These indices were then correlated with the MCAA, CSS, and PID to investigate the relationship of the MCAA with criterion variables relative to other attitude measures (see Table 11). The scales of Antisocial Intent and Associates were most strongly related to the criterion variables, and these correlations met or exceeded the correlations of all other attitude measures with the same variables. To test the strength of these relationships a test of statistical

Table 9

Correlations of the MCAA with Measures of Negative Affect (n = 120)

	Depression	State AX	Trait AX	Anger In	Anger Out	Anger Control
MCAA	.16	.11	.24**	.35***	.27**	-.33***
Violence	.21*	.06	.17	.35***	.24**	-.27**
Entitlement	.04	.07	.13	.14	.16	-.25**
Antisocial Intent	.14	.07	.20*	.38***	.25**	-.27**
Associates	.14	.16	.29**	.26**	.22*	-.29**

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, State AX = State Anxiety, Trait AX = Trait Anxiety.

Table 10

Descriptive Statistics for Criminal History Indices

Index	Mean	SD	Minimum	Maximum
Convictions	20.3	17.2	1	98
Incarcerations	7.1	6.8	1	44
Violent Offences	2.8	2.6	0	13
Non-violence Offences	16.3	16.3	0	93
Sexual Assaults	1.2	2.3	0	18

Table 11

Attitude Measures Postdictive Correlations with Criminal History Indices

Scale	Convictions	Incarcerations	Violent	Non-violent	Sexual Assaults
MCAA	.35***	.37***	.25**	.36***	-.21*
Violence	.14	.18*	.12	.15	-.16
Entitlement	.21*	.21*	.12	.22*	-.11
Antisocial Intent	.34***	.37***	.24**	.34***	-.18*
Associates	.49***	.47***	.36***	.49***	-.23*
CSS	.27**	.33***	.27**	.27**	-.21*
LCP	.25**	.30**	.27**	.25**	-.17
TLV	.20*	.26**	.18	.21*	-.22*
ICO	.29**	.35***	.22*	.30**	-.19*
PID	.26**	.29**	.20*	.28**	-.23*

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

significance of differences between two dependent correlations was employed (A-Stat; Reddon, 1995). The Associates scale was significantly more strongly correlated than was the ICO scale with the Criminal History Indices of Convictions ($t(117) = 2.9, p < .01$), and Non-violent offences ($t(117) = 2.7, p < .01$). Similarly, the Associates scale was significantly more strongly correlated than the Antisocial Intent scale with the same indices ($t(117) = 2.0, p < .05$, Convictions; $t(117) = 2.0, p < .05$, Non-violent offences). The scales of Violence and Entitlement generally correlated less strongly with the criterion variables than the other attitude measures, despite sharing a similar pattern of correlations of the other MCAA scales in the convergent validity analysis.

The MCAA and Psychopathy (Hypothesis 2)

The total scale and factor intercorrelations of the PCL-R as shown in Table 12 were found to be consistent with other research (Hare, 1991). Both factors were found to be highly correlated to the total scale score and were correlated to each other by .32. Attitude measures were correlated with the PCL-R (see Table 13). Consistent with earlier research and confirming Hypothesis 2 the PCL-R total score and Factor 2 were generally moderately to highly correlated with the attitude measures, whereas Factor 1 was not. The MCAA total and Associates scale scores were the most highly correlated with psychopathy. When psychopathy was correlated with the Criminal History Indices (Table 14) both the PCL-R total and Factor 2 were more highly correlated with the outcome measures than was Factor 1. Of note was the significant negative correlation between prior sexual offences and the PCL-R and Factor 2. This is consistent with the negative correlations found between antisocial attitudes and prior sexual offences. To investigate this further the 42 participants whose confining offence was a sexual crime

Table 12

PCL-R Intercorrelations

	PCL-R	Factor 1	Factor 2
PCL-R	-		
Factor 1	.76	-	
Factor 2	.84	.32	-

Table 13

Correlation of Attitude Measures with PCL-R

Scales	PCL-R	Factor 1	Factor 2
MCAA	.41***	.07	.54***
Violence	.26**	.02	.37***
Entitlement	.25**	-.02	.36***
Antisocial Intent	.35***	.13	.42***
Associates	.51***	.12	.64***
CSS	.34***	.08	.44***
LCP	.31***	.10	.39***
TLV	.23*	-.02	.34***
ICO	.43***	.11	.52***
PID	.37***	.12	.45***

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

Table 14

Correlation of the PCL-R with Criminal History Indices

	Convictions	Incarcerations	Violent	Non-violent	Sexual
PCL-R	.47***	.47***	.42***	.45***	-.18*
Factor 1	.18*	.16	.16	.15	.06
Factor 2	.55***	.58***	.50***	.55***	-.35***

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

were identified and the criminal history variables were examined. The means for this group were as follows: convictions ($M = 10.1$, $SD = 8.1$), incarcerations ($M = 3.2$, $SD = 3.1$), violent offences ($M = .6$, $SD = 1.0$), nonviolent offences ($M = 6.4$, $SD = 2.6$), and sexual offences ($M = 3.1$, $SD = 3.0$). The means of the criminal history variables for the 78 non-sex offenders were compared with the sex offender means and found to be statistically greater, with the exception of prior sexual offences: convictions ($M = 25.7$, $SD = 18.2$, $t(118) = 5.3$, $p < .001$); incarcerations ($M = 9.2$, $SD = 7.3$, $t(118) = 5.1$, $p < .001$); violent ($M = 3.9$, $SD = 2.5$, $t(118) = 8.2$, $p < .001$); nonviolent ($M = 21.6$, $SD = 17.3$, $t(118) = 5.4$, $p < .001$); and sexual offences ($M = .23$, $SD = .79$, $t(118) = 8.0$, $p < .001$).

Given that both antisocial attitudes and psychopathy are related to the Criminal History Indices, exploratory analyses which employed stepwise multiple regressions were undertaken to determine if attitudes and psychopathy would combine to improve the prediction of antisocial behaviour. In a series of five stepwise multiple regression analyses the independent variables of PCL-R total score and the four MCAA scales were used to predict the five Criminal History Indices. In four of the five analyses both the PCL-R total score and the Associates scale entered the equation (see Table 15). Where sexual offence history was the dependent variable, the Associates scale was the sole predictor to enter the equation. For the remaining dependent variables the incremental variance accounted for with the inclusion of the second variable ranged from 3% to 7%. Additionally, in two analyses (Convictions and Violent offences) the PCL-R entered the equation first, whereas Associates entered the equation first in the other two analyses (Incarcerations and Non-violent offences).

Table 15

Stepwise Regression of Psychopathy and the MCAA on Criminal History Indices

Independent Variables: PCL-R, Violence, Entitlement, Antisocial Intent, Associates

Dependent Variable	Step	Variable Entering	R	R²	Change in R²
Convictions	1	PCL-R	.47	.22	
	2	Associates	.54	.29	.07
Incarcerations	1	Associates	.49	.24	
	2	PCL-R	.55	.30	.06
Violent	1	PCL-R	.42	.18	
	2	Associates	.45	.21	.03
Non-violent	1	Associates	.49	.24	
	2	PCL-R	.54	.29	.05
Sexual	1	Associates	.23	.05	

Note. Probability needed to enter the equation = .05, probability to be removed = .10

The Criminal History Indices are postdictive measures gathered concurrently with the measures of attitudes and psychopathy. To explore the predictive efficacy of these measures Total, Major and Minor misconducts were correlated with the attitude and psychopathy measures (see Table 16). Only Factor 2 of the PCL-R was correlated significantly with all of the misconduct measures. The PCL-R total score was significantly correlated with Total misconducts; all other correlations were not significant. Only 27 (39%) of the 69 offenders incurred misconducts. The data was also analyzed using Receiver Operating Characteristics (ROC; see Table 16) as recommended by Mossman (1994) and Rice and Harris (1995). The reported area under the curve (AUC) can be interpreted as the probability that a randomly drawn offender who committed a misconduct will have a higher score on the instrument than a randomly drawn offender who did not commit a misconduct (Rice & Harris, 1995). Most of the measures did little better than chance (50%) with the exception of the PCL-R total score (AUC = .72), Factor 2 (AUC = .75) and the Associates scale (AUC = .70).

Antisocial Attitudes and Response Latencies (Hypothesis 3)

It should be noted that due to an administrative problem, response latencies for 13 participants were lost. All response latency analyses are based on 107 participants. The three measures of response latencies described previously in the Method section were employed in the analyses: Mean Response Latencies, Partialled Response Latencies, and Difference Response Latencies. The "Mean Response Latency" is a calculation of the mean response time to the MCAA items for each scale separately, creating a Mean Response Latency measure for each of the four scales. The "Partialled

Table 16

Correlations of the Attitude and PCL-R with Institutional Misconduct and Area Under the Curve for ROC Analysis (n= 69)

Scale	Major	Minor	Total	ROC
MCAA	-.02	.08	.04	.63
Violence	.03	.01	.02	.56
Entitlement	-.12	.01	-.06	.56
Antisocial Intent	.00	.12	.07	.56
Associates	.04	.14	.11	.70
CSS	-.03	.14	.08	.58
LCP	-.05	.13	.05	.56
TLV	.03	.16	.12	.60
ICO	.00	.08	.05	.57
PID	.02	.01	.02	.58
PCL-R	.20	.22	.26*	.72
Factor 1	.06	.13	.12	.61
Factor 2	.24*	.24*	.30*	.75

Note. * $p < .05$

Response Latency" measure was calculated by predicting the Mean Response Latency from the mean neutral item response latency (response latencies to BIDR items unrelated to antisocial attitudes) and saving the residuals. This resulted in four measures: one for each of the MCAA scales, and represented the response latency to the MCAA scale items with the influence of the neutral item response latencies partialled out. The mean "Difference Response Latency" also accounted for responses to neutral items through the subtraction of the mean response time to the MCAA scales from the mean response time to the neutral items.

The mean response latencies to the ten neutral items (BIDR items), and the Violence, Entitlement, Antisocial Intent, and Associates scales were 9327, 6091, 6448, 5606, 5557 milliseconds respectively. In addition, the mean response latency to the neutral items was significantly correlated with all of the MCAA scales ($r = -.25, p < .05$, Violence; $r = -.26, p < .05$, Entitlement, $r = -.31, p < .05$, Antisocial Intent; $r = -.29, p < .01$, Associates). The response latencies to the neutral items were therefore not independent of antisocial attitudes. Response latencies to the antisocial attitude scale items were significantly faster than to the neutral items ($t(106) = 13.8, p > .001$, Violence; $t(106) = 11.8, p < .001$ Entitlement; $t(106) = 16.1, p < .001$, Antisocial Intent; $t(106) = 16.6, p < .001$, Associates).

The relationship between the three measures of response latencies and the MCAA scale's scores are shown in Table 17. In general, a similar pattern emerges: the MCAA scales are negatively correlated with response latencies. Specifically, the Difference Response Latencies are significantly and negatively correlated with all scales except Associates. This means that the greater the difference between the

Table 17

Response Latency Measures' Intercorrelations and Correlations with MCAA Scales

	Mean Response Latencies (RT)	Partialled Response Latencies (Partial RT)	Difference Response Latencies (Difference RT)
Violence	-.13	.09	-.26**
(RT)		.76***	.23*
(Partial RT)			-.51***
Entitlement	-.11	.04	-.24*
(RT)		.76***	.14
(Partial RT)			-.53***
Antisocial Intent	-.10	.05	-.29**
(RT)		.73***	.16
(Partial RT)			-.55***
Associates	-.31**	-.11	-.19
(RT)		.69***	.22*
(Partial RT)			-.55***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. The variables of neutral rt and attitude rt were entered into a regression equation along with the interaction term of neutral rt x attitude to predict the respective MCAA scale scores. This was done to determine if the neutral rt's had a similar slope to the attitude rt's, which if true would make the partialling acceptable. Only the interaction term for the Violence scale (Violence rt x Neutral rt) significantly contributed to the regression equation after the variables were accounted for ($t(103) = 1.98$, $p = .05$). This would suggest caution when interpreting this specific partialled variable. The Partial RT's in general do not contribute greatly to the analysis and are included primarily as an exploratory measure.

response latencies to the neutral and to the antisocial attitude items the more prosocial the expressed attitudes. Mean Response Latencies were also negatively correlated with the MCAA scales, but only the Associates scale reached statistical significance. These correlations indicate that the faster the response latency to the antisocial attitude items, the more antisocial attitudes were endorsed. The Partialled Response Latencies did not correlate with the MCAA scales. Statistically removing (partialling) the influence of the neutral items apparently had the effect of removing the shared variance between response latencies and antisocial attitudes. These findings provided only partial support for the hypothesis that response latency would be associated with attitudes.

The intercorrelations of the three response latency measures are also shown in Table 17. There is a general trend of statistically significant correlations between the measures. Mean Response Latencies were positively correlated with both Partialled Response Latencies and Difference Response Latencies. Difference Response Latencies were significantly and negatively correlated with Partialled Response Latencies. This negative correlation was an unexpected finding. Partialling out the mean response latency to the neutral items from the Mean Response Latency had the impact of increasing and reversing the relationship with the Difference Response Latency. For example, Table 17 shows that the correlation between the Mean Response Latency and the Difference Response Latency is .23 for the Violence scale. When the neutral items are partialled out of the Mean Response Latency creating the Partialled Response Latency the correlation with the Difference Response Latency became -.51. The increase in the strength of the relationship is expected since both the Partialled Response Latency and the Difference Response Latency account for neutral

item responding, but in different ways. The negative relationship between these same two response latency measures is a result of the direction of subtraction to create the Difference Response Latency.

The relationship between the response latency measures of Mean Response Latency, Partialled Response Latency, and Difference Response Latency and the Criminal History Indices are shown in Table 18, Table 19, and Table 20, respectively. The response latencies to the MCAA scales were correlated with the five Criminal History Indices creating 20 correlations in each table. Mean Response Latencies correlations reached significance in 8 of the 20 correlations, whereas Partialled Response Latency and Difference Response Latency correlations reached significance in 1 out of 20 and 14 out of 20 correlations, respectively. The negative correlations between the Mean Response Latencies and Criminal History Indices (Table 18) indicates that faster responding to the attitude items was associated with more criminal offences. However, for the Difference Response Latencies the smaller the difference between mean neutral item response latencies and mean antisocial attitude item response latencies (Mean response time to the 10 neutral items minus the Mean Response Latency) the greater were the number of criminal offences. Alternatively expressed, the correlations show that faster responding to antisocial attitude items is associated with more criminal offences and the faster the participant responds to the antisocial items relative to the neutral items is associated with fewer criminal offences. As before only partial support of the hypothesis that response latency would be associated with the outcome measures is found in the data.

