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An empirical investigation of Barriga's mediational model of moral cognition and antisocial behaviour: Moral reasoning recognition versus response generation assessments in models for general delinquency and sexually coercive behaviours.

By

Sarah Gardiner

A Thesis
Submitted to the Faculty of Graduate Studies
through the Department of Psychology
in Partial Fulfillment of the Requirements for
the Degree of Master of Arts
at the University of Windsor

Windsor, Ontario, Canada

2019

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An empirical investigation of Barriga's mediational model of moral cognition and antisocial behaviour: Moral reasoning recognition versus response generation assessments in models for general delinquency and sexually coercive behaviours

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September 19, 2019

DECLARATION OF ORIGINALITY

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ABSTRACT

In an attempt to understand how moral cognitions influence individual's choices to engage in antisocial behaviours, Barriga et al. (2001) created a cognitive developmental model. The main goal of the present study was to replicate Barriga's et al. (2001) updated model (Beerthuizen & Brugman, 2013) and extend their work by applying the model to sexually coercive behaviours. To investigate these associations, 123 participants completed online questionnaires that measured moral value evaluation, moral reasoning, moral identity, criminogenic cognitions and self-reported delinquent behaviours, including sexually coercive behaviours. Additionally, hostile attitudes towards men/women and desirable responding were measured and were used as control variables. Results showed that moral value evaluation was completely mediated by moral reasoning, moral identity, and criminogenic cognitions. Additionally, criminogenic cognitions had a significant direct effect on deviant behaviours. The secondary goal of the current study was to gain insight into the concurrent validity of a relatively new recognition moral reasoning measure the SRM-SFO (Basinger et al., 2007) by comparing it to a well-established production moral reasoning measure the SRM-SF (Gibbs et al., 1992). Results demonstrated a weak non-significant relation between the two moral reasoning measures.

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DEDICATION

This thesis is dedicated to my daughter, Abigail Abbott.

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An extra special thank you goes to my beautiful and absolutely wonderful daughter, Abby. Throughout these two years, she has been my source of joy, laughter, and happiness.

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CHAPTER I INTRODUCTION

According to the 2017 Crime Severity Index, both volume and severity of police-reported crime in Canada has risen (Statistics Canada, 2017). In Ontario alone, 539 896 Criminal Code violations (excluding traffic violations) were reported by police in the year 2017. Additionally, 141 799 adults (aged 18 years and over) and 12 847 youth (aged 12 to 17) were charged with a criminal offense in Ontario (Statistics Canada, 2017), with women being accused of 23.7% of all Criminal Code violations (Statistics Canada, 2015).

Notably, increases in the Crime Severity Index, in comparison to the last three years, have in part been due to increased rates of police reported sexual assault (Statistics Canada, 2017). However, sexual assault is a severely underreported crime, with 83% of all sexual assault incidences not being reported to police (Statistics Canada, 2014). Unsurprisingly, women make up the majority of sexual assault survivors, with nearly half of all female survivors (47%) being between 15- to 24-years-old (Statistics Canada, 2014). This is in line with previous research which has found that 37.4% of female rape survivors were of university age at the time of the assault (Black et al., 2011). Additionally, Kerbs, Linqvist, Warner, Fisher, & Martin, (2009) found that 19% of undergraduate women have experienced attempted or completed rape. However, men also experienced victimization, with 13% of self-reported sexual assaults being reported by men. Similar to women, young men (aged 15 to 24) had a higher rate of victimization when compared to older men (Statistics Canada, 2014). Thus, it appears that university aged individuals are at a higher risk for experiencing sexual coercive behaviours than their older counterparts.

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In terms of perpetration, the majority of sexual assaults in 2014 were committed by men (94%), with 31% of male perpetrators identified as being university aged (between the ages of 18 and 24). Further, research on sexual assault on university campuses has demonstrated that 46% of male university participants report engaging in sexually coercive behaviours (Young, Desmarais, Baldwin, & Chandler, 2017). With regards to female perpetrators, 2.8% of all sexual assaults reported to police in the year 2015 were committed by women. However, this number increases to 8% when self-reported sexual assaults are considered, with 48% of sexual assaults against men being perpetrated by women (Statistics Canada, 2014). Thus, it appears that both the rates of perpetration and victimization are higher among adolescents and young adults. Given the prevalence of crime in society, it is no surprise that crime has long been an interest to researchers (e.g., Gluek & Gluek, 1940), and many have attempted to explain why individuals engage in deviant behaviours.

One such line of investigation has revolved around morality. More specifically, researchers have looked into moral reasoning (i.e., the reason individuals give for *why* an action is right or wrong; Kohlberg, 1981) and its relation to deviant behaviours in both offender samples (i.e. individuals who come into contact with the criminal justice system; see Stams et al., 2006) and non-offender samples (e.g., Cheng, 2014). The relation between moral reasoning and criminality rests on the assumption that moral reasoning influences moral action. That is, one's moral development would be predictive of one's moral behaviour. However, the relation between moral reasoning and deviant behaviour has not been so simplistic. As such, researchers have looked to other moral cognitions that may be predictive of antisocial behaviours.

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In order to bridge the gap between moral reasoning and deviant behaviours, Barriga, Morrison, Liao, and Gibbs (2001) proposed a multi-process cognitive developmental model. The authors predicted that mature moral reasoning would influence the relative importance individuals place on moral characteristics (i.e., moral self-relevance) and that this would protect against individuals using self-serving biases that distort their perception of their actions. That is, individuals who demonstrate higher moral reasoning and moral self-relevance would not engage in the use of distorted beliefs and attitudes (i.e., self-serving cognitive distortions) that justify, minimize, or help them deny the impact of their immoral actions.

To test their proposed model, the authors had males and females aged 16- to 19-years old complete several self-report questionnaires that measured: personal competencies and problems, externalizing and internalizing behaviours, moral reasoning, moral self-relevance, and self-serving cognitive distortions. Overall, the authors found support for their model. That is, mature moral reasoning and high moral self-relevance demonstrated a negative relation with self-serving cognitive distortions, which partially mediated the association between moral cognitions and antisocial behaviours. However, there was no relation found between moral reasoning and moral self-relevance and the relation between moral reasoning and deviant behaviours was found to only be marginally significant. Their results are in direct contrast to several studies which have demonstrated a link between moral reasoning and criminal behaviours (see Stams et al., 2006 for meta-analysis). However, it is plausible that since the authors used a global measure of moral reasoning and not an individual's moral reasoning related to the moral domain in which their transgression occurred (e.g., stealing involves moral reasoning in

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the moral domain of property and law) the association between the two variables may not have been found due to these methodological choices.

More recently, Beerthuisen and Bruggeman (2013) introduced an additional moral cognition into Barriga's model. Specifically, the authors' proposed the inclusion of moral value evaluation (i.e., the level of importance one assigns to certain moral issues). The authors believed that this quick and intuitive evaluation would be predictive of deviant behaviour, but would also be fully mediated by the three moral cognitions proposed by Barriga. In order to investigate the merit of including moral value evaluation into the model, the authors had 542 males and females between 11- to 18- year old complete several of the same self-report questionnaires utilized by Barriga et al. (2001). The authors found support for their hypotheses, with moral value evaluation influencing the three cognitive processes, which in turn influenced behaviour. Thus, the addition of moral value evaluation appears to be a useful contribution to Barriga's et al. (2001) original model.

As such, the primary goal of the current study was to replicate and extend Barriga's updated model. First, updated measures that more accurately reflect the current literature on the moral cognitions of interest were utilized. In order to replicate the model, the relation between moral cognitions and general delinquency was investigated. To extend the model, the relation between moral cognitions and sexually coercive behaviours in both males and females were explored. Both university aged men (58%) and women (78%) have reported being on the receiving end of persistent attempts at sexual contact after they have refused said advancements (Struckman-Johnson, Struckman-Johnson, & Anderson, 2003). Additionally, both men (40% - 67.7%) and

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women (26% - 49.5%) have engaged in tactics used to coerce a sexual partner into sexual activity (Schatzel-Murphy, Harris, Knight, & Milburn, 2009; Struckman-Johnson et al., 2003). Thus, the high prevalence rate of both perpetration and victimization with regards to sexual coercion indicates that as a public health concern, this complex phenomenon warrants research. Additionally, as a unique class of delinquent behaviour, it represents an important opportunity to further investigate the links between moral reasoning in a specific domain with behavioural transgressions within that domain.