Table 18

Correlations of the Mean Response Latencies (RT) of the MCAA with Criminal History Indices

	Convictions	Incarcerations	Violent	Non-violent	Sexual
Violence (RT)	-.24**	-.16	-.17	-.24**	.16
Entitlement (RT)	-.21*	-.13	-.18	-.21*	.09
Antisocial Intent (RT)	-.13	-.05	-.09	-.13	.08
Associates (RT)	-.27**	-.20*	-.29**	-.26**	.19*

Note. * $p < .05$, ** $p < .01$. The negative correlations indicate that faster responding to the antisocial attitude items is associated with greater incidence of criminal history.

Table 19

**Correlations of the Partialled Response Latencies (Partial RT) of the MCAA with
Criminal History Indices**

	Convictions	Incarcerations	Violent	Non-violent	Sexual
Violence (Partial RT)	-.07	-.02	-.07	-.08	.11
Entitlement (Partial RT)	-.01	.06	-.04	.00	.00
Antisocial Intent (Partial RT)	.08	.14	.04	.08	-.03
Associates (Partial RT)	-.09	-.05	-.22*	-.07	.13

Note. *p < .05

Table 20

Correlations of the Difference Response Latencies (Difference RT) of the MCAA with Criminal History Indices

	Convictions	Incarcerations	Violent	Non-violent	Sexual
Violence (Difference RT)	-.21*	-.20*	-.19*	-.20*	.09
Entitlement (Difference RT)	-.24*	-.24*	-.21*	-.24*	.14
Antisocial Intent (Difference RT)	-.28**	-.28**	-.25*	-.28**	.15
Associates (Difference RT)	-.19*	-.18	-.10	-.19*	.07

Note. * $p < .05$, ** $p < .01$. The negative correlations indicate that the smaller the difference between mean response latencies to the neutral items and mean response latencies to antisocial attitude items, the greater the incidence of criminal history.

In general there was no relationship between the Partialled Response Latencies and the outcome variables with the exception of the Associates scale and Violent criminal history ($r = -.22, p < .05$). The pattern of the correlations differed between the Mean Response Latency (Table 18) and the Difference Response Latency (Table 20). The Mean Response Latencies were significantly and negatively correlated with the Criminal History Indices for the Associates scale. In contrast the Difference Response Latency was significantly and negatively correlated with all indices except sexual offence history for the Violence, Entitlement, and Antisocial Intent scales. The Associates scale had generally weaker correlations with the Criminal History Indices (-.10 to -.19) with only two correlations reaching significance.

To investigate the potential contribution of response latencies to the prediction of criminal behaviour a series of multiple regressions were conducted for each of the three response latency measures. For each response latency measure the MCAA scale score and the corresponding response latency were entered into a multiple regression equation to predict each of the five Criminal History Indices. Then a second regression using only the MCAA scale score was employed. The betas and difference in variance accounted for are recorded in Appendix K, Appendix L, and Appendix M for Mean Response Latency, Partialled Response Latency, and Difference Response Latency respectively. The percentage of variance accounted for in each method of response latency is summarized in Table 21.

As shown in Table 21 the Partialled Response Latencies added little to the prediction of criminal history. However the Mean Response Latencies and the Difference Response Latencies added up to 5.4% and 3.7% more variance accounted

Table 21

Percent of Variance Accounted for when Response Latency Measures are Included with Scale Scores in the Prediction of Outcome Indices.

	<u>Mean Response Latencies</u>				<u>Partialled Response Latencies</u>				<u>Difference Response Latencies</u>			
	Viol	Entit	Ansoc	Assoc	Viol	Entit	Ansoc	Assoc	Viol	Entit	Ansoc	Assoc
Convictions	5.4*	2.6	0.7	1.8	0.6	0.0	0.0	0.1	3.3	3.7*	3.7**	1.1
Incarcerations	2.6	0.7	0.0	0.6	0.1	0.3	1.4	0.0	2.4	3.7*	3.2	0.9
Violent	5.2*	3.6	1.3	6.4**	0.7	0.2	0.2	3.5	3.1	3.5	3.7*	0.1
Non-Violent	5.4*	2.3	0.6	1.4	0.8	0.0	0.4	0.0	2.9	3.5*	3.4**	1.1
Sexual	2.9	0.8	0.3	2.2	1.5	0.0	0.1	1.0	0.2	1.1	1.1	0.0
Scale Average***	4.0	1.9	0.6	2.7	0.8	0.1	0.5	2.3	2.2	3.0	2.9	0.5
Method Average	2.3				0.9				2.2			

Note. Viol = Violence scale, Entit = Entitlement scale, Ansoc = Antisocial Intent scale, Assoc = Associates scale, *The response latency measure entered the prediction equation to the exclusion of the attitude scale. ** The response latency measure added significant variance to the attitude scale in the prediction equation. *** Scale Average does not include Convictions.

for respectively, depending on the scale and criminal history variable considered. For Mean Response Latencies more variance was accounted for when response latencies to the Violence scale was considered. An examination of the relative betas of the Violence scale score and Mean Response Latencies indicates that the response latencies are relatively more important to the prediction of criminal history than scale score for four of the five Criminal History Indices. This would suggest that for this particular scale and response latency measure, how the participant responded is as important or more important to the prediction of criminal history than what they responded. Using the relative betas as an indication of variable contribution to the equation, for the remaining MCAA scales the scale scores generally contributed more to the equation than do the response latencies.

The improvement in variance accounted for by the Difference Response Latency measure was generally found in the MCAA scales of Violence, Entitlement, and Antisocial Intent although little additional variance was accounted for by Difference Response Latencies to the Associates scale. The additional variance accounted for ranged from 2.4% to 3.7% for the former scales when predicting criminal history with the exception of sexual offences. In general, the improvement observed in variance accounted for was more broadly distributed among the scales for the Difference Response Latencies than for the Mean Response Latencies where the improvement in variance accounted for was found primarily in the response latencies of the Violence scale. Again, only partial support of the hypothesis that response latency would add incremental variance accounted for when predicting the outcome measures was found in the data.

Psychopathy and Response Latencies (Hypothesis 4)

In order to examine the relationship of psychopathy with response latency the PCL-R was correlated with the three measures of response latency for each of the MCAA scales (see Table 22). The Partialled Response Latency shows no relationship with the PCL-R. Correlations of the PCL-R with the Mean Response Latencies were generally low, with only the scales of Violence ($r = -.20, p < .05$) and Associates ($r = -.24, p < .05$) reaching significance. The strongest correlations of response latencies with the PCL-R occurred with the Difference Response Latency. When correlations were significant the relationships were all negative as was the case with attitudes reported earlier. This indicates that as the PCL-R score increased the response time to the attitude items (Mean Response Latency) decreased. Similarly, as the difference in response time (Difference Response Latency) between the attitude items and neutral items increased the PCL-R score decreased.

Thus far in the analysis the Partialled Response Latency has not been correlated with antisocial attitudes, Criminal History Indices or psychopathy. Given that the Mean Response Latency and the Difference Response Latency are associated with these same variables, it therefore seems plausible that neutral item response time may be directly related to psychopathy. To investigate the potential influence of psychopathy on response latencies the PCL-R was first correlated with the mean response time to the neutral items and was found to be significant ($r = -.29, p < .01$). The relationship of the PCL-R with the response latency to the neutral items exceeded that of its relationship with the Mean Response Latency of the MCAA scales ($r = -.20, p < .05$, Violence; $r = -.19$, n.s., Entitlement; $r = -.17$, n.s., Antisocial Intent; $r = -.24, p < .05$, Associates). Next,

Table 22

Correlations of the PCL-R with Response Latency Measures

Mean Response Latency				
	<u>Violence</u>	<u>Entitlement</u>	<u>Antisocial Intent</u>	<u>Associates</u>
PCL-R	-.20*	-.19	-.17	-.24*
Partialled Response Latency				
	<u>Violence</u>	<u>Entitlement</u>	<u>Antisocial Intent</u>	<u>Associates</u>
PCL-R	.00	.00	.04	-.04
Difference Response Latency				
	<u>Violence</u>	<u>Entitlement</u>	<u>Antisocial Intent</u>	<u>Associates</u>
PCL-R	-.25**	-.25**	-.26**	-.22*

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

the PCL-R was partialled out of the Mean Response Latency and Difference Response Latency measures using the same residual method employed to calculate Partialled Response Latency. These partialled measures were then correlated with the Criminal History Indices and the resulting correlations are reported in Table 23. Of the resulting 40 correlations only one was found to be significantly correlated: the Associates Mean Response Latency correlated with Violent offences ($r = -.25, p < .01$). The pattern of correlations between these measures of response latencies, controlled for the PCL-R and the Criminal History Indices, is similar to the pattern of correlations between the Partialled Response Latency measure and the Criminal History Indices, including the lone significant correlation between Associates and Violent offences. This suggests that response latencies to neutral items are influenced by psychopathy and when they are partialled out indirectly, as in the case of the Partialled Response Latency measure, or directly as reported here, the relationship between response latency and criminal history is considerably weaker.

In order to test the hypothesis that participants with low and high levels of psychopathy would respond faster to the attitude items than would the intermediate group, the participants were partitioned according to their PCL-R scores into three approximately equal groups: Low ($n=38$, PCL-R scores ≤ 16), Moderate ($n=36$, PCL-R scores ≥ 17 and ≤ 24), High ($n=33$, PCL-R scores ≥ 25). A simple ANOVA was undertaken for each of the MCAA scales using both the Mean Response Latency and the Difference Response Latency as dependent variables with the Low, Moderate and High groups of the PCL-R as the independent variable. The eight ANOVA's had

Table 23

Correlations of Response Latencies (RT) and Difference Response Latencies (Difference RT) Controlled for PCL-R Score with Criminal History Indices

	<u>Violence</u>		<u>Entitlement</u>		<u>Antisocial Intent</u>		<u>Associates</u>	
	<u>RT</u>	<u>Difference</u>	<u>RT</u>	<u>Difference</u>	<u>RT</u>	<u>Difference</u>	<u>RT</u>	<u>Difference</u>
		<u>RT</u>		<u>RT</u>		<u>RT</u>		<u>RT</u>
Convictions	-.15	-.09	-.10	-.12	-.06	-.16	-.15	-.09
Incarcerations	-.08	-.08	-.02	-.12	.02	-.06	-.09	-.07
Violent	-.15	-.09	-.13	-.10	-.08	-.14	-.25**	-.01
Non-violent	-.16	-.09	-.09	-.12	-.05	-.16	-.14	-.09
Sexual	.15	.04	.07	.09	.05	.11	.16	.02

Note. ** $p < .01$, Multiple regression equations were conducted with the Convictions and Incarcerations outcome variables, entering PCL-R, response latency, and PCL-R x response latency as an interaction term. None of the interaction terms were significant which indicates that the relationship between the response latency measure and the criminal history variable were consistent across levels of psychopathy.

planned comparisons between each of the three groups and the results are reported in Table 24.

None of the contrasts between the Moderate and High groups approached significance. However, there were significant differences found between the High and Low groups for all MCAA scales when comparing the Difference Response Latencies. When making the same comparisons using the Mean Response Latency measures, only the scale of Violence showed a significant difference between Low and High psychopathy groups. Significant differences were observed between the Low and Moderate groups for the three scales of Violence, Entitlement, and Antisocial Intent when comparing Mean Response Latency. Only the Associates scale showed a difference in the Difference Response Latency between the Low and Moderate psychopathy groups. This confirmed the hypothesis that there was a relationship between psychopathy and response latency. However, the relationship was not as hypothesized: Response latencies were hypothesized to be faster for participants high and low on psychopathy because the salience of the attitude should be greater. Instead, response latencies were slower for participants lower on psychopathy than those who scored higher on psychopathy.

Psychopathy and the Endorsement of Moral Tone (Hypothesis 5)

The descriptive statistics and intercorrelations of the rationalization and justification subscales of the Violence and Entitlement scales are reported in Table 25. The subscale intercorrelations are moderately high ranging from .46 to .78. The means show the rationalization items to be more frequently endorsed than the justification items. To test these differences three t-tests were conducted. The first compared the

Table 24

ANOVA's between PCL-R Groups with Mean Response Latencies (RT) and Difference Response Latencies (Diff RT) as Independent Variables

	Group Means			Overall F	Probability of Contrasts		
	Low	Moderate	High		1 & 3	1 & 2	2 & 3
Violence (RT)	6658	5709	5854	3.5*	<.05	<.05	.72
Violence (Diff RT)	3972	2894	2759	2.8	<.05	.05	.81
Entitlement (RT)	7070	5909	6321	4.4*	.07	<.01	.32
Entitlement (Diff RT)	3561	2694	2293	2.4	<.05	.14	.50
Antisocial Intent (RT)	6159	4998	5471	4.0*	.10	<.01	.27
Antisocial Intent (Diff RT)	4471	3605	3142	2.9	<.05	.12	.42
Associates (RT)	6138	5321	5305	2.6	.05	.05	.97
Associates (Diff RT)	4492	3283	3308	3.4*	<.05	<.05	.96

Table 25

Descriptive Statistics and Intercorrelations of the Rationalization and Justification Subscales.

	Viol_R	Viol_J	Entit_R	Entit_J	Mean	SD
Viol_R	-				3.4	2.3
Viol_J	.78	-			1.7	2.0
Entit_R	.60	.61	-		4.7	2.5
Entit_J	.46	.60	.69	-	3.2	1.9

Note. Viol_R = Rationalization items from the Violence scale, Viol_J = Justification items from the Violence scale, Entit_R = Rationalization items from the Entitlement scale, Entit_J = Justification items from the Entitlement scale.

endorsement of all rationalization items with all justification items in the combined scales of Violence and Entitlement. The second and third compared the endorsement of the rationalization items with the endorsement of the justification items for the scales of Violence and Entitlement separately. The t-values for these comparisons are shown in Table 26 under the column labeled Full Sample. All of the comparisons were significantly different.

To test the first part of Hypothesis 5 (that those high on psychopathy would endorse more rationalization and justification items than those low on psychopathy), t-tests were used to compare the endorsement frequency of the Low Psychopathy and High Psychopathy groups for all rationalization items and all justification items combined from the two scales of Violence and Entitlement. The Low and High Psychopathy groups represent approximately the lower third and upper third of PCL-R scores respectively. The Low Psychopathy group has scores less than or equal to 16 on the PCL-R ($n=41$) and the High Psychopathy group has scores greater than or equal to 25 on the PCL-R ($n=37$). Identical cutoff scores for group membership were used here as in Hypothesis 4, however the groups are slightly larger because this analysis used the full sample whereas Hypothesis 4 analyses used participants for whom response latency data was available. Significant differences were found between these two groups for both rationalization items $t(119) = 2.4, p < .05$ and justification items $t(119) = 2.7, p < .01$. In both comparisons the Low Psychopathy group endorsed fewer items ($M = 6.9, SD = 3.6$, rationalization; $M = 3.9, SD = 2.7$, justification) than the High Psychopathy group ($M = 9.3, SD = 4.6$, rationalization; $M = 6.0, SD = 4.1$, justification), supporting the first part of the hypothesis.