A secondary goal of the current study was to examine the validity of a relatively new recognition moral reasoning measure (i.e., an individual must *recognize* a moral reasoning response among several provided options that best match their own reasoning). Generally, recognition measures have been found to lack sensitivity, as people are often able to recognize more morally mature responses than they are able to produce. However, given that recognition measures take less time to administer, score, and are less prone to coding errors, a psychometrically sound recognition measure would be advantageous for researchers. Thus, the current study compared a new *recognition* measure, the Sociomoral Reflection Measure – Short Form Objective (Basinger, Brugman, & Gibbs, 2007) to a well-researched and psychometrically sound moral reasoning *production* measure (i.e., the individual must produce a moral reasoning response that reflects their own reasoning), the Sociomoral Reflection Measure – Short Form (Gibbs et al. 1992).

Before a detailed description of the current study, the most relevant research will be reviewed. First, research examining moral reasoning and its relation to deviant outcomes, including sexually coercive behaviours, will be discussed. Next, moral identity and its relation with criminal behaviours will be examined, followed by the relevant

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research on self-serving cognitive distortions and attitudes that are supportive of antisocial and sexually coercive behaviours. Following this, Barriga's model will be reviewed, followed by an examination of the updated model proposed by Beerthuisen and Brugman (2013). The current study along with hypotheses, results, and discussion will then be presented.

Moral Reasoning

Kohlberg's six moral reasoning stages

Kohlberg stressed that the relation between moral judgment and moral action was "complex and incompletely understood" (Colby & Kohlberg, 1987, p. 2) but he nonetheless argued that one's moral development would be predictive of one's moral behaviour. Kohlberg emphasized that this relation would not be 'perfect', as individuals at different moral stages may produce the same action while providing differing justifications. According to Kohlberg, moral development is a predictable progression through discrete universal developmental stages. As an individual acquires new cognitive skills through maturation and social role-taking opportunities, they advance to the next stage of moral reasoning. Each stage builds upon the last and requires more abstract and complex reasoning. Kohlberg organized his six stages into three levels, each incorporating two developmental stages:

The "preconventional" (stages one and two), the "conventional" (stages three and four), and the "postconventional" (stage five and six).

The preconventional level. The preconventional level consists of Stage 1 (punishment and obedience orientation) and Stage 2 (instrumental relativist orientation).

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Within this level moral values reside in the external. The individual responds to societal conceptualizations of good and bad, right or wrong but understands these labels in terms of punishment/reward or in terms of the authority of those who articulate these cultural rules/values. Children, young adolescents, and those who are frequently involved in criminal activities delinquents are typically thought to occupy this level of moral reasoning (Gibbs, Basinger, Grime, & Snarey, 2007).

The conventional level. The conventional level consists of Stage 3 (interpersonal concordance) and Stage 4 (law and order orientation) moral reasoning. Within this level, moral decisions are based upon the expectations of one's community, social groups, or family. The individual has internalized these values and is loyal to, justifies, and actively maintains the moral order set out by their social systems, regardless of the "immediate and obvious outcomes" (Kohlberg, 1981, p.18). This level is typically achieved by older adolescents and adults (Gibbs et al., 2007).

The postconventional level. The postconventional level consists of Stage 5 (social-contract legalistic orientation) and Stage 6 (universal-ethical-principal orientation) moral reasoning. Moral values have moved beyond societal norms and are self-chosen principles that are independent from individuals or authorities that uphold these values. The postconventional level represents "ideal" moral maturity and is only reached by a small subset of adults (Kohlberg & Higgins, 1984).

Kohlberg's work on moral development across the lifespan has been instrumental in furthering the understanding of moral reasoning. However, only the preconventional and conventional levels of moral reasoning have been found outside of Western cultures (Gibbs et al., 2007; Snarey, 1985). This culture-specific finding has prompted a critical

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reformulation of Kohlberg's stages, to which we turn to next. Even though the progression from immature to mature moral reasoning appears to be universally experienced (Gibbs et al., 2007) higher moral reasoning (i.e., stage four and above) may be dependent on the social and cultural opportunities present in a society.

Gibbs' sociomoral stage theory.

In order to address this criticism of Kohlberg's stage theory, Gibbs, Basinger, and Fuller (1992) proposed the Sociomoral Stage theory, a four-stage model of moral-cognitive development. Given the relatively limited evidence supporting the existence of Kohlberg's postconventional level (particularly in non-Western cultures; Gibbs et al., 1992), Gibbs' removed the postconventional stages (i.e., five and six) with the rationale that stages should be achieved through a natural progression that is independent of culture (Gibbs, 1979). Similar to Kohlberg, each level consists of two stages, with the first two stages representing immature moral judgment and the latter two stages representing mature judgement. Gibbs' four stage model of moral reasoning has demonstrated cross-culture validity (Gibbs et al., 2007), and the four stages are as follows:

Stage 1: Unilateral and Physicalistic. At this stage, individuals view morality in terms of authority and power, think in absolute terms, and have difficulty integrating different perspectives into their world view. There is a desire to appeal to authority (e.g., parent, God, law), with the acceptance that this higher authority determines what is right or wrong. Sociomoral justifications involve the immediate status of a person or object. For example, helping an adult because they are "big" or not stealing an object because it is expensive. These individuals have a simplistic understanding of moral labels (e.g.,

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good/bad, nice/mean) and understand moral values in terms of their physical consequences, with the belief that these consequences are inevitable.

Stage 2: Exchanging and Instrumental. At this stage, sociomoral justifications are reflective of the perspective individuals gain from their social interactions. Justifications are viewed in terms of exchanges or a “tit-for-tat” standpoint under the anticipation of either positive or negative reciprocation. There is a basic understanding that all individuals are equal (e.g., “children are equal, so parents shouldn’t boss them around”, Gibbs et al., 1992, p. 24) and helping others is viewed as important. Sociomoral justifications are based on upholding people’s unfettered freedoms, consistency with the actor’s desires, the needs of oneself and others, and the calculation of practical (dis)advantages.

Stage 3: Mutual and prosocial. At this stage, individual’s sociomoral justifications focus on interpersonal relationships, where empathy, societal norms, care, and intrapersonal approval are important factors. Individuals at this stage are genuinely concerned with the well-being of others and judge actions based on underlying intentions. It is important for these individuals to uphold their moral values in order to keep a “clean conscience” and feel good about themselves.

Stage 4: Societal requirements. At this stage, sociomoral justifications are based on upholding the requirements of institutions and how decisions may impact society. Moral values, basic rights, societal responsibilities, social justice, and personal conscience are all elements that are considered in the decision-making process.

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Moral Reasoning Measures: Production vs. Recognition

Historically, researchers have utilized two types of measures to assess theoretical models of moral reasoning. As briefly noted earlier, production measures require that the individual independently produce his or her own reasoning behind their moral judgments. In contrast, recognition measures task the individual with recognizing the moral reasoning statement among two or more options that best matches their own reasoning. Originally, the Moral Judgment Interview (MJI; Colby & Kohlberg, 1987) was the most prominently used *production* measure which assessed individuals on Kohlberg's moral reasoning stages (Gibbs et al., 1992). Using ethical moral *dilemmas*, the MJI had individuals justify their reasoning behind their moral judgments of a dilemma. Thus, the moral judgment itself was not of interest, but the reasoning (i.e., moral reasoning) behind this judgment. Administrators of the approximately 30-minute interview needed to be sufficiently trained in interview techniques, conduct oral interviews, and transcribe said interviews (Gibbs et al., 1992). In order to score participants' reasoning, researchers would have to learn an "intricate procedure", which required the use of a several hundred-page scoring manual (Gibbs et al., 1992, p. 35). Thus, the administration and scoring of the MJI was rather difficult to master and a time-consuming process.