Table 26

Means and t-values for Paired Samples Comparing Rationalization and Justification Endorsement.

	Full Sample ($n = 120$)	Low Psychopathy Group ($n = 41$)	High Psychopathy Group ($n = 37$)
Rationalization	8.1	6.9	9.3
Justification	4.8	3.9	6.0
t-value	13.6*	8.6*	7.6*
Violence_R	3.4	2.7	3.9
Violence_J	1.7	1.1	2.1
t-value	12.8*	6.8*	8.3*
Entitlement_R	4.7	4.3	5.4
Entitlement_J	3.2	2.8	3.9
t-value	9.2*	6.0*	4.9*

Note. * $p < .001$, Violence_R = Rationalization items from the Violence scale, Violence_J = Justification items from the Violence scale, Entitlement_R = Rationalization items from the Entitlement scale, Entitlement_J = Justification items from the Entitlement scale.

To test the second part of Hypothesis 5 (that those high on psychopathy will not differentiate between items of differing moral tone and that those low on psychopathy will make the distinction) three t-tests were conducted. For both groups comparisons were made between the total rationalization items endorsement with the total justification items endorsement and then comparisons were made between the rationalization endorsement with the justification endorsement for the scales of Violence and Entitlement separately. The t-values for the comparisons are reported in Table 26 and all comparisons were significant to the .001 level. The results indicate that the High Psychopathy group made a distinction between the rationalization items and justification items in a manner similar to the Low Psychopathy Group but with greater overall endorsement. Thus, the second part of the hypothesis was not supported.

In order to explore the possibility that group high on psychopathy was not extreme enough in the construct to demonstrate the hypothesized results, those participants whose PCL-R score was greater than and equal to 30 ($n = 11$) were grouped together and the same t-test for paired samples was conducted. The endorsement of total rationalization items ($M = 10.5$, $SD = 4.1$) was greater than the endorsement of the total justification items ($M = 6.5$, $SD = 4.4$) $t(10) = 4.1$, $p < .01$. The same pattern held when the endorsement of rationalization items was compared with the endorsement of justification items within the Violence scale ($M = 4.5$, $SD = 2.3$ rationalization; $M = 2.6$, $SD = 2.0$ justification; $t(10) = 3.8$, $p < .01$) and Entitlement scale ($M = 6.0$, $SD = 2.7$ rationalization; $M = 3.8$, $SD = 2.5$ justification, $t(10) = 2.9$, $p < .05$). Despite the more extreme PCL-R scores in this latter group, participants still endorsed more rationalization items than they did justification items.

Additional exploratory analyses were undertaken to determine if the rationalization items added together with the justification items to improve the variance accounted for between the attitudes and the criterion variables of Criminal History Indices. In a series of stepwise regression equations the subscales of rationalization items and justification items for first the Violence scale and then the Entitlement scale were entered into regression equations predicting the Criminal History Indices. The results are reported in Table 27. No subscale predicted Violent or Sexual offences for either the Violence or Entitlement scales. For both Violence and Entitlement scales it was the justification item subscale which entered the equation to the exclusion of the rationalization item subscale when predicting Convictions, Incarcerations, and Non-violent offences.

Discussion

This study examined the relationship between criminal attitudes, their response latencies, and psychopathy. Discussion of the findings will commence first with the MCAA which was examined for validity. Second, the utility of response latency as a predictor of behaviour is considered. Third, the influence of psychopathy on participants' response latencies is reviewed. Fourth and last, the utility of an item's moral tone is discussed in terms of the relationship with behaviour and the influence of psychopathy on the ability of participants to differentiate between these two types of items.

Table 27

Stepwise Regression of Rationalization and Justification subscales on Criminal History**Indices**

Dependent Variable	Variable Entering	R	R²	p
Independent Variables: Violence Rationalization Item Subscale, Violence Justification Item Subscale				
Convictions	Viol_J	.19	.03	< .05
Incarcerations	Viol_J	.20	.04	< .05
Violent	n.a.	-	-	-
Non-violent	Viol_J	.20	.04	< .05
Sexual	n.a.	-	-	-
Independent Variables: Entitlement Rationalization Item Subscale, Entitlement Justification Item Subscale				
Convictions	Entit_J	.23	.06	< .01
Incarcerations	Entit_J	.21	.04	< .05
Violent	n.a.	-	-	-
Non-violent	Entit_J	.24	.06	< .01
Sexual	n.a.	-	-	-

Note. Probability needed to enter the equation = .05, probability to be removed = .10.
Viol_J = Violence Justification Items, Entit_J = Entitlement Justification Items.

Validity of the MCAA (Hypothesis 1 & 2)

The MCAA scales demonstrate acceptable validity in this sample of federally incarcerated males. The sample is quite similar to previous research with consecutive general admissions to federal custody in the same region (Mills, Kroner, & Forth, 1998). Each item of the MCAA correlated more strongly with its own scale than it did with the Impression Management scale of the BIDR. This is noteworthy given that many of the BIDR items (75%) and almost all of the IM scale items (95%) were significantly related to one of the MCAA scales. Convergent validity was demonstrated in the MCAA's strong relationship with the CSS and PID; other validated measures of antisocial attitudes. Additionally, the MCAA scales also correlated with the personality construct of psychopathy which is itself related to criminal behaviour. Divergent validity was demonstrated in the MCAA scales' association with measures of negative affect. Specifically, the strength of the correlations between the MCAA scales and the measures of antisocial attitudes and associates were greater and did not overlap with the strength of the correlations between the MCAA scales and the measures of negative affect.

Criterion validity was evidenced in the MCAA's relationship with criminal history. Correlations of the MCAA total score, Antisocial Intent, and Associates with the criminal history variables equaled those of the other antisocial attitude measures. This would suggest that the MCAA scales of Antisocial Intent and Associates are tapping domains directly related to criminal behaviour. The scales of Violence and Entitlement were less associated with criminal history and did not relate significantly to a number of these outcome variables. This may be due in part to the presence of psychometrically weak

items which attenuate the overall relationship between the scale score and the outcome variable. Additionally, items which are related to the participant's future behaviour (Antisocial Intent scales) and who they associate with (Associates scale) may have more salience than Entitlement or Violence items which are more abstract. The Associates scale was generally more strongly associated with criminal history and psychopathy than were the other scales. The salience of the Associates scale is evidenced again when it enters into a stepwise regression along with the PCL-R to predict criminal history variables. Moreover, ROC analysis suggests that the Associates scale is better at distinguishing between offenders who commit misconducts and offenders who do not, when compared with other attitude scales. These AUC probabilities meet or exceed the AUC reported in another sample that used risk prediction instruments in the prediction of institutional misconduct in which AUC's ranged from .66 to .72 for minor misconduct and .53 to .63 for major misconduct (Kroner & Mills, 1999).

In general, the ICO scale of the CSS tended to have stronger correlations with criminal history and psychopathy than did other scales of the CSS or the PID. Because both the MCAA Associates scale and the CSS's ICO scale are tapping the same domain area of attitudes towards criminal associates, this would seem to indicate that this particular domain may be of greater relevance to antisocial behaviour than other domains. Prior research using meta-analytic techniques tend to confirm this finding. Gendreau et al. (1992) found antisocial attitudes/associates to have the strongest correlation with criminal conduct. Also, were found to be second to criminal history in its

association with recidivism (Gendreau et al., 1995) and institutional misconduct (Gendreau et al., 1997).

Research with other samples supports the importance of this domain. Simourd (1997) found the ICO, as compared with other CSS scales and the PID, to have the strongest correlation with previous convictions and number of institutional misconducts. A similar pattern emerged in a more recent study (Simourd, 1999) where the ICO scale was more strongly associated with number of convictions, incarceration, and institutional misconducts over other scales of the CSS and the PID. This held true for both violent and non-violent offenders. Of particular note with regard to the ICO scale is that it consists of only six items, and is therefore less likely to be capitalizing on a broad range of potential variance in its relationship with the criterion variables.

Why the domain of attitudes towards criminal associates seems to be more strongly associated with prior criminal history may be explained by the research that suggests that the attitude-behaviour relationship is more consistent when normative pressures are consistent with the attitude (Bagozzi & Burnkrant, 1979; Liska, 1974; Schofield, 1975). In the instance of the Associates and ICO scales, the attitude object is the criminal or antisocial associate (the source of normative pressure). By endorsing the items on the Associates and ICO scales the participants are not only endorsing favourable attitudes towards delinquent others (and therefore delinquent behaviour), but they are simultaneously identifying the extent to which they agree with the source of "normative pressure". The success of the Associates and ICO scales also lends support to Differential Association theory which holds that the influence of associates

on delinquent behaviour is best represented by the positive relationships an individual has with deviant others (Agnew & White, 1992).

The results support the hypothesis that the MCAA appears to be a valid measure of criminal attitudes, meeting and exceeding the association of other antisocial attitude measures in relation to the criterion variables.

Response Latency to Antisocial Items (Hypothesis 3)

For the whole sample, mean response latencies to the antisocial items were significantly faster for the attitude items than they were to the neutral items (10 BIDR items not related to the MCAA). This difference was found to be greater for those participants who endorsed fewer antisocial attitudes. These findings would suggest that participants made a distinction between the neutral and antisocial items in terms of their response latencies to the items, and further, that distinction was greater for those who expressed fewer antisocial attitudes. Also, the response alternatives to the BIDR items were 1 to 7, whereas the response alternatives to the attitude items were agree/disagree. The additional response alternatives to the neutral items may have contributed to the longer response time (Fazio, 1990).

The use of three different measures of response latency reflects the exploratory nature of this research. Response latencies have been measured in different ways in attitudinal research, and the method is often determined by the research paradigm. For example, Bassili (1995) subtracted a baseline response to factual questions from the latency to questions on voting intention in his study on political attitudes, yet Fazio and Williams (1986) used original response latencies when they concluded that response latencies to factual questions were independent of the target attitude and therefore

content specific. This is similar to the Mean Response Latency and Difference Response Latency in the current study. The use of the three response latency measures in this study is informative in that each produced a different pattern of relationships with the attitude and outcome variables.

The Mean Response Latency is the raw data corrected for instances when the items were not read (responding too fast) and instances when the participant was distracted from the item (responding too slow). This response latency measure would contain within it all of the influences of individual differences such as reading speed, cognitive processing, personality, etc. It may be that these individual differences are related in some way to the attitude or behaviour of interest; this appears to be the case with the current data. The mean response latency to the neutral items was significantly correlated with the MCAA attitude scales. This would suggest that there exists an individual difference influence on responses to neutral items that is related to antisocial attitudes. With this in mind it is no surprise that two of the three response latency measures had significant relationships with both attitudes and outcome variables.

Mean Response Latencies to the Associates scale items are significantly correlated with the Associates scale score. This means the faster the response to the Associates scale items the greater the number of items endorsed. Other scale response latencies are not correlated with their respective scale scores. This pattern holds true when Mean Response Latencies are correlated with the outcome variables. Mean Response Latencies to the Associates scale is generally more strongly associated with the outcome measures.

When Difference Response Latency (the relative response difference between neutral and antisocial attitude items) is examined an almost opposite pattern emerges. The correlations between the Difference Response Latencies and the attitude scales are significantly correlated for all scales other than the Associates scale. Likewise, the Difference Response Latencies to the Violence, Entitlement, and Antisocial Intent scales correlate generally stronger with the outcome variables than the same correlations for the Associates scale.

Subtracting the attitude response latencies from neutral item response latencies appears to influence the relationship of the response latencies with attitudes and criminal behaviour. A clear inference from this finding is that Mean Response Latencies and Difference Response Latencies (the relative difference between response latencies to neutral and antisocial attitude items) have different psychological meaning. The data show that Mean Response Latencies significantly related to the measure of attitudes towards associates only, whereas Difference Response Latencies are significantly related to antisocial attitudes scales other than attitudes towards associates. This may reflect a difference in the meaning of the Associates items as already discussed in the context of criterion validity (a person orientation of the items) which allows for a more direct or simple measure of its meaningfulness. The Difference Response Latencies' relationship with the other attitude measures (Violence, Entitlement and Antisocial Intent) suggests that it is the relative responding to antisocial attitude items which is more meaningful for items of more abstract content.

The analysis showed that those participants with greater antisocial item endorsement responded faster to both neutral items and antisocial items than those

participants who were more prosocial in their responses. However, the difference between the neutral item and attitude item response times were smaller the more antisocial the participant. This indicates that the more antisocial the individual, the less the difference between responses to neutral items and responses to attitude items. An inference from these findings is that response latencies to both neutral items and antisocial attitude items are relevant to antisocial behaviour. Specifically, that participants who have engaged in more antisocial behaviour and endorsed more antisocial attitudes respond faster to items in general. This finding suggests a participant intrinsic construct (i.e. trait or personality construct) which is associated with response time to both antisocial attitude and neutral items. If response latency is an indication of attitude strength as previous research has shown, then as has been hypothesized, those participants scoring higher and lower on antisocial attitudes (MCAA scales) should have a more salient attitude-object relationship (greater attitude strength). These data do not support that hypothesis. Differences in attitude strength represent differences in the salience of an attitude-object relationship or, alternatively put, differences in the individual processing of the attitude-object relationship. Why stronger antisocial attitudes are related to faster responding may better be explained by an alternative theoretical perspective on individual processing. This will be considered more fully in the following discussion on psychopathy.

The Partialled Response Latency was the response latency measure least associated with antisocial attitude and criminal history. It is also the response latency measure which is most independent of individual differences due to responding to neutral items. However, responding to neutral items was directly related to criminal

attitudes; therefore, the result of this statistical independence from general response latencies is an absence of relationship with the outcome variables. The one exception is the significant negative correlation between the Partialled Response Latency of the Associates scale and number of Violent offences. There are four conclusions which can be drawn from the differential relationship of the three response latency measures with the outcome variables: (1) the more antisocial offenders respond generally faster to all items (both neutral and antisocial), (2) the differences between neutral items and antisocial attitude items is smaller for the more antisocial offenders, (3) the domains of the antisocial items are relevant to the way in which offenders respond (not all domains of antisocial attitudes are equal), (4) statistically partialling out the response latencies to neutral items removes valuable information relevant to antisocial attitudes and behaviour.

Psychopathy and Response Latencies (Hypothesis 4)

As with the relationship between attitudes and response latencies, there was a different pattern of association between psychopathy and the three response latency measures. The hypothesis that both high and low scorers on psychopathy would hold stronger attitudes and therefore respond faster than moderate scorers on psychopathy was not supported. The results showed that high scorers on psychopathy respond faster than low scorers. Additionally, the difference between responses to neutral items and antisocial attitude items were significantly smaller for high scorers on psychopathy than low scorers. These findings in concert with the correlation between psychopathy and neutral item response latencies suggest that response latencies to items in general may be influenced by psychopathy.

Based on the Fazio (1989) model which identifies response latency as representative of attitude accessibility, hypotheses three and four predicted specific response latency-antisocial attitude and response latency-psychopathy relationships would be consistent with the theory of attitude accessibility. Specifically, those participants for whom attitudes are more salient (high and low scorers on attitude/psychopathy) would respond faster than those participants for whom the attitude was less salient. In the absence of support for these hypotheses an alternative explanation must be sought. The relationship of psychopathy with the neutral item's response latencies was a clue that the processing of the items in general may be influenced by the construct of psychopathy. In keeping with this finding, an information processing perspective of psychopathy may shed light on the results.

Newman (1998) postulates that psychopaths have an information processing deficiency which causes psychopaths to be less likely to process the meaning of contextual cues. Previous research into the affective processing of psychopaths by Williamson, Harpur, and Hare (1991) and Patrick (1994) suggested that psychopaths' deficient processing was limited to affective stimuli and negative affective stimuli, respectively. Of these two studies, only the Williamson et al. study examined the response time to words. Psychopaths and non-psychopaths were compared in their recognition response times to both affective (negative and positive) and neutral words. Non-psychopaths responded faster to affective words than they did to neutral words as was hypothesized. Comparing the relative response times between affective and neutral items was not part of the analysis; however, visual inspection of the means reported reveals a greater difference between response times to neutral and affective

words for nonpsychopaths than psychopaths. As mentioned, this difference was not statistically tested but is consistent with the difference between neutral and antisocial attitude items found in the current study.

In contrast, Newman's proposal of a response modulation hypothesis identifies "a subtle but potentially consequential deficit that interferes with the psychopath's ability to use contextual cues to enhance self-regulation" (p. 92). Thus Newman's information processing perspective suggests a more generalized deficit which includes, but is not limited to, affective processing. In support of this perspective, Newman refers to research which finds psychopaths deficient in passive avoidance tasks (Newman & Kosson, 1986; Newman & Schmitt, 1998), less likely to alter their responses in light of negative feedback (Newman, Patterson & Kosson, 1987), and less influenced by contextual cues (Newman, Schmitt & Voss, 1997). Of particular note the latter study focused on motivationally neutral (non affectively laden) items.

Newman, Schmitt and Voss (1997) employed a picture-word task of 160 trials. In half of the trials the participant had to determine if two words were related (Word Trials) and in the other half of the trials, if two pictures were related (Picture Trials). Each trial presented a context display with a picture and word together and a test display with a picture or word alone. Prior to each trial the participant is told if it is a picture or word trial. In 40 experimental trials the to-be-ignored component (word or picture) of the context display was conceptually related to the test display and the to-be-attended-to component was unrelated to the test display. Forty comparison trials were also administered where the to-be-ignored component of the context display was unrelated to the test display. The balance of 80 filler trials had the to-be-attended-to component of

the context display conceptually related to the test display. The interference of contextual cues was calculated by subtracting a participant's response latency to the comparison trials from the response latency to the experimental trials. The results confirmed that there was significantly less interference among psychopaths than among controls. Newman, Schmitt and Voss suggested that the interference of contextual cues is an automatic influence: Automatic in the sense of a relatively involuntary processing of contextual cues. The authors concluded that the processing deficiency found in psychopaths extends beyond those responses related to punishment and affect: The influence of the deficiency is more generalized. Additional work with a variety of Stroop Tasks has also found that peripheral cues fail to interfere with primary task performance in psychopaths (Newman, September 1999 personal communication).

Other studies have found physiological differences in the brain of psychopaths. Mills (1995) study compared the electrocortical activity of psychopaths with non-psychopaths during the performance of various verbal and non-verbal tasks. Among the conclusions drawn from the results was that psychopaths brain functioning during cognitive activity was unusual. One specific observation was that for psychopaths, "emotional tasks seem to be processed in merely perceptual, unelaborated ways" (p. 111) and further that information processing was "superficial, diffuse and concrete" (p. 119). Anomalies in the brain function of psychopaths have also been found using Single Photon Emission Computerized Tomography to measure cerebral blood flow during a lexical decision task employing neutral and emotional words (Intrator et al., 1997). Relative to controls, psychopaths were found to have increased cerebral blood flow in the left and right frontal temporal regions as well as in the sub-cortical contiguous

regions. This increased brain activity suggests that psychopaths processing of emotion is more diffuse, leading the authors to suggest that the finding may reflect the additional resources needed by psychopaths to process emotional information. A reasonable conclusion from these studies is that psychopaths process information differently, and this difference can be observed at the neural level.

The finding of the present study shows that those participants higher on psychopathy responded faster to both neutral items and antisocial items than do those participants lower on psychopathy. In addition the Difference Response Latency was greater for those lower on psychopathy than those higher on psychopathy, indicating that participants lower on psychopathy responded faster to antisocial attitude items than neutral items relative to those higher on psychopathy. This finding suggests that participants higher on psychopathy did not discriminate (as represented by the time to respond) between neutral items and antisocial attitude items to the same degree as other participants, as they seem to respond in like manner to both types of items. As mentioned, research has shown that psychopaths do not discriminate between affective and neutral stimuli (Williamson, et al., 1991). The results of the present study would suggest that psychopaths may not distinguish between neutral items and antisocial attitude items as it relates to information processing. This would support Newman's (1998) contention that deficits in information processing in psychopaths is not limited to affectively laden stimuli. However, in terms of item content (endorsement of the item), psychopaths endorse more antisocial attitude items and can distinguish between rationalizations and justifications (elements of moral tone) as reported in the next section.

It has been suggested and subsequently discussed that psychopathy may be the participant intrinsic construct that may explain the pattern of response latencies. Notwithstanding that the results are consistent with the response modulation hypothesis, an alternate interpretation should not be overlooked. Offenders are often impulsive, and impulsivity is also a construct that may explain the results. There is ample research that links impulsivity with criminal and antisocial behaviour in both criminal and non-criminal populations (Blackburn & Coid, 1998; Colder & Stice, 1998; Luengo, Carrillo-de-la-Pena, & Romero, 1994; Heilbrun, Heilbrun, and Heilbrun, 1978). In addition, Blackburn and Coid (1998) found a strong relationship between psychopathy and a factor they labeled "impulsivity" which was the first factor derived from personality disorder measures. Further, the impulsivity factor was the factor most strongly related to measures of criminal behaviour. This is not unexpected given that impulsivity is one of the domains which comprises the PCL-R: hence, impulsivity helps to define psychopathy. Item 14 of the PCL-R considers an impulsive person one "whose behavior is generally impulsive, unpremeditated, and lacking in reflection or forethought" (p. 12; Hare, 1991).

Elsewhere impulsivity has been defined as a "more inclusive class of action-oriented personality predispositions that includes extraversion, sensation seeking, and, in general, a lack of inhibitory behavioral controls" (Barratt & Patton, 1983; p. 89). It is the "lack of inhibitory control" which would suggest that the more impulsive participants (also the more criminally oriented given the relationship between impulsivity and crime) would respond faster to items in general. If impulsivity as measured by self-report or ratings generalizes to response latencies to attitude items then it is possible that

impulsivity may produce the negative correlations observed between response latencies and antisocial attitudes, and response latencies and psychopathy. However, impulsivity has been described as a higher order factor that includes other factors such as impulsive behavior, risk-taking, and nonplanning (Eysenck, 1983). To determine if impulsivity is responsible for fast responding, careful consideration would need to be given to which factor(s) of impulsivity are relevant. In addition, it may be difficult to distinguish impulsivity from psychopathy given that the former, defines in part, the latter. Thus, careful analysis would be necessary in future research to determine which of these two constructs (psychopathy or impulsivity) best accounts for the response latency data.

Endorsement of Moral Tone (Hypothesis 5)

At one level participants made a distinction between the moral tone of the items in the Violence and Entitlement scales. Endorsement of rationalization items was significantly greater than endorsement of justification items across the whole sample. Contrary to the hypothesis, psychopathy did not influence the relative endorsement rates of rationalization and justification items. Overall, those higher on psychopathy endorsed more of each type of item, however those high on psychopathy still endorsed significantly more rationalization items than justification items. This held true for a small sub-sample of very high PCL-R scorers.

The subscales of rationalization and justification items did not combine to increase the variance accounted for when predicting criminal history. In each case where the subscales were predictive of criminal history, it was the justification items which entered the equation to the exclusion of the rationalization items. In fact, the

Multiple R statistics of the justification items of the Violence and Entitlement scales which entered the equation (see Table 28) met or exceeded the correlations of the respective total scale scores with the outcome variables of Convictions, Incarcerations, and Non-violent offences (see Table 11). This finding suggests that rather than contributing incremental variance to the equation, items of the rationalization subscales may be attenuating the relationship. This may be caused by certain items which for psychometric reasons are adding more error variance to the equation. Another observation of interest is that the justification items which were endorsed less often and therefore have less scale variance available to associate with the criterion variables than do the rationalization items, are more strongly associated with the criterion variables. This observation is consistent with the theoretical argument that those people who justify their behaviour are more likely to engage in the associated behaviour. Therefore, despite the psychometric disadvantage of a reduction in available variance, the justification items may be more directly related to the behaviour than the rationalization items.

The inclusion in the MCAA of items with differing moral tone stems from the research which demonstrates that offenders offer different reasons for their behaviour, and that these reasons can be classified into categories of moral tone. For instance rapists who deny their offence tend to employ justifications, that is to present their behaviour as situationally appropriate. Whereas rapists who admit their offences employ excuses, usually in the form of external attributions to outside forces (i.e. alcohol) (Scully & Marolla, 1984). Similarly, violent recidivist offenders were shown to employ more justifications of their behaviour than excuses, particularly if they attributed

blame to the victim (Henderson & Hewstone, 1984). This finding was replicated in a study with wife assaulters (Dutton, 1986).

The justification of criminal behaviour has also been demonstrated by research into the neutralization techniques of offenders. Neutralization is the process that delinquents employ which suspends the moral constraints to engage in an antisocial behaviour. Shields and Whitehall (1994) showed that juveniles endorsed more statements which morally justified the perpetrator of a crime described in a vignette than did non-offenders. Additionally, greater levels of neutralization could distinguish between predatory and non-predatory offenders, and between recidivists and non-recidivists. These results provide evidence that justification of behaviour may be more indicative of likelihood of behaviour. With this in mind the item couplets were created for the Violence and Entitlement scale. The use of the terms rationalization and justification may be unfortunate in that the items do not necessarily rationalize or justify a behaviour. However, they were structured so that the justification items had a stronger moral tone (more absolutist in the correctness of the behaviour) and included phrases such as "it is not wrong" while tapping the same item content domain as the rationalization items. This distinction is more than semantics in that it is born out in the endorsement rates of the items. The results seem to support the use of items of stronger moral tone, since despite the weaker endorsement rate they are more strongly associated with the criterion variables.

The relative endorsement of the rationalization and justification items was independent of the level of psychopathy. This is contrary to the original hypothesis. The hypothesis that psychopaths would not make a distinction between the endorsement of

rationalization and justification items was based on Blair's (1995) findings that psychopaths did not make a moral/conventional distinction between negative actions described in a series of vignettes. However, other research by Blair, Jones, Clark and Smith (1995) on a larger sample for the most part confirmed Blair's (1995) findings with the exception that psychopaths did make a distinction on the seriousness of the vignettes similar to the non-psychopathic controls. This finding that psychopaths can make a distinction in degree of moral significance suggests they are not morally blind. Research with younger offenders shows a general lack of statistical difference between psychopaths and delinquent controls on measures of moral reasoning (Chandler & Moran, 1990; Trevathan and Walker, 1989). Additionally, psychopathy and moral reasoning abilities have been shown to be unrelated in adult offenders once IQ has been controlled (O'Kane, Fawcett, & Blackburn, 1996). Even Blair et al.'s (1995) findings of psychopath/nonpsychopath differences occurred when within-group differences were examined; between-group differences were not significant. However, taken in the light of previous research, the conclusion drawn is that the distinction between rationalization and justification is too gross a measure to record the subtle differences in moral reasoning between psychopaths and nonpsychopaths.

Limitations of Findings and Suggestions for Future Research

As a new measure of antisocial associates and antisocial attitudes the MCAA has demonstrated acceptable validity and internal consistency. A limiting factor is the generalizability of the instrument to other samples. The current population of federal offenders is the same, arguably homogeneous, population on which it was developed. Recent research has shown that the MCAA had acceptable test-retest reliability in an

offender sample, as well as convergent, discriminant and concurrent validity in a student sample (Mills & Kroner, 1999). However, the MCAA remains to be tested in other populations of offenders (young offenders, probationers, etc.). Additionally, the rationalization/justification dichotomy of items requires further validation. Participants were able to distinguish at one level, that of item endorsement, between rationalization items and justification items. However, to test if these items actually represent different levels of moral tone may be accomplished by examining the relationship of the items with techniques of neutralizations (Shields & Whitehall, 1994). Also the face validity of the items may be tested by having participants 'bin' the items according to moral tone.

As a first incursion into the measurement of the response latencies to antisocial attitude items, the current results provide interesting findings upon which to build future studies. Prior to suggesting a course of research some methodological issues need to be addressed. The neutral items used in the research had a different set of response alternatives (1 to 7) than did the antisocial attitude items (agree/disagree). No doubt this would account for some of the difference in response latency between the two types of items, and make a direct comparison difficult. Future neutral items should have the same agree/disagree response alternatives as does the MCAA. Additionally, the neutral items were administered separately from the MCAA (as part of a different test). It would be optimal to administer neutral items both before and during the administration of the MCAA. This would provide a measure of response latency to neutral items both prior to and during the presentation of antisocial attitude items permitting a more accurate comparison. On a technical note, responses to the MCAA were made using a traditional keyboard. This could introduce systematic differences between participants who were

familiar with computer keyboards and those who were not. A more standardized approach would be the inclusion of a response box with clearly marked response buttons. This would reduce the time spent by participants searching for the response key and subsequently reduce a source of response error.