To address these limitations of the MJI, Gibbs et al. (1992) created the Sociomoral Reflection Measure-Short Form (SRM-SF) a relatively brief *production* measure used to assess Gibbs' sociomoral reasoning stages. By removing ethical dilemmas and replacing them with more concrete moral questions, Gibbs et al. (1992) created a shorter (approximately 15 to 20 minutes), more straightforward moral reasoning measure that was developmentally appropriate for children as young as 10 (Gibbs et al.,

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1992). In the SRM-SF, participants are required to write down their own reasoning as to why they believe a certain moral concept is (or is not) important (e.g., “In general, how important is it for people to tell the truth? Why is that: very important/important/not important?”; Gibbs et al., 1992, p. 151). Researchers, must become well versed with the manual, then score each answer using the manual criteria to produce a Sociomoral Reflection Maturity Score (SRMS; see page 42 for detailed description of scoring procedure). The SRM-SF has demonstrated excellent reliability (test-retest, internal consistency, and interrater; Gibbs et al., 1992), validity (convergent, discriminant, and concurrent; Gibbs et al., 1992), and is a relatively brief production measure when compared to its predecessors (i.e., the MJI and the Sociomoral Reflection Measure; Colby & Kohlberg, 1987; Gibbs & Widaman, 1982). Given its advantage, the SRM-SF has become a widely used moral reasoning measure within the literature (e.g., Brugman & Aleva, 2004; Chen & Howitt, 2007; Comunian & Gielen, 2000; Spenser, Betts, & Das Gupta, 2015).

However, given the qualitative nature of the SRM-SF, the measure does require a considerable amount of time to score and is susceptible to inter-rater disagreement and non-scorable answers. To address these concerns, Basinger, Brugman & Gibbs (2007) developed a *recognition* measure that closely mirrors the SRM-SF but provides participants with a selection of moral responses, each representing a different sociomoral stage in Gibbs’ moral reasoning model. Thus, the Sociomoral Reflection Measure- Short Form Objective (SRM-SFO) is a dilemma free *recognition* measure that assesses moral reasoning in a multiple-choice type format (see page 44 for detailed description of format and scoring procedure).

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It is not difficult to see how a quick-to-administer-and-score moral reasoning measure would be advantageous and of interest to moral researchers. However, *recognition* measures are not without their flaws. Perhaps the most glaring disadvantage of recognition measures is the possibility that individuals are able to identify (and thus select) higher levels of moral reasoning than they would be able to independently produce (Chen & Howitt, 2007; Gibbs et al., 1992). Indeed, recognition measures have been found to yield higher levels of moral reasoning in participants when compared to production measures (Brugman & Aleva, 2004; Gavaghan, Arnold, & Gibbs, 1983). This in turn may obscure potential significant differences between comparison groups, as the measure is not sensitive enough to incremental developmental changes in a participant's moral reasoning (Beerthuisen et al., 2013). For example, a participant may be able to independently produce the reasoning that keeping a promise to a friend is important because friends "do things" for each other (a Stage 2 response) but upon reading the provided moral responses may recognize that a more morally mature answer would be that keeping a promise maintains trust within the friendship (a Stage 3 response). Thus, the participant may select the Stage 3 response even though a Stage 2 response is arguably more reflective of their current stage of moral development. This is important to note as, in this example, the transition between a Stage 2 response to a Stage 3 response is representative of the transition from immature moral reasoning (i.e., Stage 1 and 2) to mature moral reasoning (i.e., Stage 3 and 4). Thus, being unable to detect these subtle but key transitional periods may hinder the ability to detect significant group differences.

In an attempt to combat this issue, the SRM-SFO asks individuals to state whether each moral reasoning response is reflective of an answer they would produce and

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to select which moral reasoning answer is the closest to their *own* reasoning. All answers that the individual considers relevant to themselves is then inputted into a mathematical equation (see page 44 for scoring breakdown). This is important to note, as individuals who select low maturity moral stages as well as high maturity stages will have a lower stage score than a participant who only selects more morally mature responses.

Therefore, the SRM-SFO is a promising *recognition* measure that may have adequate sensitivity to subtle but important moral stage changes. Thus, a secondary goal of the current study was to investigate the validity of the SRM-SFO by comparing participant's achieved moral stages in the SRM-SFO (i.e., recognition) with those found in the SRM-SF (i.e., production).

Moral Reasoning and Delinquency

Unsurprisingly, the development of Kohlberg's cognitive-development moral reasoning model sparked interest in the relation between moral reasoning and immoral or delinquent behaviours. Although Kohlberg did not develop a theory of offending behaviours, he did suggest that criminality is due to a developmental delay in one's moral reasoning (Kohlberg et al., 1975). He proposed that those who engaged in criminality were functioning at a preconventional level of moral reasoning, whereas typically developing adolescents and adults function at the conventional level (Kohlberg et al., 1975). This is because the understanding and acceptance of societal values and rules (a core component of conventional moral reasoning) reduces the likelihood that an individual will engage in criminal activity. Palmer (2003) further developed the theoretical relation between moral reasoning and offending behaviour by suggesting that offending behaviours can be justified at *all* developmental stages of moral reasoning (see

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Table 1 for Palmer's justifications) but that these justifications are more likely to occur at earlier developmental stages. Similarly, Tarry and Emler (2007) acknowledge that although all stages of Kohlberg's moral model can be used to justify illegal behaviours, it is Stage 2 specifically that allows for delinquent behaviours. This is because Stage 2 moral reasoning is characterized by prioritizing one's own personal needs, which allows for "self-serving antisocial behaviours that characterize delinquency" (Tarry & Emler, 2007, p. 170).

Table 1.

Kohlberg's Stages of Moral Reasoning and Offender (Palmer, 2003)

Stage 1	Offending is justified if punishment can be avoided
Stage 2	Offending is justified if the gains/rewards outweigh the risk/costs
Stage 3	Offending is justified if it helps to maintain relationships
Stage 4	Offending is justified if it helps maintain society, or is sanctioned by a social institution
Stage 5	Offending is justified if it maintains basic human rights or furthers social justice

The claim that lower stages of moral reasoning are linked with antisocial behaviours has been widely supported within the literature. For example, in a review of 15 studies on individuals formally convicted within the criminal justice system and those without such involvement, Blasi (1980) found evidence consistent with the assertion that delinquents' moral development was delayed. More specifically, Blasi found that the majority of offenders were reasoning at a preconventional level (i.e., stage 1 and stage 2), however, there was evidence of some higher levels of moral reasoning in some offenders, which suggests that although moral reasoning is a component of delinquent behaviour, other moral cognitions may be at play.

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A more recent meta-analysis conducted by Stams et al. (2006) reviewed 50 published and unpublished studies examining the link between juvenile delinquency and delayed moral reasoning ($k = 50$, $N = 4814$). The authors found that offenders demonstrated lower levels of moral reasoning when compared to age-matched nonoffenders, with the largest effect sizes being found for males ($d = .82$), late adolescents ($d = .78$), and delinquents with lower levels of intelligence ($d = .65$). The authors concluded that even after controlling for age, gender, socioeconomic status, and intelligence, developmental delays in moral reasoning were strongly related to criminality in juveniles. These findings provide support for the theoretical understanding of delinquency being a potential consequence of delayed moral development and is consistent with previous research (Nelson, Smith, & Dodd, 1990).