Having corrected methodological weaknesses a future line of research should include a replication with a non-offender sample. The response latencies to the antisocial attitude items appear to be predominantly influenced by the presence of psychopathy, which has led to the conclusion that differential information processing attributed to psychopathy best accounts for the results. However, in the absence of research which has measured response latency to antisocial attitudes in other samples, the following question remains: are the antisocial attitude items prompting the pattern of response latencies or is the presence of psychopathy? Administering the MCAA along with other social attitude items and neutral items to a non-offender sample where the presence of psychopathy would be much less of an influence, would serve to clarify the issue. Additionally, administering other social attitude items to an offender population would permit a comparison with antisocial attitude items and further clarify the influence of psychopathy on information processing of attitudes in general.

The future study of response latencies would benefit from the inclusion of an anxiety/negative affect measure to identify low anxious psychopaths and low anxious controls. Newman et al. (1997) noted that research has demonstrated the confound of failing to account for anxiety in psychophysiological research with psychopaths. The current study had an insufficient number of high psychopaths to make such a

comparison feasible. It remains to be demonstrated if accounting for level of anxiety would enhance the difference in response latency observed in the current study.

Implications

Among the implications of the results of this study is the observation that the attitude domain tapped by the Associates scale of the MCAA and the ICO scale of the CSS appears to have particular relevance in the prediction of antisocial behaviour. As previously discussed, this may be due to the domain's ability to tap both attitude and associate relevant information with the same items, hence increasing the relative content variance for predicting antisocial behaviour. This attitude domain appears to hold promise in the prediction of antisocial or criminal behaviour and would likely benefit any scheme or assessment in the prediction of that behavior.

Items with greater moral tone (justification items that included "right" or "wrong") were more strongly associated with the outcome variables than were the justification items. This finding underscores the importance of how an item is worded in addition to the content area that the item taps. Specifically, the justification (endorsing the moral correctness) of antisocial behaviour seems to be more strongly related to the outcome variables. While this is not a conclusive point because the outcome measure was not predictive, it has implications for future attitude scale development in that moral tone should be considered as moral commitment to the correctness of the behaviour appears to be more strongly associated with that behaviour.

Another applied implication of these results is that item response latencies to existing paper-and-pencil inventories may add important and relevant information for assessing antisocial constructs and predicting behaviour. With the advent of the

computer into the area of psychological assessment, incorporating response latencies into the interpretation of endorsement levels should not be far away. Hence, including how a respondent answers items (processing) in addition to what the respondent answers (content) may have future importance in clinical assessment.

Conclusions

Subject to the limitations described, the results of this study would suggest that the MCAA is a valid instrument for the measure of antisocial attitudes and associates. Further, the relationship between antisocial attitudes and antisocial behaviour may be more fully explained by accounting for how participants respond (information processing) in addition to what their responses are (endorsement of content). It is hoped that by correcting methodological weaknesses, the response latencies to antisocial attitude items will contribute more to the attitude-behaviour relationship in the future. The results suggest that the contribution of response latencies to the attitude-behaviour relationship may be due to the representation of psychopathy (information processing differences) or impulsivity in the response latencies. In addition to the potential contribution of response latencies to the attitude-behaviour relationship, the findings support the theoretical advancement of Newman's (1998) response modulation hypothesis by further generalizing the differential information processing of psychopaths into the area of response to attitudes.

Also, while the response latency data supports the response modulation hypothesis, it simultaneously suggests a limitation or caveat to the hypothesis that response latencies represent attitude strength (attitude accessibility) when measured in the context of criminal attitudes. The results of this study suggest that response

latencies (information processing) may be as valuable to the understanding of antisocial attitudes as to the understanding of psychopathy.

References

- Agnew, R. (1995). Testing the leading crime theories: An alternative strategy focusing on motivational processes. Journal of Research in Crime and Delinquency, *32*, 363-398.
- Agnew, R., & Peters, A. A. R. (1986). The techniques of neutralization: An analysis of predisposing and situational factors. Criminal Justice and Behavior, *13*, 81-97.
- Agnew, R., & White, H. R. (1992). An empirical test of general strain theory. Criminology, *30*, 475-499.
- Ajzen, I. (1988). Attitudes, personality and behavior. Chicago, IL: The Dorsey Press.
- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. Englewood Cliffs, NJ: Prentice Hall.
- Alexander, C. N., & Beggs, J. J. (1986). Disguising personal inventories: A situated identify strategy. Social Psychology Quarterly, *49*, 192-200.
- Allport, G. W. (1935). Attitudes. In C. Murchison (Ed.) A handbook of social psychology (pp. 798-844). Worcester, MA: Clark University Press.
- Alterman, A. I., Cacciola, J. S., & Rutherford, M. J. (1993). Reliability of the revised Psychopathy Checklist in substance abuse patients. Psychological Assessment, *5*, 442-448.
- Andrews, K. H., & Kandel, D. B. (1979). Attitude and behavior: A specification of the contingent consistency hypothesis. American Sociological Review, *44*, 298-310.

Andrews, D. A. & Bonta, J. (1994). The psychology of criminal conduct.

Cincinnati, OH: Anderson.

Andrews, D. A., & Wormith, J. S. (1984). Criminal sentiments and criminal behaviour. Programs Branch User Report, Ottawa, Ontario, Canada: Ministry of the Solicitor General of Canada.

Andrews, D. A., Wormith, J. S., Kiessling, J. J. (1985). Self-reported criminal propensity and criminal behaviour: Threats to validity of assessments of attitudes and personality. Programs Branch User Report, Ottawa, Ontario, Canada: Ministry of the Solicitor General of Canada.

Arnold, H. J., & Feldman, D. C. (1981). Social desirability response bias in self-report choice situations. Academy of Management Review, 24, 377-385.

Atkinson, J. L. (1998). Neutralizations among male and female fraud offenders. Unpublished doctoral dissertation, Queen's University, Kingston, Ontario, Canada.

Bagozzi, R. P., & Burnkrant, R. E. (1979). Attitude organization and the attitude-behavior relationship. Journal of Personality and Social Psychology, 37, 913-929.

Ball, R. A. (1983). Development of basic norm violation. Criminology, 21, 75-94.

Ball, R. A., & Lilly, J. R. (1971). Juvenile delinquency in a rural county. Criminology, 9, 69-85.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996).

Mechanisms of moral disengagement in the exercise of moral agency. Journal of Personality and Social Psychology, 71, 364-374.

Barratt, E. S., & Patton, J. H. (1983). Impulsivity: Cognitive, behavioral, and psychophysiological correlates. In M. Zuckerman (Ed.) Biological Bases of Sensation

Seeking, Impulsivity, and Anxiety (pp. 77-116). New Jersey: Lawrence Erlbaum Associates.

Bassili, J. N. (1993). Response latency versus certainty as indexes of the strength of voting intentions in a CATI survey. **Public Opinion Quarterly**, *57*, 54-61.

Bassili, J. N. (1995). Response latency and the accessibility of voting intentions: What contributes to accessibility and how it affects vote choice. **Personality and Social Psychology Bulletin**, *21*, 686-695.

Bassili, J. N. (1996). Meta-judgmental versus operative indexes of psychological attributes: The case of measures of attitude strength. **Journal of Personality and Social Psychology**, *71*, 637-653.

Beck, A. T., & Steer, R. A. (1987). **Beck Depression Inventory Manual**. Orlando, FL: The Psychological Corporation Harcourt Brace Jovanovich, Inc.

Bieri, J. (1967). Attitudes and arousal: Affect and cognition in personality functioning. In C. W. Sherif and M. Sherif (Eds.) **Attitude, Ego-Involvement and Change** (pp. 178-200). New York: Wiley.

Blackburn, R. (1987). Two scales for the assessment of personality disorder in antisocial populations. **Personality and Individual Differences**, *8*, 81-93.

Blackburn, R., & Coid, J. W. (1998). Psychopathy and the dimensions of personality disorder in violent offenders. **Personality and Individual Differences**, *25*, 129-145.

Blair, R. J. R. (1995). A cognitive development approach to morality: Investigating the psychopath. **Cognition**, *57*, 1-29.

Blair, R. J. R., Jones, L., Clark, F., & Smith, M. (1995). Is the Psychopath 'morally insane'. Personality and Individual Differences, 19, 741-752.

Blass, T. (1984). Social psychology and personality: Toward a convergence. Journal of Personality and Social Psychology, 47, 1013-1027.

Block, J. (1990). More remarks on social desirability. American Psychologist, 45, 1076-1077.

Blumenthal, M. D. (1973). The belief systems of protesting college students. Journal of Youth and Adolescence, 2, 103-123.

Bonta, J. (1990, May). Antisocial attitudes and recidivism. Paper presented at the Canadian Psychological Association, Ottawa, Canada.

Boothby, J. L., & Durham, T. W. (1999). Screening for depression in prisoners using the Beck Depression Inventory. Criminal Justice and Behavior, 26, 107-124.

Caprara, G. V., Cinanni, V. & Mazzotti, E. (1989). Measuring attitudes toward violence. Personality and Individual Differences, 10, 479-481.

Chandler, M., & Moran, T. (1990). Psychopathy and moral development: A comparative study of delinquent and nondelinquent youth. Development and Psychopathology, 2, 227-246.

Colder, C. R., & Stice, E. (1998). A longitudinal study of the interactive effects of impulsivity and anger on adolescent problem behavior, Journal of Youth and Adolescence, 27, 255-274.

Cornell, D. G., Warren, J., Hawk, G., Stafford, E., Oram, G., & Pine, D. (1996). Psychopathy in instrumental and reactive violent offenders. Journal of Consulting and Clinical Psychology, 64, 783-790.

Dutton, D. G. (1986). Wife assaulter's explanations for assault: The neutralization of self-punishment. Canadian Journal of Behavioural Science, 18, 381-390.

Edwards, L. K., & Edwards, A. L. (1991). A principal-components analysis of the Minnesota Multiphasic Personality Inventory factor scales. Journal of Personality and Social Psychology, 60, 766-772.

Eysenck, H. J. (1983). A biometrical-genetical analysis of impulsive and sensation seeking behavior. In M. Zuckerman (Ed.) Biological Bases of Sensation Seeking, Impulsivity, and Anxiety (pp. 1-27). New Jersey: Lawrence Erlbaum Associates.

Fazio, R. H. (1989). On the power and functionality of attitudes: The role of attitude accessibility. In A. R. Pratkanis, S. J. Breckler & A. G. Greenwald (Eds.) Attitude Structure and Function (pp. 153-179). Hillsdale, NJ: Lawrence Erlbaum.

Fazio, R. H. (1990). A practical guide to the use of response latency in social psychological research. In C. Hendrick & M. S. Clark (Eds.) Research methods in personality and social psychology (pp. 74-97). Newbury Park, CA: Sage.

Fazio, R. H., Chen, J., McDonel, E. C., & Sherman, S. J. (1982). Attitude accessibility, attitude-behavior consistency, and the strength of the object-evaluation association. Journal of Experimental Social Psychology, 18, 339-357.

Fazio, R. H., & Williams, C. J. (1986). Attitude accessibility as a moderator of the attitude-perception and attitude behavior relations: An investigation of the 1984 presidential election. Journal of Personality and Social Psychology, 51, 505-514.

Fazio, R. H., & Zanna, M. P. (1978). Attitudinal qualities relating to the strength of the attitude-behavior relationship. Journal of Experimental Social Psychology, 14, 398-408.

Fishbein, M., & Ajzen, I. (1975). Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Reading, MA: Addison-Wesley.

Forgas, J. P., Brown, L. B., & Menyhart, J. (1980). Dimensions of aggression: The perceptions of aggressive episodes.

Forth, A. E., & Burke, H. C. (1998). Psychopathy in adolescence: Assessment, violence and developmental precursors. In D. Cooke, A. Forth, and R. Hare (Eds.), Psychopathy: Theory, research and implications for society, (pp. 205 - 229). Netherlands: Kluwer Academic Publishers.

Furnham, A. (1986). Response bias, social desirability, and dissimulation. Personality and Individual Differences, 7, 385-400.

Geller, V., & Shaver, P. (1976). Cognitive consequences of self-awareness. Journal of Experimental Social Psychology, 12, 99-108.

Gendreau, P. (1997, June). Criminal attitudes and associates. Paper presentation Canadian Psychological Association, Toronto, Ontario.

Gendreau, P., Goggin, C., Chanteloupe, F., & Andrews, D. A. (1992). The development of clinical and policy guidelines for the prediction of criminal behaviour in criminal justice settings. Programs Branch User Report, Ottawa, Ontario, Canada: Ministry of the Solicitor General of Canada.

Gendreau, P., Goggin, C. E., & Law, M. A. (1997). Predicting prison misconducts. Criminal Justice and Behavior, 24, 414-431.

Gendreau, P., Grant, B. A., Leipziger, M., & Collins, C. (1979). Norms and recidivism rates for the MMPI and selected experimental scales on a Canadian delinquent sample. Canadian Journal of Behavioural Science, *11*, 21-31.

Gendreau, P., Little, T., & Goggin, C. (1995). A meta-analysis of the predictors of adult offender recidivism: Assessment guidelines for classification and treatment. Programs Branch User Report, Ottawa, Ontario, Canada: Ministry of the Solicitor General of Canada.

Glueck, S., & Glueck, E. (1930). Five hundred criminal careers. New York: Knopf.

Glueck, S., & Glueck, E. (1934). One thousand juvenile delinquents. Cambridge, MA: Harvard University Press.

Gorsuch, R. L., & Ortberg, J. (1983). Moral obligation and attitudes: Their relation to behavioral intentions. Journal of Personality and Social Psychology, *44*, 1025-1028.

Gough, H. G. (1969). Manual for the California Psychological Inventory. Palo Alto, CA: Consulting Psychologist Press.

Hanson, R. K., Gizzarelli, R., & Scott, H. (1994). The attitudes of incest offenders: Sexual entitlement and acceptance of sex with children. Criminal Justice and Behavior, *21*, 187-202.

Hare, R. D. (1980). A research scale for the assessment of psychopathy in criminal populations. Personality and Individual Differences, *1*, 111-119.

Hare, R. D. (1985). Comparison of procedures for the assessment of psychopathy. Journal of Consulting and Clinical Psychology, *53*, 7-16.

Hare, R. D. (1991). Manual for the Hare Revised Psychopathy Checklist. Mental Health Systems Inc: Toronto, Canada.

Hare, R. D. (1996). Psychopathy: A clinical construct whose time has come. Criminal Justice and Behavior, 23, 25-54.

Hare, R. D., Forth, A. E., & Strachan, K. E. (1992). Psychopathy and crime across the life span. In R. Dev. Peters, R. J. McNishan, V. L. Quinsey (Eds.), Aggression and violence throughout the life span. (pp. 285-300). Newbury Park, CA: Sage.

Hare, R. D., Harpur, T. J., Hakstian, A. R., Forth, A. E., & Hart, S. D. (1990). The revised Psychopathy Checklist: Reliability and factor structure. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2, 1-4.