Gender Differences in Moral Reasoning and Delinquent Behaviours. A large portion of research investigating the relation between delayed moral reasoning and delinquent behaviours has focused on males (e.g., Brugman & Aleva, 2004; Chen & Howitt, 2007; Palmer, 2003). However, given the higher prevalence of antisocial behaviours in the male population (Barriga, et al., 2001; Stams et al., 2006), this gender bias is not surprising. As previously discussed, the relation between delayed moral reasoning and antisociality has been well supported (see Stam et al., 2006). However, the literature on the relation between female deviant behaviour and moral reasoning has demonstrated some inconsistencies. For instance, previous studies have found that a community sample of females demonstrate higher levels of moral reasoning (e.g., Palmer & Hollin, 1998), whereas others have found no gendered differences when investigating both a community and forensic sample (e.g., Barriga et al., 2001; Stams et al., 2006).

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Additionally, the link between moral reasoning and deviant behaviours has not been consistently found in female samples. For example, Beerthuisen, et al. (2013) found that a community sample of adolescent males demonstrated lower levels of moral reasoning than their female counterparts. Consequently, the negative relation between moral reasoning and self-reported delinquent behaviour was *only* present for adolescent males (11- to 17- year-olds). That is, the authors found no significant relation between moral reasoning and delinquent behaviour in their female sample. However, the sample may not have had enough older participants to adequately demonstrate the relation between moral reasoning and delinquency (Beerthuisen et al., 2013), as moral reasoning becomes especially relevant during the transition from preconventional to conventional moral reasoning (as typically happens during adolescents and early adulthood; see Stams et al., 2006). Therefore, it is possible that the lack of findings is due to the restricted number of older participants and not a lack of relation between moral development and antisocial behaviours in females. The current study attempted to address this methodological limitation by sampling an undergraduate university population that is often represented by young/emerging adults.

In contrast to Beerthuisen et al., (2013), Gregg, Gibbs, and Basinger (1994) found that although females (both youths involved in the justice system and those recruited from the community) demonstrated higher levels of moral reasoning than males, moral reasoning was significantly lower for both male and female delinquents when compared to matched non-delinquents. Thus, it is possible that even though females exhibit higher levels of moral reasoning when compared to males, female delinquents (when compared to female non-delinquents) do demonstrate delayed moral development patterns similar to

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their delinquent male counterparts. Given that females tend to engage in less criminality than males, it is possible that these inconsistencies within the literature are due to sample size limitation. That is, the required sample size to find a significant effect of moral reasoning on delinquent behaviour for females may be larger than required for males.

Although there has been substantial evidence supporting the relation between delayed moral reasoning and deviant behaviours (e.g., Chen, 2014; Chen & Howitt, 2007; Stam et al., 2006; Smetana, 1990), not all researchers have been convinced this association. In 2007, Tarry and Emler made the bold claim that moral reasoning is essentially irrelevant to delinquent behavioural outcomes. They argued that it is not a delay in moral reasoning that leads to offending behaviours, but an intense cynicism towards institutional authority and a deficit in moral values (i.e., social norms; see Emler & Reicher, 1995, 2005). More specifically, as children develop they become more aware of the inconsistencies between the principals and practice of authority figures. These gaps are larger in some children's experiences and can lead to resentment and cynicism towards social institutions. As children develop into adolescents, they form peer groups that exacerbate these attitudes, further distancing these adolescents from institutional authority (see Emler & Reicher, 1995, 2005 for more on the sociological-attitudinal model). Thus, it is not a developmental delay in moral reasoning that influences offending behaviours but *attitudes* towards authority and the rejection of societal norms set by these institutions.

In order to test their claim, Tarry and Emler (2007) had boys aged 12 to 15 recruited from a school in London, England, complete the Sociomoral Reflection Measure- Short Form (SRM-SF), a self-reported delinquency scale, and an attitude to

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institutional authority scale. The authors found no significant correlation between participants' moral reasoning and their self-reported delinquency. Nor did they find that moral reasoning was a significant predictor of delinquency. But moral values (i.e., moral value evaluation, as measured by the SRM-SF) and attitude towards authority significantly predicted self-reported delinquency. The authors concluded that attitudes and moral values, not moral reasoning, accounts for adolescents' delinquent behaviours.

Given the abundance of research on moral reasoning and delinquent behaviours, Tarry and Emler's findings are surprising. However, there are several limitations of the study that should be noted. First, the study examined moral reasoning in a sample that is typically considered too young (i.e., 12- to 15-year-old), as moral reasoning is believed to not influence deviant behaviour until late adolescence (Brusten et al., 2007). Second, the authors' self-report delinquency scale was scored using a frequency count and included relatively minor deviant behaviours (e.g., "purposely annoyed, insulted, or taunted strangers in the street", p. 183). Thus, the most "serious" offenders may simply be engaging in fairly minor deviant acts. Finally, the authors only examined global differences in moral reasoning and did not investigate differences in specific moral domains, such as the moral domain of 'property and law' or 'obeying the law'. This is an important distinction, as research has demonstrated that not all offenders display global moral reasoning deficits. For example, Smetana (1990) reviewed 35 studies that investigated the relation between moral reasoning and delinquent behaviours and noted that several of the studies reported stage 3 moral reasoning in a small subset of offenders. Additionally, Palmer and Hollin (1998) found that offenders are more likely to engage in lower levels of moral reasoning when the moral domain is directly related to their

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committed offence. More specifically, offenders with property crime offences (e.g., theft) exhibited lower stage moral reasoning in the moral domain of property and law than in other moral domains, such as contract and truth. Thus, delays in moral reasoning may be specific to a particular moral domain and not a more global measure of moral reasoning.

Moral Reasoning and Sexually Coercive Behaviours

Similar to those who commit general offences, it is assumed that those who engage in abusive sexual behaviours are operating at a lower stage in Kohlberg's/Gibb's model of moral reasoning (Gibbs et al., 1992; Kohlberg, 1984). There has been limited research on the relation between moral reasoning and sexually coercive behaviours, with the vast majority of the literature focusing on incarcerated populations who have committed sex crimes. However, there is evidence to suggest that those who have been convicted of sexual offences do exhibit lower levels of moral reasoning when compared to non-offenders (Bernard, 2015; Buttel, 2002). Given that research on moral reasoning and general delinquency suggests that abusive sexual behaviours may be reasoning deficits in specific moral domains, a significant proportion of research on individuals who have been convicted of sexual offences has focused on domain-specific moral reasoning.

In order to investigate the potential influence of offender type (e.g., those who have been convicted of a sexual offence and those who were convicted of a non-sexual offence) and reasoning in specific moral domains, Ashkar and Kenny (2007) used the MJI to interview 16 incarcerated adolescent male offenders (7 with sexually based offences) aged 16 to 19 years old. Using moral dilemmas that involved either general delinquent behaviours (e.g., stealing) or abusive sexual behaviours (e.g., sexual assault),

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the authors found those who committed sexual offences demonstrated lower levels of moral reasoning in the sexual offending dilemmas when compared to nonsexual offenders. Additionally, the authors found that those who were convicted of a sexual offence used more conventional moral reasoning (i.e., stage 3) in the nonsexual offending dilemma than those convicted of a nonsexual offence. The authors concluded that offenders' moral deficits tend to be domain specific rather than an overall global moral reasoning deficit.

Similarly, Van Vugut et al. (2008) demonstrated that adolescent males who were convicted of a sexual offence exhibited lower stage moral reasoning when thinking about a sexual offence that concerned their *own* victim when compared to non-offending males' moral reasoning in non-sexual moral domains. To assess moral judgment, the authors had 20 males who were convicted of a sexual offence and 76 males recruited from the community, aged 13 to 19 years, complete the SRM-SF with questions added to address abusive sexual behaviours. Although domain specific differences were found in moral reasoning related to *victim specific* sexual offences, these differences were not found for general sexual situations that were not victim specific and no differences were found in non-sexual moral domains. It is important to note that the authors did not present the community male sample with the moral reasoning items related to the moral domain of love and sexual love (i.e., the items added to address abusive sexual behaviours). Thus, there was no information on the community male sample's sexual moral development and whether their reasoning differed significantly from those who were convicted of a sexual offence. Nonetheless, the results provide some support that moral reasoning deficits may be domain specific and thus related to specific deviant behaviours.

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To further investigate whether deficits in the moral domain of love and sexual love are related to sexually coercive behaviours, Beerthuisen and Brugman (2012) had 24 males who were convicted of a sexual offence and 24 males recruited from two community schools complete the SRM-SFO (with two additional items added to measure the moral domain of love and sexual love). The authors hypothesized that those convicted of a sexual offence would demonstrate lower levels of moral reasoning when compared to those who have not been convicted of a sexual offence only in the moral domain of love and sexual love and not in other non-sexual moral domains. This hypothesis was only partially supported, as results indicated that while those convicted of a sexual offence endorsed lower stage (i.e., pre-conventional) moral reasoning than those not convicted of an offence on sexual related issues, there was no difference in the endorsement of higher stage (i.e., conventional) moral reasoning between the two groups. Additionally, there was no differences in moral reasoning between the two groups in non-sexual moral domains. The findings provide further support that developmental delays in moral reasoning that lead to offending behaviours may be domain specific to the offense type. More specifically, that individuals who engage in sexually coercive behaviours demonstrate an endorsement of lower stage moral reasoning in the sexual moral domains but not in nonsexual moral domains. However, Beerthuisen and Brugman (2012) found that those who have been convicted of a sexual offence and those who have not both recognized morally mature responses in their moral reasoning on sexual issues.

Given that the SRM-SFO is a recognition measure, it is possible that individuals convicted of a sexual offence were able to recognize morally mature responses even though these responses were not reflective of their own moral thinking. It should be

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noted, that the scoring of the SRM-SFO has been recently revised to account for individuals' ability to recognize more morally mature reasoning. As such, the current study utilized the revised scoring of the SRM-SFO (see page 44 for scoring details) for the further investigation of these issues.

The limited research on moral reasoning and abusive sexual behaviours is revealing. It appears that when specific moral domains are taken into consideration, individuals who engage in sexually coercive behaviours demonstrate delayed moral reasoning in the domain of love and sexual love. However, these moral deficits are not present when looking at other non-offence related moral domains. The relation between moral reasoning and sexually coercive behaviours has been largely studied in an offender population. It is unclear whether this relation translates to non-offender populations. It can be argued that sex offenders' unique experience within the correctional system may place additional emphasis on punishment. As such, those convicted of sexual offences may focus on the personal consequences (a facet of pre-conventional moral reasoning) of committing sexual violence. Therefore, their immature moral reasoning within the domain of sex and sexual love may be related to extraneous variables not accounted for in previous research. For example, it has been proposed that adolescents who are involved in the criminal justice system have lower moral reasoning because of their institutionalization (e.g., Emler & Reicher, 1995) and poor moral atmosphere (Brugman et al., 2003; Brugman & Aleva, 2004). Thus, investigating this relation will provide insight into the role of moral reasoning on sexually coercive behaviours in a population that has not come into contact with the criminal justice system or at least is not recruited from that population.

Moral Identity and Antisocial Behaviours

According to Blasi's (1983) self-model of moral functioning, individuals are motivated to seek out truth and experience reality in an accurate way. Individuals also seek out this truth in their self-concepts. That is, individuals seek experiences and make judgments that reflect their understanding of their "central" self. Individual's sense of self may or may not incorporate "being moral" or behaving in a moral way. Additionally, people internalize different moral aspects (e.g., compassion, fairness, honesty, etc.) to a different extent into their characterization of their central self. It is these individual differences that creates variance in moral behaviours between people (Blasi, 1983). This unique incorporation of moral characteristics into one's core sense of self has been termed moral identity (Blasi, 1983). Since individuals desire to experience truth, humans are motivated to align actions and behaviours with their conceptualization of their central self. For example, if honesty is a highly relevant characteristic in an individual's moral identity, this individual will likely not cheat on a test, even if the opportunity presents itself. This is because cheating would be in conflict with a core aspect of their identity. Cheating would induce negative affect and potentially require a restructuring of their core identity. Thus, people are highly motivated to behave in ways that are reflective of their central selves.

Given its theorized influence on behaviour, moral identity should be related to and predictive of moral actions. Accordingly, there has been evidence to suggest a relation between moral identity and prosocial behaviours (e.g., Aquino & Reed, 2002; Hardy & Carlo, 2011). For example, moral identity has been associated with: self-reported volunteering (Aquino & Reed, 2002), donation behaviours (Aquino & Reed,

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2002), teacher-reported ethical behaviours (Arnold, 1993), and moral concern for out-group members (Reed & Aquino, 2003).

Given the apparent influence moral identity has on prosocial behaviour, it is not unreasonable to assume that moral identity may also influence deviant behaviour. Unfortunately, there has been limited research on moral identity and its influence on antisocial behaviours. One of the first papers to investigate the relation between moral identity and antisocial behaviours was Barriga et al. (2001). Barriga and colleagues (2001) looked at a facet of moral identity, referred to as moral self-relevance, which focuses exclusively on how individuals view certain moral characteristics as being a part of their sense of self. They found that moral self-relevance was negatively correlated with externalizing behaviours. That is, individuals who endorsed moral characteristics as being relevant to their sense of self were less likely to engage in deviant (e.g., rule breaking) and aggressive behaviours. More recent research has also found a correlation between moral identity and externalizing behaviours found by Barriga (Beerthuisen & Brugman, 2013).

Although the role of moral identity on antisocial behaviour is limited to moral self-relevance, the past findings are promising. Thus, a goal of the current study was to replicate and extend Barriga et al.'s (2001) findings by employing an updated and more global measure of moral identity (i.e., The Self-Importance of Moral Identity Measure; Aquino & Reed, 2002), which has been widely used (Hardy, Dallas, & Olsen, 2015) to investigate the relation between moral identity and general delinquent behaviours.

Additionally, the association between moral identity and sexually coercive behaviours

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were also investigated; a focus that does not appear to have been considered in the peer-reviewed published empirical literature to date.

Criminogenic Cognitions and General Delinquency

Cognitive distortions occur when individuals attend to, and/or interpret experiences in inaccurate ways (Barriga, Landau, Stinson, Liao, & Gibbs, 2000). These distortions bias individual's interpretations of their world and can lead to attributing hostile intentions to others (Barriga et al., 2000) or viewing one's self as helpless (Dodge, 1993). However, these distortions can also serve a protective function, shielding individuals from negative self-concepts and self-blame. For example, an individual who physically assaults someone while inebriated may blame being intoxicated as the source of their assaultive behaviour and not reflective of their true self (i.e., their central self). This reduces the individual's feelings of guilt, responsibility, and conflict, between their actions and their sense of self as a "good" person. Thus, self-serving cognitive distortions may reduce the negative emotions associated with performing antisocial and aggressive actions, leading individuals to engage in more deviant behaviours (Barriga et al., 2000; Barriga et al., 2001).

Self-serving cognitive distortions have been organized into four categories (Barriga et al., 2001, p. 536; Liao et al., 1998, p. 336):

- 1) Self-Centered: According status to one's own views, expectations, needs, rights, immediate feelings, and desires to such an extent that legitimate views, etc., of others (or even one's own long-term best interest) are scarcely considered or are disregarded altogether.

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2) Blaming Others: Misattributing blame for one's harmful actions to outside sources, especially to another person, a group, or a momentary aberration (one was drunk, high, in a bad mood, etc.); or misattributing blame for one's victimization or other misfortune to innocent others.

3) Minimizing/Mislabeling: Depicting antisocial behaviour as causing no real harm or as being acceptable or even admirable; or referring to others with belittling or dehumanizing labels.

4) Assuming the Worst: Gratuitously attributing hostile attention to others, considering a worst-case scenario for a social situation as if it were inevitable, or assuming that improvement is impossible in one's own or others' behaviour.