Hare, R. D., Hart, S. D., & Harpur, T. J. (1991). Psychopathy and the DSM-IV criteria for antisocial personality disorder. Journal of Abnormal Psychology, 100, 391-398.

Hare, R. D. & McPherson, L. M. (1984). Violent and aggressive behavior by criminal psychopaths. International Journal of Law and Psychiatry, 7, 35-50.

Hare, R. D., McPherson, L. M., & Forth, A. E. (1988). Male psychopaths and their criminal careers. Journal of Consulting and Clinical Psychology, 56, 710-714.

Harpur, T. J., & Hare, R. D. (1994). Assessment of psychopathy as a function of age. Journal of Abnormal Psychology, 103, 604-609.

Harpur, T. J., Hare, R. D., & Hakstian, A. R. (1989). Two-factor conceptualization of psychopathy: Construct validity and assessment implications. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 1, 6-17.

Harris, G. T., Rice, M. E., & Cormier, C. A. (1991). Psychopathy and violent recidivism. Law and Human Behavior, 15, 625-637.

Harris, G. T., Rice, M. E., & Cormier, C. A. (1994). Psychopaths: Is a therapeutic community therapeutic? Therapeutic Communities: International Journal for Therapeutic and Supportive Organizations, 15, 283-299.

Harris, G. T., Rice, M. E., & Quinsey, V. L. (1993). Violent recidivism of mentally disordered offenders: The development of a statistical prediction instrument. Criminal Justice and Behavior, 20, 315-335.

Hart, S. D., Forth, A. E., & Hare, R. D. (1990). Performance of criminal psychopaths on selected neuropsychological tests. Journal of Abnormal Psychology, 99, 374-379.

Hart, S. D., Hare, R. D., & Harpur, T. J. (1992). The Psychopathy Checklist-Revised: An overview for researchers and clinicians. In J. Rosen & P. McReynolds (Eds.), Advances in psychological assessment (vol. 7, pp. 103-130). New York: Plenum.

Hart, S. D., Kropp, P. R., & Hare, R. D. (1988). Performance of male psychopaths following conditional release from prison. Journal of Consulting and Clinical Psychology, 56, 227-232.

Heilbrun, A. B., Heilbrun, L. C., & Heilbrun, K. L. (1978). Impulsive and premeditated homicide: An analysis of subsequent parole risk of the murderer. The Journal of Criminal Law and Criminology, 69, 108-114.

Henderson, M., & Hewstone, M. (1984). Prison inmates' explanations for interpersonal violence: Accounts and attributions. Journal of Consulting and Clinical Psychology, 52, 789-794.

Hill, C. D., Rogers, R., & Bickford, M. E. (1996). Predicting aggressive and socially disruptive behavior in a maximum security forensic psychiatric hospital. Journal of Forensic Sciences, 41, 56-59.

Hindelang, M. J. (1974). Moral evaluations of illegal behavior. Social Problems, 21, 370-385.

Holden, R. R., & Fekken, G. C. (1989). Three common social desirability scales: Friends, acquaintances, or strangers? Journal of Research in Personality, 23, 180-191.

Holden, R. R., Fekken, G. C., & Cotton, D. H. G. (1991). Assessing psychopathology using structured test-item response latencies. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 3, 111-118.

Holden, R. R., & Kroner, D. G. (1992). Relative efficacy of differential response latencies for detecting faking on a self-report measure of psychopathology. Psychological Assessment, 4, 170-173.

Horley, J., Quinsey, V. L., & Jones, S. (1995, June). Child molesters' beliefs, attitudes and values. Paper presented at the 56th Annual Meeting of the Canadian Psychological Association, Charlottetown, Canada.

Intrator, J., Hare, R., Stritzke, P., Brichtswein, K., Dorfman, D., Harpur, T., Bernstein, D., Handelsman, L., Schaefer, C., Keilp, J., Rosen, J., & Machac, J. (1997). A brain imaging (Single Photon Emission Computerized Tomography) study of semantic and affective processing in psychopaths. Biological Psychiatry, 42, 96-103.

Jaccard, J. J. (1974). Predicting social behavior from personality traits. Journal Of Research In Personality, 7, 358-367.

Jackson, D. N. (1970). A sequential system for personality scale development. In C. D. Spielberger (Ed.), Current topics in clinical and community psychology (vol. 2, pp. 61-96). New York: Academic Press.

Jackson, D. N. (1971). The dynamics of structured personality tests: 1971. Psychological Review, 78, 229-248.

Jackson, D. N. (1989). Basic Personality Inventory Manual. London, Ontario: Sigma Assessment Systems.

Jackson, D. N., & Messick, S. (1962). Response styles on the MMPI: Comparison of clinical and normal samples. Journal of Abnormal and Social Psychology, 65, 285-299.

Kardes, F. R., Sanbonmatsu, D. M., Voss, R. T., & Fazio, R. H. (1986). Self-monitoring and attitude accessibility. Personality and Social Psychology Bulletin, 12, 468-474.

Kosson, D. S., Smith, S. S., & Newman, J. P. (1990). Evaluating the construct validity of psychopathy in black and white male inmates: Three preliminary studies. Journal of Abnormal Psychology, 99, 250-259.

Kosson, D. S., Steuerwald, B. L., Forth, A. E., & Kirkhart, K. J. (1997). A new method for assessing the interpersonal behavior of psychopathic individuals: Preliminary validation studies. Psychological Assessment, 9, 89-101.

Kroner, D. G. (1999). Affective Processing of Violent Psychopaths. Unpublished doctoral dissertation, Carleton University, Psychology Department, Ottawa, Canada.

Kroner, D. G., & Mills, J. F. (1998). The structure of antisocial attitudes among violent and sexual offenders. International Journal of Offender Therapy and Comparative Criminology, 42, 246-257.

Kroner, D. G., & Mills, J. F. (1999). The relative accuracy of risk appraisal strategies: Implications for the measurement of criminal risk. Paper submitted for publication.

Kroner, D. G., Muirhead, J. E., & Mills, J. F. (1997). An evaluation of the Computerized Item Management System (CIMS) with violent offenders. Forum, 9, 33-34.

Kroner, D. G., & Weekes, J. R. (1996). Balanced Inventory of Desirable Responding: Factor structure, reliability, and validity with an offender sample. Personality and Individual Differences, 21, 323-333.

Kroner, D. G., & Reddon, J. R. (1992). The anger expression scale and state-trait anger scale: Stability, reliability, and factor structure in an inmate sample. Criminal Justice and Behavior, 19, 397-408.

Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty and J. A. Krosnick (Eds.). Attitude Strength: Antecedents and Consequences. New Jersey: Lawrence Erlbaum Associates.

Lange, L. (1888). Neue Experimente über den Vorgang der einfachen Reaction auf Sinneseindrücke. Philosophical Studies, 4, 479-510.

Langevin, C., & Forth, A. E. (1998). Effects of gender, attitude and antisocial behaviour in mock judges sentencing decisions. Unpublished manuscript.

Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal populations. Journal of Personality Assessment, *66*, 488-524.

Liska, A. E. (1974). Emergent issues in the attitude-behavior consistency controversy. American Sociological Review, *39*, 261-272.

Livesley, W. J., Jackson, D. N., & Schroeder, M. L. (1992). Factorial structure of traits delineating personality disorder in clinical and general population samples. Journal of Abnormal Psychology, *101*, 432-440.

Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. Journal of Personality and Social Psychology, *37*, 2098-2109.

Loza, W., & Dhaliwal, G. K. (1997). Psychometric evaluation of the Risk Appraisal Guide (RAG): A tool for assessing violent recidivism. Journal of Interpersonal Violence, *12*, 779-793.

Luengo, M. A., Carrillo-de-la-Pena, M. T., Otero, J. M. & Romero, E. (1994). A short-term longitudinal study of impulsivity and antisocial behavior. Journal of Personality and Social Psychology, *66*, 542-548.

McKinley, J., & Hathaway, S. R. (1944). The MMPI: Hysteria, hypomania, and psychopathic deviate. Journal of Applied Psychology, *28*, 153-174.

Mellema, A., & Bassili, J. N. (1995). On the relationship between attitudes and values: Exploring the moderating effects of self-monitoring and self-monitoring schematicity. Personality and Social Psychology Bulletin, *21*, 885-892.

Messick, S. (1962). Response style and content measures from personality inventories. Educational and Psychological Measurement, 22, 41-56.

Miles, E. W., & King, W. C. (1998). Gender and administration mode effects when pencil-and-paper personality tests are computerized. Educational and Psychological Measurement, 58, 68-76.

Millar, M. G., & Tesser, A. (1986). Thought-induced attitude change: The effects of schema structure and commitment. Journal of Personality and Social Psychology, 51, 259-269.

Mills, J. F. (1997, June). Criminal attitudes and criminal associates: A new measure for an offender population. Paper presented at the Canadian Psychological Association Annual Convention, Toronto, Canada.

Mills, J. F., & Kroner, D. G. (1997). The Criminal Sentiments Scale: Predictive validity in a sample of violent and sex offenders. Journal of Clinical Psychology, 53, 399-404.

Mills, J. F., & Kroner, D. G. (1999). Measures of Criminal Attitudes and Associates: User Guide. Selby, Ontario, Canada.

Mills, J. F., Kroner, D. G., & Forth, A. E. (1997). Measures of antisocial orientation predicting patterns of serious institutional misconduct. Unpublished Paper.

Mills, J. F., Kroner, D. G., & Forth A. E. (1998). Novaco Anger Scale: Reliability and validity within an adult criminal sample. Assessment, 5, 237-248.

Mills, J. F., Kroner, D. G., & Weekes, J. R. (1998). Anger and institutional misconduct in a sample of violent offenders. Manuscript under review.

Mills, R. M. I. (1995). Cerebral asymmetry in psychopaths: A behavioural and electrocortical investigation. Unpublished Doctoral Dissertation. University of British Columbia, Vancouver, British Columbia, Canada.

Minor, W. W. (1981). Techniques of neutralization: A reconceptualization and empirical examination. Journal of Research in Crime and Delinquency, 18, 295-317.

Mossman, D. (1994). Assessing predictions of violence: Being accurate about accuracy. Journal of Consulting and Clinical Psychology, 62, 783-792.

Mylonas, A. D., & Reckless, W. C. (1963). Prisoners' attitudes toward law and legal institutions. Journal of Criminal Law, Criminology, and Police Science, 54, 479-484.

Newman, J. P. (1998). Psychopathic behavior: An information processing perspective. In D. J. Cooke, A. E. Forth & R. D. Hare (Eds.) *Psychopathy: Theory, Research and Implications for Society*. The Netherlands: Kluwer Academic Publishers.

Newman, J. P. & Kosson, D. S. (1986). Passive avoidance learning in psychopathic and nonpsychopathic offenders. Journal of Abnormal Psychology, 95, 257-263.

Newman, J. P., Patterson, C. M., & Kosson, D. S. (1987). Response perseveration in psychopaths. Journal of Abnormal Psychology, 96, 145-148.

Newman, J. P., & Schmitt, W. A. (1998). Passive avoidance in psychopathic offenders: A replication and extension. Journal of Abnormal Psychology, 107, 527-532.

Newman, J. P., Schmitt, W. A. & Voss W. D. (1997). The impact of motivationally neutral cues on psychopathic individuals: Assessing the generality of the response modulation hypothesis. Journal of Abnormal Psychology, 106, 563-575

Novaco, R. W. (1994). Anger as a risk factor for violence among the mentally disordered. In J. Monahan & H. Steadman (Eds.), Violence and mental disorder: Developments in risk assessment (pp. 21-59). Chicago: University of Chicago Press.

Nederhof, A. J. (1985). Methods of coping with social desirability bias: A review. European Journal of Social Psychology, 15, 263-280.

O'Kane, A., Fawcett, D., & Blackburn, R. (1996). Psychopathy and moral reasoning: Comparison of two classifications. Personality and Individual Differences, 20, 505-514.

Osland, J. A., Fitch, M., & Willis, E. E. (1996). Likelihood to rape in college males. Sex Roles, 35, 171-183.

Palmer W. (1997). A new scheme for predicting recidivism. Unpublished Doctoral Dissertation, Queen's University, Kingston, Ontario, Canada.

Patrick, C. J. (1994). Emotion and psychopathy: Startling new insights. Psychophysiology, 31, 319-330.

Paulhus, D. L. (1984). Two-component models of socially desirable responding. Journal of Personality and Social Psychology, 46, 598-609.

Paulhus, D. L. (1994). Balanced Inventory of Desirable Responding: Reference manual for the BIDR version 6. Unpublished manuscript, University of British Columbia.

Powell, M. C., & Fazio, R. H. (1984). Attitude accessibility as a function of repeated attitudinal expression. Personality and Social Psychology Bulletin, 10, 139-148.

Poythress, N. G., Edens, J. F., & Lilienfeld, S. O. (1998). Criterion-related validity of the Psychopathic Personality Inventory in a prison sample. Psychological Assessment, 10, 426-430.

Raden, D. (1985). Strength-related attitude dimensions. Social Psychological Quarterly, 48, 312-330.

Reddon, J. R. (1995). A Stat: Statistical Hypotheses and Utilities v2.1.

Rice, M. E. (1997). Violent offender research and implications for the criminal justice system. American Psychologist, 52, 414-423.

Rice, M. E., & Harris, G. T. (1995). Violent recidivism: Assessing predictive validity. Journal of Consulting and Clinical Psychology, 63, 737-748.

Rice, M. E., & Harris, G. T. (1997). Cross-validation and extension of the violence risk appraisal guide for child molesters and rapists. Law and Human Behavior, 21, 231-241.

Rice, M. E., Harris, G. T., & Cormier, C. A. (1992). An evaluation of a maximum security therapeutic community for psychopaths and other mentally disordered offenders. Law and Human Behavior, 16, 399-412.

Robertson, S. (1998). Assessing procriminal sentiments in young offenders: A comprehensive examination of the psychometric properties of a battery of attitudinal scales. Unpublished Masters Thesis, Carleton University, Ottawa, Ontario, Canada.

Roese, N. J., & Olson, J. M. (1994). Attitude importance as a function of repeated attitude expression. Journal of Experimental Social Psychology, 30, 39-51.

Roy, R. E., & Wormith, J. S. (1985). The effects of incarceration: Measuring criminal sentiments. Programs Branch User Report, Ottawa, Ontario, Canada: Ministry of the Solicitor General of Canada.

Rutherford, M. J., Cacciola, J. S., Alterman, A. I., & McKay, J. R. (1996). Reliability and validity of the revised Psychopathy Checklist in women methadone patients. Assessment, *3*, 145-156.