Indeed, researchers have found that individuals who engage in criminal acts endorse these cognitive distortions (Tangney et al., 2012; Tangney, Mashek, & Stuewig, 2007). For example, in a university sample of 88 males and 151 females age 16 to 19 years, Barriga et al. (2001) found that self-serving cognitive distortions were positively correlated with delinquent behaviours and that these distortions were significant predictors of said behaviours for both genders. Interestingly, the authors found that females used self-serving cognitive distortions to a lesser extent than males. Similarly, using a community sample of 542 males and females between the ages of 11 and 18 years, Beerthuizen and Brugman (2013) also found that higher cognitive distortions predicted higher levels of externalizing behaviours for both genders. These findings are consistent with the notion that individuals employ these self-serving cognitive distortions in order to justify their behaviours and minimize the disequilibrium between their actions and their sense of self as a "good person".

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In order to measure these cognitive distortions both Barriga et al. (2001) and Beerthuizen and Bruguman (2013) used the How I Think Questionnaire (HIT), which is a self-report measure that assesses thinking distortions using the four-categories described above. It should be noted that the HIT Questionnaire (Barriga et al., 2001) relies heavily on behavioural contexts. Thus, it is possible that the relation between cognitive distortions and antisocial behaviours are inflated by this reliance on self-reported behaviours. That is, if measures of cognitive distortions are based upon asking an individual if they endorse certain behaviours and then similar externalizing behaviours are used as an outcome measure for delinquency, it is not surprising that these two variables would be highly correlated (Beerthuizen & Brugman, 2013).

In addition to the self-serving thinking biases discussed above, researchers have proposed that offender attitudes (particularly those towards authority) also influence antisocial behaviours. Attitudes have long been discussed in the theories of crime as an important factor for why individuals engage in deviant behaviours (e.g., Glueck & Glueck, 1950).

For example, Tarry and Emler (2007) found that negative attitudes towards institutional authority was correlated with delinquent behaviours. Similarly, using a school sample of 115 Australian males and females aged 13 to 15 years, Rigby, Mak, and Slee (1989) found that negative attitudes towards authority figures (i.e., parents and teachers) was predictive of self-reported antisocial behaviours for both genders. The authors found that attitudes did not significantly differ between the genders but male scores demonstrated greater variability overall. Thus, it appears that both self-serving

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cognitive distortions and attitudes supportive of antisocial behaviours influence criminality.

To address the limitation of heavy reliance of behavioural contexts to measure cognitions (i.e., the use of the HIT questionnaire) and the exclusion of attitudes within the Barringa et al. (2001) model, the current study measured not only self-serving cognitive distortions but attitudes that are supportive of antisocial behaviours. To achieve this goal, a measure of criminogenic cognitions was employed (i.e., the Criminogenic Cognitions Scale; Tangney et al., 2012). Criminogenic cognitions include beliefs and attitudes that offenders use to minimize and rationalize their behaviours. These beliefs and attitudes include key aspects of the self-serving cognitive distortions (i.e., notions of entitlement, failure to accept responsibility, and insensitivity to the impact of the crime) measured by Barringa et al. (2001) model but extend the model by also including short-term orientation (e.g., “The future is unpredictable and there is no point planning for it”; Tangney et al. 2012, p.1343) and negative attitudes towards authority (e.g., “People in positions of authority generally take advantage of others”, p. 1343).

Importantly, Tangney et al.’s (2012) self-report questionnaire uses attitudes to measure these criminogenic cognitions and does not rely on behavioural context. Tangney’s measure has demonstrated positive relations between criminogenic cognitions and antisocial behaviours (Tangney et al., 2012). By using a measure that relies on the endorsement of certain attitudes, one can be confident that the relation between criminal thinking and delinquent behaviours are not due to measure contamination.

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Criminogenic Cognitions and Sexually Coercive Behaviours

Just as criminogenic cognitions are believed to influence general deviant behaviours, these distortions in thinking have been linked to sexually coercive behaviours (Milner & Webster, 2007). That is, individuals who engage in sexually deviant behaviours hold attitudes and thinking distortions that allow them to justify, minimize, and deny the negative impacts of their behaviours. Attitudes that are supportive of sexually coercive behaviours help to protect the individual's self-concept, potentially reducing negative feelings of guilt or shame. Polaschek and Ward (2002) identified a number of attitudes held by men who were sexually aggressive. These beliefs included attitudes that reflected a failure to accept responsibility for their own actions (i.e., male sex drive is uncontrollable), notions of entitlement and self-centeredness (i.e., entitlement), assuming the worst (i.e., women are dangerous, dangerous world), and minimization of the impact of the crime (i.e., women are sex objects). In order to further support Polaschek and Ward's (2002) theory, Polaschek and Gannon (2004) interviewed 37 men who were convicted of a sexual offence in order to obtain a self-report process description of their sexual offence. The authors found evidence for all of the attitudinal beliefs proposed. Additional research has also found the presence of these beliefs in men who have committed sexual murders (Beech, Fisher, & Ward, 2005). These findings suggest that those who are convicted of sexual offences engage in distorted thinking and hold attitudes supportive of sexually coercive behaviours.

More recent research has also supported Polaschek and Ward's (2002) theory that these attitudinal beliefs (or criminogenic cognitions) are related to sexually aggressive behaviours. For example, Langton et al. (2008) found that minimization predicted sexual

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recidivism in a subsample of 102 sexual offenders released to the community who did not receive further treatment after the completion of an initial custodial program. Further, Bouffard (2010) investigated entitlement in 325 sexually active male university students. The authors found that entitlement was positively correlated to measures of hostility towards women, adversarial heterosexual beliefs, and rape myths adherence. The authors also found that self-reported sexual entitlement and adversarial heterosexual beliefs were predictive of self-reported sexually aggressive behaviours. The authors concluded that the development of male sexual entitlement is particularly important in explaining and understanding sexually aggressive behaviours in a male sample. Thus, it appears that criminogenic cognitions may influence sexually deviant behaviours in both offender and non-offender samples.

Although research on females who have been convicted of sexual offences is limited, there is evidence to suggest that similar to their male counterparts, sexually abusive females endorse attitudes that are supportive of sexually coercive behaviours. To explore this association, Gannon et al. (2012) interviewed 15 female convicted sexual offenders whose offences were committed against children. The interviews were then coded to see whether the female offenders endorsed any of the attitudes found in male sexual offenders. The authors found support to suggest that female sexual offenders also displayed criminogenic cognitions when discussing their crime. Interestingly, female offenders tended to not view their entire world as hostile (as male offenders tend to) but viewed males in particular as being dangerous and violent. Additionally, unlike male sexual offenders, females do not view themselves as being sexually entitled, but rather that men were entitled to act sexually against both women and children. Female sexual

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offenders also viewed their perpetration of sexual abuse as relatively harmless, particularly when compared to sexual abuse perpetrated by males. These findings suggest that although women may employ self-serving cognitive distortions and attitudes supportive of sexual coercive behaviours to justify and minimize deviant sexual acts, these beliefs may be distinct from those employed by male offenders. Nonetheless, it appears that criminogenic cognitions may influence female's abusive sexual behaviours.

As such, a goal of the current study was to go beyond Barriga's model by not only examining criminogenic cognitions but also to examining how these beliefs are utilized by females who engage in sexually coercive behaviours. Such a link between criminogenic cognitions and sexually abusive acts perpetrated by a non-incarcerated female sample has yet to be investigated in the peer reviewed published empirical literature. Thus, the examination of this association between attitudes and behavioural outcomes in a non-offender female sample will be another novel contribution to the literature.

Barriga et al.'s (2001) multi-process cognitive developmental model of delinquency

Barriga et al. (2001) developed a cognitive developmental model with the intention to bridge the gap between moral reasoning and delinquent behaviours. The model proposed that moral reasoning would contribute to shaping one's moral identity and that self-serving cognitive distortions would mediate the relation between moral reasoning and moral identity. That is, individuals with higher levels of moral reasoning and moral identity would be less likely to engage in self-serving cognitive distortions that justify immoral behaviours. This in turn, would constrain an individual's engagement in deviant acts. These moral cognitions (i.e., moral reasoning, moral identity, and self-

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serving cognitive distortions) would also be predictive of deviant behaviours even when the other moral cognitions are considered.

In order to test the model, both male and female university students (aged 16- to 19-years old) were given several self-report questionnaires that measured delinquent behaviours (i.e., The Child Behaviour Checklist for Ages 4-18 and the Youth Self-Report Form), moral reasoning (i.e., the Sociomoral Reflection Measure-Short Form), moral self-relevance (i.e., the Adapted Good-Self Assessment) and self-serving cognitive distortions (i.e., the How I Think Questionnaire). As expected, the authors found that antisocial behaviour correlated negatively with mature moral reasoning and high moral self-relevance. Additionally, self-serving cognitive distortions were positively correlated with deviant behaviour. That is, individuals who demonstrated higher levels of distorted thinking were more likely to engage in delinquent acts. Interestingly, moral judgement was not correlated with moral self-relevance, which was contrary to the author's original hypothesis (recall, the authors believed that mature moral reasoning would influence how relevant moral characteristics were to an individual's sense of self). Nonetheless, moral reasoning, moral self-relevance, and self-serving cognitive distortions all significantly predicted deviant behaviours.

To test their specific hypotheses regarding mediating relationships among the moral cognition variables and antisocial behaviours, the authors conducted a path analysis (see Figure 1). The authors found that self-serving cognitive distortions did partially mediate the relationship between moral judgement, moral self-relevance and deviant behaviours. The authors interpreted this to mean that mature moral reasoning and high moral self-relevance constrained deviant behaviour by discouraging the use of self-

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serving cognitive distortions. The authors also found that moral self-relevance and self-serving cognitive distortions had direct significant effects on behaviour, whereas, moral reasoning was only marginally significant. Given that the authors used a single score of moral reasoning that included all moral domains and not those specific to the individual's transgression, the relation between moral reasoning and behaviour outcomes may have been not been found due to methodology. The authors' overall model accounted for 24% of the variance in behavioural outcomes with no gender differences in model fit between males and females. The authors also investigated gender differences on deviant behaviour, moral reasoning, moral self-relevance, and self-serving cognitive distortions. They found that males scored higher on deviant behaviours and self-serving cognitive distortions. Whereas, females scored higher than males on moral self-relevance. There were no gender differences on moral reasoning.

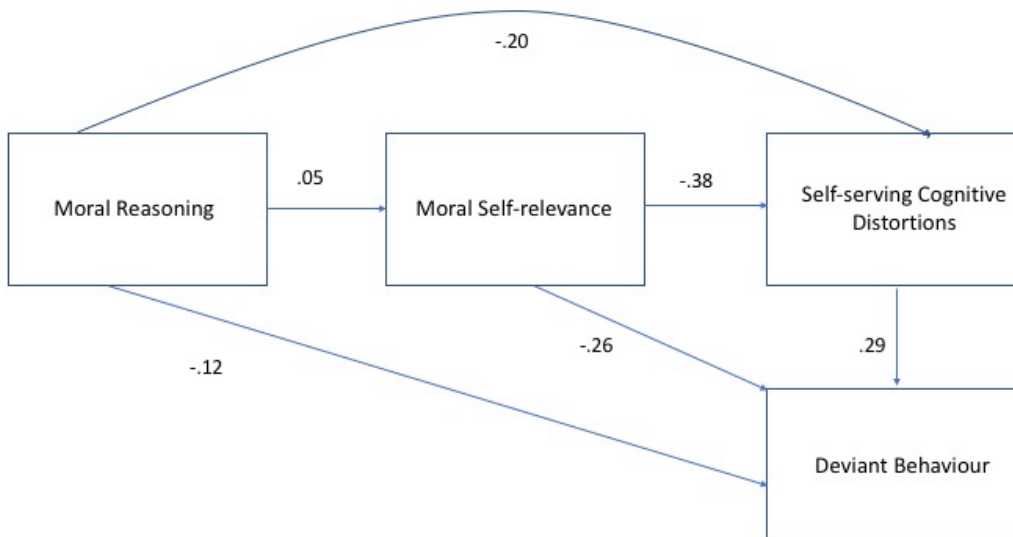


Figure 1. Based on Barriga et al.'s (2001) path model, (p.549).

Additionally, the authors ran ANCOVAs controlling for moral self-relevance and self-serving cognitive distortions. After controlling for the above variables, the authors

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found no gender differences in antisocial behaviour between males and females. The authors suggested that gender differences in the perpetration of deviant acts may be explained by the variance between males and females in moral self-relevance and self-serving cognitive distortions. This gender difference also helped to explain why some studies have shown that males and females have similar moral reasoning but that females engage in significantly less deviant behaviours. However, it is important to note that moral reasoning, self-relevance, and self-serving cognitive distortions predicted antisocial behaviour in a similar manner for both males and females within the sample. That is, both self-serving cognitive distortions and low moral self-relevance appear to be risk factors for engaging in antisocial behaviour for both men and women but males exhibit these risk factors to a greater degree. Overall, the authors concluded that moral cognition plays a unique role in predicting and explaining antisocial behaviour in both men and women.

An Update on the Model: The Introduction of Moral Value Evaluation

In 2013, Beerthuizen and Brugman proposed that Barriga's moral cognition model was incomplete and that moral value evaluation should be included within the model. The authors defined moral value evaluation as the evaluation of the importance of certain morals. As such, the moral values in which people attribute more importance to will most likely be adhered to, with behaviours reflecting this adherence. The authors suggest that moral value evaluation is a quick, intuitive, and instinctual judgment that is later justified through one's moral reasoning. Thus, moral value evaluation precedes all other moral cognitive processes. Therefore, the authors considered it an "influential elicitor" of the moral cognition process.

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In order to test their hypotheses, the authors used the measures utilized by Barriga et al. (2001) to measure moral identity and self-serving cognitive distortions. However, they used the SRM-SFO to measure both moral reasoning and moral value evaluation. The authors found that an increased attribution of importance to moral values was related to more mature moral reasoning, higher levels of moral identity, and a lower prevalence of self-serving cognitive distortions. In contrast to Barriga et al.'s (2001) findings, more mature moral reasoning was related to higher moral identity in females but not for males (recall that Barriga found no such relation). In order to investigate the mediating role of moral value evaluations through other cognitive processes, a path analysis was conducted (see Figure 2). The authors found that moral value evaluation had an indirect effect on deviant behaviour. That is, the effect of moral value evaluation was completely mediated by moral reasoning, moral identity, and self-serving cognitive distortions. Additionally, the authors found several gender differences that were not present in Barriga et al. (2001) sample. However, it should be noted the study was published in a book chapter and not a peer-reviewed journal, thus detailed statistical information was not included. Additionally, the authors used two separate samples (with one from a previous study), with slightly different operationalizations of moral identity and deviant behaviours used with each sample. Nonetheless, the authors' hypothesis that moral value evaluation acts as an elicitor of stronger cognitive processes was supported and moral value evaluation appears to be a potentially important moral cognition.