Schofield, J. W. (1975). Effect of norms, public disclosure, and need for approval on volunteering behavior consistent with attitudes. Journal of Personality and Social Psychology, *31*, 1126-1133.

Schroeder, M. L., Schroeder, K. G., & Hare, R. D. (1983). Generalizability of a checklist for assessment of psychopathy. Journal of Consulting and Clinical Psychology, *51*, 511-516.

Scott, W. A. (1968). Attitude measurement. In G. Lindzey & E. Aronson (Eds.), Handbook of Social Psychology (Vol. 2, pp. 204-273). Reading, MA: Addison-Wesley.

Scott, M., & Lyman, S. (1968). Accounts. American Sociological Review, *33*, 46-62.

Scully D., & Marolla, J. (1984). Convicted rapists' vocabulary of motive: Excuses and justifications. Social Problems, *31*, 530-544.

Serin, R. C. (1991). Psychopathy and violence in criminals. Journal of Interpersonal Violence, *6*, 423-431.

Serin, R. C. (1996). Violent recidivism in criminal psychopaths. Law and Human Behavior, *20*, 207-217.

Serin, R. C., & Amos, N. L. (1995). The role of psychopathy in the assessment of dangerousness. International Journal of Law and Psychiatry, 18, 1-8.

Serin, R. C., DeV. Peters, R., & Barbaree, H. E. (1990). Predictors of psychopathy and release outcome in a criminal population. Psychological Assessment, 2, 419-422.

Seto, M. & Barbaree, H. E. (in press). Psychopathy, treatment behaviour and sex offender recidivism. Journal of Interpersonal Violence.

Shavitt, S., & Fazio, R. H. (1991). Effects of attribute salience on the consistency between attitudes and behavior predictions. Personality and Social Psychology Bulletin, 17, 507-516.

Sherman, S. J., & Fazio, R. H. (1983). Parallels between attitudes and traits as predictors of behavior. Journal of Personality, 51, 308-345.

Shields, I. W., & Whitehall, G. C. (December, 1991). The Pride in Delinquency Scale. Paper presented at the eastern Ontario correctional psychologists' winter conference, Burritts Rapids, Canada.

Shields, I. W., & Whitehall, G. C. (1994). Neutralization and delinquency among teenagers. Criminal Justice and Behavior, 21, 223-235.

Simourd, D. J. (1997). The Criminal Sentiments Scale-Modified and Pride In Delinquency Scale: Psychometric properties and construct validity of two measures of criminal attitudes. Criminal Justice and Behavior, 24, 52-70.

Simourd, D. J. (1999). Assessment of criminal attitudes: Criterion-related validity of the Criminal Sentiments Scale - Modified and Pride in Delinquency Scale. Criminal Justice and Behaviour, 26, 90-106.

Sjoberg, L. (1982). Attitude-behaviour correlation, social desirability and perceived diagnostic value. British Journal of Social Psychology, 21, 283-292.

Snyder, M. (1974). The self-monitoring of expressive behavior. Journal of Personality and Social Psychology, 30, 526-537.

Spielberger, C. D. (1983). Manual for the State-trait Anxiety Inventory. Palo Alto, CA: Consulting Psychologists Press, Inc.

Spielberger, C. D. (1988). State-trait anger expression inventory (Research Edition) Professional Manual. Odessa, FL: Psychological Assessment Resources, Inc.

Spielberger, C. D., Jacobs, G., Russell, S., & Crane, R. S. (1983). Assessment of anger: The state-trait anger scale. In J. N. Butcher & C. D. Spielberger (Eds.), Advances in personality assessment (pp. 159-187). Hillsdale, NJ: LEA.

Spielberger, C. D., Johnson, E. H., Russell, S., Crane, R. S., Jacobs, G. A., & Wordon, T. J. (1985). The experience and expression of anger: Construction and validation of an anger expression scale. In M. A. Chesney & R. H. Rosenman (Eds.) Anger and hostility in cardiovascular and behavioral disorders (pp. 5-30). New York: Hemisphere/McGraw-Hill.

Sutherland, E. H. (1947). Principles of criminology (4th ed.). Philadelphia: Lippincott.

Sykes, G. & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. American Sociological Review, 22, 664-670.

Templeman, R., & Wong, S. (1994). Determining the factor structure of the Psychopathy Checklist: A converging approach. Multivariate Experimental Clinical Research, 10, 157-166.

Trevethan, S. D., & Walker, L. J. (1989). Hypothetical versus real-life moral reasoning among psychopathic and delinquent youth. Development and Psychopathology, 1, 91-103.

Walsh, J. A., Tomlinson-Keasey, C., & Klieger, D. M. (1974). Acquisition of the social desirability response. Genetic Psychology Monographs, 89, 241-272.

Walters, G. D. (1995a). The Psychological Inventory of Criminal Thinking Styles: Part II Identifying simulated response sets. Criminal Justice and Behavior, 22, 437-445.

Walters, G. D. (1995b). The Psychological Inventory of Criminal Thinking Styles: Part I Reliability and preliminary validity. Criminal Justice and Behavior, 22, 307-325.

Walters, G. D., & White, T. W. (1989). The thinking criminal: A cognitive model of lifestyle criminality. Criminal Justice Research Bulletin, 4, 1-10.

Webster, C. D., Douglas, K. S., Eaves, D., & Hart, S. D. (1997). HCR-20 assessing risk for Violence: Version 2. Mental Health, Law and Policy Institute Simon Fraser University: Burnaby, British Columbia, Canada.

Williamson, S., Harpur, T. J., & Hare, R. D. (1991). Abnormal processing of affective words by psychopaths. Psychophysiology, 28, 260-273.

Wong, S. (1984). The criminal and institutional behaviours of psychopaths. Programs Branch User Report, Ottawa, Ontario, Canada: Ministry of the Solicitor General of Canada.

Wormith, J. S. (1984). Attitude and behavior change of correctional clientele. Criminology, 22, 595-618.

Wormith, J. S., & Andrews, D. A. (1995, June). The development and validation of three measures of criminal sentiments and their role in the assessment of offender

attitudes. Paper presented at the Canadian Psychological Association Annual Convention. Charlottetown, Prince Edward Island.

Zanna, M. P., & Olson, J. M. (1982). Individual differences in attitudinal relations. In M. P. Zanna, E. T. Higgins, and C. P. Herman (Eds.) Consistency in social behavior: The Ontario symposium (pp. 75-103). Hillsdale, NJ: Lawrence Erlbaum.

Zanna, M. P., Olson, J. M., & Fazio, R. H. (1980). Attitude-behavior consistency: An individual difference perspective. Journal of Personality and Social Psychology, 38, 432-440.

Zanna, M. P., Olson, J. M., & Fazio, R. H. (1981). Self-perception and attitude-behavior consistency. Personality and Social Psychology Bulletin, 7, 252-256.

Appendix A: Psychopathy Checklist - Revised (PCL-R)

Rating Items for the Hare Psychopathy Checklist - Revised

1. **Glibness/Superficial Charm**
2. **Grandiose Sense of Self Worth**
3. **Need for Stimulation/Proneness to Boredom**
4. **Pathological Lying**
5. **Conning/Manipulative**
6. **Lack of Remorse or Guilt**
7. **Shallow Affect**
8. **Callous/Lack of Empathy**
9. **Parasitic Lifestyle**
10. **Poor Behavioral Controls**
11. **Promiscuous Sexual Behaviour**
12. **Early Behavioral Problems**
13. **Lack of Realistic, Long-term Goals**
14. **Impulsivity**
15. **Irresponsibility**
16. **Failure to Accept Responsibility for Own Actions**
17. **Many Short-term Marital Relationships**
18. **Juvenile Delinquency**
19. **Revocation of Conditional Release**
20. **Criminal Versatility**

Appendix B: Measure of Criminal Attitudes and Associates (MCAA) PART 1

Research Questionnaire (MCAA)

This questionnaire has two parts. The first part asks some questions about your friends and acquaintances. The second part is a series of statements for which you can respond by showing whether you agree or disagree with the statement. Please answer all the questions.

Part I

Consider the 4 adults you spend the most time with in the community, when you answer Part I.

No names please of the people you are referring to. Then answer the questions to the best of your knowledge.

1.

A. How much of your free time do you spend with person #1? (Please Circle Your Answer)

less than 25% 25% - 50% 50% - 75% 75% - 100%

B. Has person #1 ever committed a crime? Yes No

C. Does person #1 have a criminal record? Yes No

D. Has person #1 ever been to jail? Yes No

E. Has person #1 tried to involve you in a crime? Yes No

2.

A. How much of your free time do you spend with person #2? (Please Circle Your Answer)

less than 25% 25% - 50% 50% - 75% 75% - 100%

B. Has person #2 ever committed a crime? Yes No

C. Does person #2 have a criminal record? Yes No

D. Has person #2 ever been to jail? Yes No

E. Has person #2 tried to involve you in a crime? Yes No

3.

A. How much of your free time do you spend with person #3? (Please Circle Your Answer)

less than 25% 25% - 50% 50% - 75% 75% - 100%

B. Has person #3 ever committed a crime? Yes No

C. Does person #3 have a criminal record? Yes No

D. Has person #3 ever been to jail? Yes No

E. Has person #3 tried to involve you in a crime? Yes No

4.

A. How much of your free time do you spend with person #4? (Please Circle Your Answer)

less than 25% 25% - 50% 50% - 75% 75% - 100%

B. Has person #4 ever committed a crime? Yes No

C. Does person #4 have a criminal record? Yes No

D. Has person #4 ever been to jail? Yes No

E. Has person #4 tried to involve you in a crime? Yes No

Appendix C: Measure of Criminal Attitudes and Associates (MCAA) PART 2

Measure of Criminal Attitudes and Associates (DV4)

Attitudes Towards Violence:

- 2. It's understandable to hit someone who insults you. (R⁵)
- 33. Its not wrong to hit someone who puts you down. (J⁶)

- 5. It's none of my business, if I saw a store being robbed. (R)
- 37. Ignoring a store being robbed is not wrong. (J)

- 9. Sometimes a person may have to carry a weapon to protect themselves. (R)
- 40. There is nothing wrong with carrying a weapon to protect yourself. (J)

- 12. It is understandable for a person to fight when they are threatened. (R)
- 44. A person is completely right to fight back if they have been threatened. (J)

- 16. Child molesters get what they have coming. (R)
- 47. There is nothing wrong with beating up a child molester. (J)

- 19. Sometimes you have to fight to keep your self-respect. (R)
- 51. It's not wrong to fight to save face. (J)

- 23. If you make someone really angry, you shouldn't complain if you get hit. (R)
- 53. Someone who makes you very angry deserves to be hit. (J)

- 26. People who get beat up usually had it coming. (R)
- 57. There is nothing wrong with beating up someone who asks for it. (J)

- 30. It is reasonable to expect a fight from someone you cheated. (R)
- 60. Its all right to fight someone if they stole from you. (J)

Attitudes Towards Entitlement:

- 45. If someone found a wallet, its O.K. to keep the money as a reward before turning it in. (R)
- 3. Any money I find in a wallet rightfully belongs to me. (J)

- 48. Sometimes you have to break the law to survive. (R)
- 6. If you can't get a job, then you have to do crime to get by. (J)

⁵ Rationalization Item

⁶ Justification Item

52. Stealing to survive is understandable. (R)
10. A hungry man has the right to steal. (J)
54. Anyone with self-respect would rather steal than have to live off of charity. (R)
13. Its not wrong to steal, if it lets you keep your self-respect. (J)
58. Taking what is owed you is not really stealing. (R)
17. A person is right to take what is owed them, even if they have to steal it. (J)
61. People should be allowed to decide what is right and wrong. (R)
20. Only I can decide what is right and wrong. (J)
64. A person should decide what they deserve out of life. (R)
24. Only I should decide what I deserve. (J)
65. I should be given what I need. (R)
27. It would be wrong if I didn't get what I needed. (J)
67. You should not judge what other people do. (R)
31. No one has the right to pass judgment on me. (J)
68. I should be treated like anyone else no matter what I do. (R)
34. No matter what I've done, its only right to treat me like everyone else. (J)
71. A lack of money should not stop you from getting what you want. (R)
38. Its wrong for a lack of money to stop you from getting things. (J)
72. Most people break the law in some way. (R)
41. Sometimes you have to break the law. (J)

Anti-Social Intent:

4. I am not likely to commit a crime in the future. (-⁷)
7. I can see myself becoming law-abiding. (-)
11. I would keep any amount of money I found. (+⁸)
14. I could not see myself buying stolen goods. (-)
18. I could see myself lying to the police. (+)
21. In certain situations I would try to outrun the police. (+)
25. I would not cheat on an exam. (-)

⁷ Negatively Keyed Item

⁸ Positively Keyed Item

- 28. I would be open to cheating certain people. (+)
- 32. I am likely to get away with any future crime I may commit. (+)
- 35. If I were a salesman, I would never lie to a customer. (-)
- 39. I could easily tell a convincing lie. (+)
- 42. I could not see myself as a professional thief. (-)
- 46. Rules will not stop me from doing what I want. (+)
- 49. I would not enjoy getting away with something wrong. (-)
- 55. I would run a scam if I could get away with it. (+)
- 59. For a good reason, I would commit a crime. (+)
- 62. If it put money in my pocket, I would take advantage of someone. (+)
- 66. I will not break the law again. (-)
- 70. I would be happy to fool the police. (+)

Attitudes Towards Assoc.

- 1. I have a lot in common with people who break the law. (+)
- 8. None of my friends have committed crimes. (-)
- 15. I know several people who have committed crimes. (+)
- 22. I would not steal, and I would hold it against anyone who does. (-)
- 29. I am most comfortable around people who obey the law.(-)
- 36. I always feel welcomed around criminal friends. (+)
- 43. Most of my friends don't have criminal records. (-)
- 50. I have friends who have been to jail. (+)
- 56. None of my friends has ever wanted to commit a crime. (-)
- 63. I have committed a crime with friends. (+)
- 69. I have friends who are well known to the police. (+)

Appendix D: Criminal Sentiments Scale (CSS)

Research Questionnaire (CSS)

Instructions: You will note that each statement in this scale has five possible answers. Please read the statement. Choose the answer you think is the best.

Strongly Disagree Strongly Agree

1-----2-----3-----4-----5

By choosing 1, you have complete and strong disagreement with the statement. Choosing 5 would mean very strong and complete agreement with the statement. Read each statement carefully, decide just how much you disagree, or agree, with it and then select your answer that indicates how you feel about the statement.

- 1. Laws are so often made for the benefit of small selfish groups that a person cannot respect the law.**
- 2. Nearly all laws deserve our respect.**
- 3. It is our duty to obey all laws.**
- 4. Laws are usually bad.**
- 5. The law is rotten to the core.**
- 6. Almost any jury can be fixed.**
- 7. You can't get justice in court.**
- 8. On the whole, lawyers are honest.**
- 9. Fake witnesses are often produced by the prosecution.**
- 10. On the whole, the police are honest.**
- 11. A cop is a friend to people in need.**
- 12. Life would be better with fewer police.**
- 13. The police should be paid more for their work.**
- 14. The police are just as crooked as the people they arrest**
- 15. All laws should be strictly obeyed because they are Laws.**
- 16. The law does not benefit the common person.**
- 17. The law as a whole is sound.**
- 18. In the long run, law and justice are the same.**
- 19. The law enslaves the majority of people for the benefit of a few.**
- 20. On the whole, judges are honest and kind-hearted.**
- 21. Court decisions are almost always just.**
- 22. Almost anything can be fixed in the courts if you have enough money.**
- 23. A judge is a good person.**
- 24. Our society would be better off if there were more police.**
- 25. Police rarely try to help people.**
- 26. Sometimes a person like myself has to break the law in order to get ahead.**
- 27. Most successful people used illegal means to become successful.**
- 28. People who have been in trouble with the law have the same sort of ideas about life that I have.**

29. People should always obey the law no matter how much it interferes with their personal ambition.
30. I would rather associate with people who obey the law than with those who don't.
31. It's all right for a person to break the law if he or she doesn't get caught.
32. I'm more like the people who can make a living outside the law than I am like those who only break the law occasionally.
33. Most people would commit crimes if they knew they wouldn't get caught.
34. People who have been in trouble with the law are more like me than people who don't have trouble with the law.
35. There never is a cause for breaking the law.
36. I don't have much in common with people who never break the law.
37. A hungry person has the right to steal.
38. It's all right to evade the law if you don't actually break it.
39. No one can violate the law and be my friend.
40. A person should obey those laws which seem reasonable.
41. A person is a fool to work for a living if he or she can get by some easier way, even if it means violating the law.

Appendix E: Pride In Delinquency Scale (PID)

Research Questionnaire (PID)

Instructions: You will note that each statement in this scale has nine possible answers. Please read the statement. Choose the answer you think is the best.

Apply each statement to yourself as if you had acted in that manner. By choosing 1, you would be very ashamed of that behaviour, and by choosing 9 would be very proud of that behaviour.

Read each statement carefully, decide just how much you would be ashamed or proud and then select your answer that indicates how you feel about the statement.

Ashamed

Proud

1---2---3---4---5---6---7---8---9

1. Beating up a child molester.
2. Committing sexual assault.
3. Breaking into a family's home when no one is in and stealing jewelry 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.
9. Pointing a shotgun at a store clerk you 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.

Appendix F: Balanced Inventory of Desirable Responding (BIDR)

BIDR - Version 6 Form 40A

Instructions: Using the scale below as a guide, choose a number for each statement to show how much you agree with it

By choosing 1, the statement is not true for you. On this scale, 4 is somewhat true. Choosing 7 would mean that the statement is very true of you.

Read each statement carefully, decide just how much you disagree, or agree, with it and then select your answer.

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

13. The reason I vote is because my vote can make a difference. 1-----2-----3-----4-----5-----6-----7
14. My parents were not always fair when they punished me. 1-----2-----3-----4-----5-----6-----7
15. I am a completely rational person. 1-----2-----3-----4-----5-----6-----7
16. I rarely appreciate criticism. 1-----2-----3-----4-----5-----6-----7
17. I am very confident of my judgments. 1-----2-----3-----4-----5-----6-----7
18. I have sometimes doubted by 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/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

Not true Somewhat Very True

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
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 G: Consent Form

CONSENT FORM

I, _____ have been asked to take part in a study about offender attitudes. The research is being conducted by Jeremy Mills, under the supervision of Dr. Adelle Forth from the Department of Psychology, Carleton University, as part of the requirements for his Ph.D..

Participation in this study involves answering questions on a number of self-report questionnaires which are provided at the time of the psychological testing for assessment purposes. Participation in the study may take an additional 25-30 minutes to the current testing being conducted for assessment. The questions are related to offender attitudes, anger, anxiety, and depression. The research will be looking at the relationship between attitudes and elements of personality, while accounting for emotional states.

The information collected for research purposes will be kept confidential. Publication of the results will not result in your being identified as a participant. Information obtained, apart from the regular test battery, will not be put on any institutional file.

I consent to the disclosure of information in my institutional files to Jeremy Mills for the confidential use for research purposes.

I understand that participation in this study will not affect any administrative decisions concerning me such as my institutional placement or parole. My refusal to participate will also not affect my treatment by CSC in any way. I am free to withdraw from the study at any time for any reason without consequence or penalty to me.

I have read the above statement and freely consent to participate in this study.

Signature of Participant

Signature of Witness

Date

Appendix H: Information Form

INFORMATION FORM

The study in which you earlier consented to participate, examines offender attitudes about antisocial behaviour. It also considers things which may effect attitudes, such as mood (anger, depression, and anxiety) and our desire to present ourselves favourably. By examining these things together, it will help us understand how to accurately measure attitudes.

I would like to thank-you for the time and effort that you have given to the study. I hope that the results will help us to understand offenders better and to improve our way of providing psychological services to them.

If you have any questions or comments about this study, you should call Dr. Adelle Forth (613) 520-2600 ext. 1267 or if you have any ethical concerns contact Dr. Gick (613) 520-2600 ext. 2664 Chair of the Ethics Committee. If you still are not satisfied, you may call the Acting Chair of the Psychology Department, Dr. Matheson (613) 520-2600 ext. 7513.

Appendix I: Correlations of BIDR Items not Associated with MCAA Scales

BIDR Item	Violence	Entitlement	Antisocial Intent	Associates
B3	.12	.11	-.01	.04
B5	.01	.08	-.07	.00
B6	.10	.05	.06	.00
B9	-.03	-.04	-.03	.04
B12	.05	.10	-.03	.03
B15	-.01	.05	.05	-.04
B17	.01	-.09	-.04	-.13
B8	-.02	-.09	-.12	-.05
B19	.02	.11	.03	.10
B37	.04	.09	.15	.13

Appendix J: Correlation of MCAA Items with Impression Management

Item #	Correlation with Impression Management	Correlation with Own Scale
1	-.30	.47
2	-.19	.65
3	-.22	.52
4	-.17	.50
5	-.28	.55
6	-.12	.31
7	-.30	.31
8	-.35	.83
9	-.32	.55
10	-.14	.53
11	-.38	.56
12	-.22	.59
13	.06	.29
14	-.38	.61
15	-.33	.70
16	.04	.32
17	-.19	.40
18	-.45	.73
19	-.36	.62
20	.04	.30
21	-.46	.74
22	-.35	.59
23	-.14	.50
24	-.08	.35
25	-.31	.54
26	-.35	.69
27	-.05	.29
28	-.24	.65
29	-.23	.47
30	-.15	.41
31	-.25	.45
32	-.08	.26
33	-.04	.33
34	.04	.29
35	-.30	.49
36	-.15	.53
37	-.08	.43
38	.03	.26
39	-.28	.39
40	-.37	.65
41	-.17	.53
42	.00	.21
43	-.18	.59

44	-.34	.55
45	-.30	.53
46	-.29	.54
47	-.29	.66
48	-.21	.64
49	-.42	.67
50	-.32	.83
51	-.19	.63
52	-.22	.52
53	-.21	.58
54	-.13	.50
55	-.34	.68
56	-.27	.67
57	-.16	.60
58	-.14	.49
59	-.19	.55
60	-.25	.69
61	-.13	.46
62	-.29	.58
63	-.34	.71
64	.01	.32
65	-.07	.50
66	-.21	.56
67	.06	.31
68	-.03	.36
69	-.30	.78
70	-.28	.65
71	-.04	.53
72	-.23	.44

Appendix K: Incremental Variance Accounted for with the Inclusion of Mean Response Latencies in the Regression Equation.

Indice	Violence Scale					Entitlement Scale				
	$R^2_{1,23}$	$R^2_{1,2}$	Difference	Beta1	Beta2	$R^2_{1,23}$	$R^2_{1,2}$	Difference	Beta1	Beta2
Convictions	.073	.019	.054	.110	-.235*	.073	.047	.026	.194*	-.162
Incarcerations	.060	.034	.026	.167	-.162	.051	.044	.007	.199*	-.085
Violent	.061	.009	.052	.071	-.228*	.046	.010	.036	.073	-.191
Non-Violent	.077	.023	.054	.126	-.233*	.075	.052	.023	.208*	-.152
Sexual	.058	.029	.029	-.151	.172	.025	.017	.008	-.118	.090
Average Difference			4.0%					1.9%		

Note. * $p < .05$, ** $p < .01$ Subscript 1 = Indice, Subscript 2 = Raw Scale Score, Subscript 3 = Response Latency to the Items in the Scale, Beta 1 is the Beta value for the raw scale score in the regression equation, Beta 2 is the Beta value for the response latency to the scale Items in the regression equation, Average Difference does not include Convictions.

Indices	Associates Scale				Antisocial Intent Scale					
	R ² _{1,23}	R ² _{1,2}	Difference	Beta1	Beta2	R ² _{1,23}	R ² _{1,2}	Difference	Beta1	Beta2
Convictions	.248	.230	.018	.439***	-.141	.119	.112	.007	.320***	-.083
Incarcerations	.213	.207	.006	.430***	-.084	.140	.140	.000	.375***	.001
Violent	.199	.135	.064	.292**	-.264**	.057	.044	.013	.189	-.117
Non-Violent	.239	.225	.014	.438***	-.126	.124	.118	.006	.331***	-.075
Sexual	.074	.052	.022	-.185	.153	.041	.038	.003	-.187	.053
Average Difference										
				2.7%						0.6%

Note. *p < .05, **p < .01 Subscript 1 = Indices, Subscript 2 = Raw Scale Score, Subscript 3 = Response Latency to the

Items in the Scale, Beta 1 is the Beta value for the raw scale score in the regression equation, Beta 2 is the Beta value for the response latency to the scale items in the regression equation, Average Difference does not include Convictions.

**Appendix L: Incremental Variance Accounted for with the Inclusion of Partialled
Response Latencies in the Regression Equation.**

Indices	Violence Scale					Entitlement Scale				
	$R^2_{1,23}$	$R^2_{1,2}$	Difference	Beta1	Beta2	$R^2_{1,23}$	$R^2_{1,2}$	Difference	Beta1	Beta2
Convictions	.025	.019	.006	.143	-.081	.047	.047	.000	.217*	-.014
Incarcerations	.035	.034	.001	.188	-.035	.047	.044	.003	.208*	.050
Violent	.016	.009	.007	.103	-.080	.011	.009	.002	.100	-.042
Non-Violent	.031	.023	.008	.159	-.089	.052	.052	.000	.229*	-.009
Sexual	.044	.029	.015	-.181	.121	.017	.017	.000	-.130	.008
Average Difference			0.8%					0.1%		

Note. * $p < .05$, ** $p < .01$ Subscript 1 = Indices, Subscript 2 = Raw Scale Score, Subscript 3 = Residual calculated from predicting mean response latency to the items in the scale from the mean response latencies of the neutral items, Beta 1 is the Beta value for the raw scale score in the regression equation, Beta 2 is the Beta value for the residuals in the regression equation, Average Difference does not include Convictions.

Indices	Associates Scale			Antisocial Intent Scale						
	R ² _{1,23}	R ² _{1,2}	Difference	Beta1	Beta2	R ² _{1,23}	R ² _{1,2}	Difference	Beta1	Beta2
Convictions	.231	.230	.001	.475***	-.035	.116	.112	.000	.332***	.059
Incarcerations	.207	.207	.000	.455***	.002	.154	.140	.014	.369***	.117
Violent	.169	.134	.035	.347***	-.186	.045	.043	.002	.207*	.032
Non-Violent	.225	.225	.000	.472***	-.020	.122	.118	.004	.341***	.060
Sexual	.063	.053	.010	-.218	.105	.039	.038	.001	-.195*	-.024
Average Difference										
										0.5%
										1.1%

Note. *p < .05, **p < .01 Subscript 1 = Indices, Subscript 2 = Raw Scale Score, Subscript 3 = Residual calculated from

predicting mean response latency to the items in the scale from the mean response latencies of the neutral items, Beta 1

is the Beta value for the raw scale score in the regression equation, Beta 2 is the Beta value for the residuals in the

regression equation, Average Difference does not include Convictions.

**Appendix M: Incremental Variance Accounted for with the Inclusion of the Difference
Response Latencies in the Regression Equation.**

Indices	Violence Scale			Entitlement Scale					
	R ² _{1,23}	R ² _{1,2}	Difference	Beta1	Beta2	R ² _{1,2}	Difference	Beta1	Beta2
Convictions	.052	.019	.033	.087	-.189	.047	.037	.169	-.199*
Incarcerations	.058	.034	.024	.142	-.163	.044	.037	.164	-.197*
Violent	.040	.009	.031	.049	-.181	.010	.035	.053	-.192
Non-Violent	.052	.023	.029	.106	-.175	.052	.035	.183	-.193*
Sexual	.031	.029	.002	-.159	.045	.017	.011	-.104	.110
Average Difference			2.2%				3.0%		

Note. *p < .05, **p < .01 Subscript 1 = Indices, Subscript 2 = Raw Scale Score, Subscript 3 = Difference between the

response latencies to the neutral items and response latencies to scale items, Beta 1 is the Beta value for the raw scale score in the regression equation, Beta 2 is the Beta value for the difference in response latencies in the regression equation, Average Difference does not include Convictions.

Indices	Associates Scale					Antisocial Intent Scale				
	$R^2_{1,23}$	$R^2_{1,2}$	Difference	Beta1	Beta2	$R^2_{1,23}$	$R^2_{1,2}$	Difference	Beta1	Beta2
Convictions	.241	.230	.001	.459***	-.107	.149	.112	.037	.277**	-.201*
Incarcerations	.216	.207	.009	.437***	-.096	.172	.140	.032	.322***	-.184
Violent	.136	.135	.001	.361***	-.034	.081	.044	.037	.150	-.203*
Non-Violent	.236	.225	.011	.454***	-.110	.152	.118	.034	.288**	-.193*
Sexual	.053	.053	.000	-.224*	.024	.049	.038	.011	-.165	.106
Average Difference			0.5%					3.0%		

Note. * $p < .05$, ** $p < .01$ Subscript 1 = Indices, Subscript 2 = Raw Scale Score, Subscript 3 = Difference between the response latencies to the neutral items and response latencies to scale items, Beta 1 is the Beta value for the raw scale score in the regression equation, Beta 2 is the Beta value for the difference in response latencies in the regression equation, Average Difference does not include Convictions.