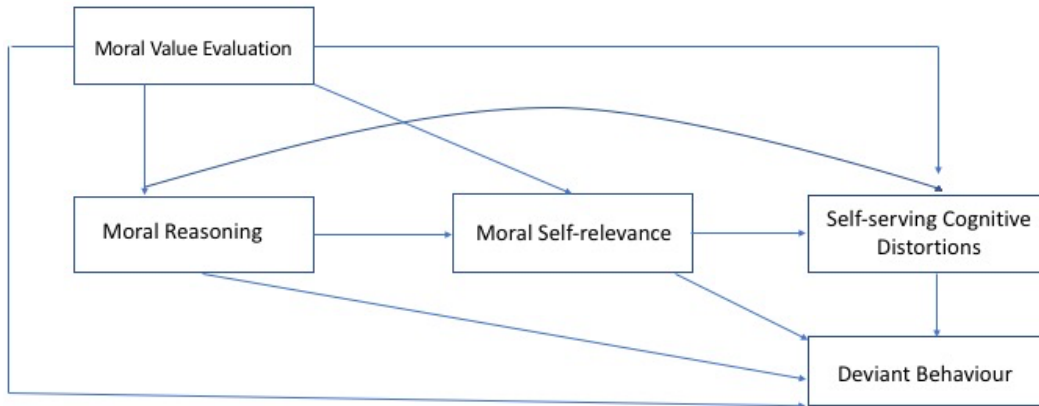


Figure 2. Beerthuizen and Brugman's path model.

CHAPTER II PRESENT STUDY

The main goal of the current study was to replicate and extend Barriga's multi-process cognitive developmental model. First, the study examined moral reasoning by specific moral domains rather than a single moral reasoning global measure (i.e., general delinquency and sexually coercive behaviours). Second, the study utilized a widely used and updated global measure of moral identity. Third, the study used a measure of criminogenic cognitions that does not rely on behavioural context. Fourth, the relatively new moral cognition, moral value evaluation (Beerthuizen, Brugman, Basinger, & Gibbs, 2011) will be used. Finally, in addition to testing a general delinquency model, as done by Barriga and colleagues, a second model will be tested to examine the associations between the four moral cognitions (i.e., moral value evaluation, moral reasoning, moral identity, and criminogenic cognitions) and sexually coercive behaviours. Importantly, these behaviours were investigated for both men and women. Generally, women are relatively understudied with regards to their involvement in delinquent behaviours. This is even more apparent when investigating women engaging in sexually coercive acts.

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Thus, the test of this second model with a sample of women will be a novel contribution to the literature.

The second goal of the study was to gain insight into the convergent, predictive, and concurrent validity of a relatively new recognition measure, the SRM – SFO (Basinger et al., 2007). In general, recognition moral reasoning measures produce higher scores of moral reasoning than production measures (i.e. SRM – SF; Gibbs et al., 1992), making them insensitive to smaller developmental changes in moral thinking. However, the SRM – SFO attempts to account for the ability to recognize more mature moral reasoning responses, making it a promising new measure. Thus, the current study compared the SRM – SFO to the SRM-SF (a well-studied and validated production moral reasoning measure; Gibbs et al., 1992).

Hypotheses

A total of two models were tested: (1) a model testing associations with general delinquency using a combined male and female sample and (2) a model testing associations with sexually coercive behaviours using a combined male and female sample. In terms of the data analytic strategy, multivariate analysis of variance (MANOVA) and analysis of variance (ANOVA) were used to examine gender effects on the variables of interest. Bivariate and partial correlations were employed to test hypotheses 1 and 3, path analysis will be run for hypotheses 2 and 4, whereas correlation analyses will be conducted to test hypothesis 5.

1. The first set of hypotheses is that Barriga et al. (2001) and Beerthuisen and Brugman (2013) findings will be replicated for general delinquency. That is, moral value evaluation, moral reasoning, moral identity, and criminogenic

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cognitions would be significantly correlated with self-reported deviant behaviours.

- a. It is hypothesized that general delinquency will be negatively correlated with moral value evaluations, moral reasoning and moral identity.
 - b. Next, it is hypothesized that general delinquency will be positively correlated with criminogenic cognitions.
 - c. Further, it is hypothesized that criminogenic cognitions will correlate negatively with scores of moral value evaluation, moral reasoning and moral identity.
2. The second set of hypotheses is that similar to Barringa et al. (2001) and Beerthuizen and Brugman (2013) findings, moral cognitions will be significant predictors of general delinquency.
- a. It is hypothesized that moral reasoning will have a significant direct effect on general (see Figure 3).
 - b. Further, it is hypothesized that both moral identity and criminogenic cognitions will be significant predictors of general delinquency (see Figure 4).
 - c. It is hypothesized that moral value evaluation will have an indirect effect on general delinquency and be fully mediated through moral reasoning, moral identity, and criminogenic cognitions (see Figure 5).
 - d. Next, it is hypothesized that criminogenic cognitions will mediate the relation between moral reasoning and general delinquency (see Figure 6).

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- e. Additionally, it is hypothesized that criminogenic cognitions will mediate the relation between moral identity and general delinquency (see Figure 7).

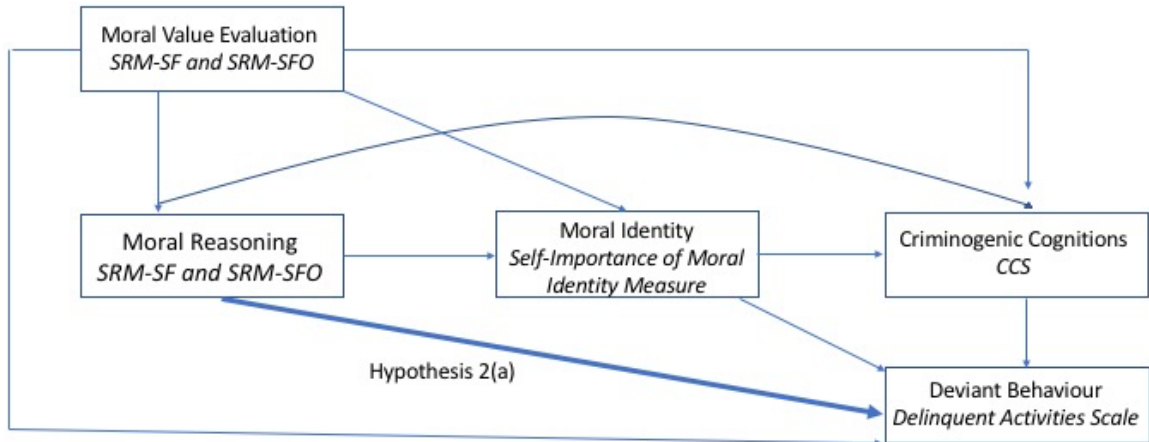


Figure 3. *Proposed path model for hypothesis 2(a).*

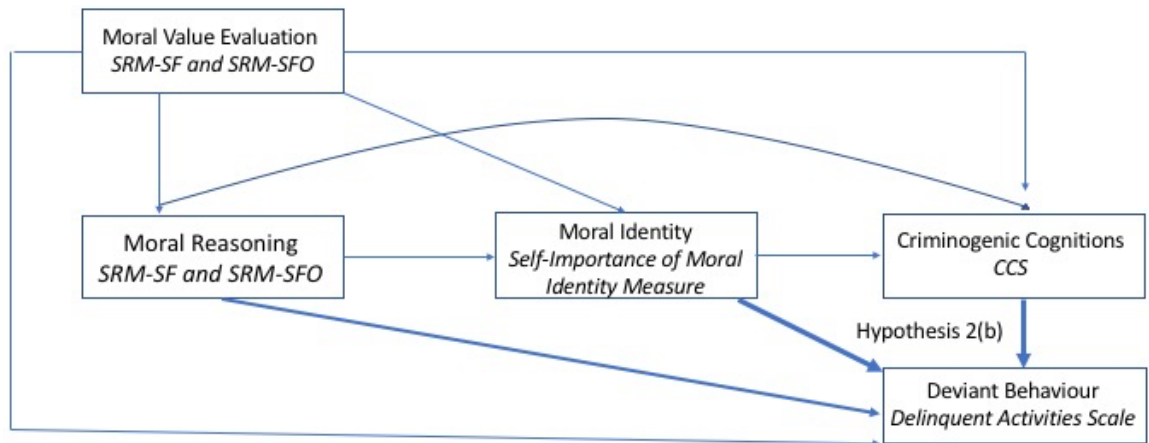


Figure 4. *Proposed path model for hypothesis 2(b).*

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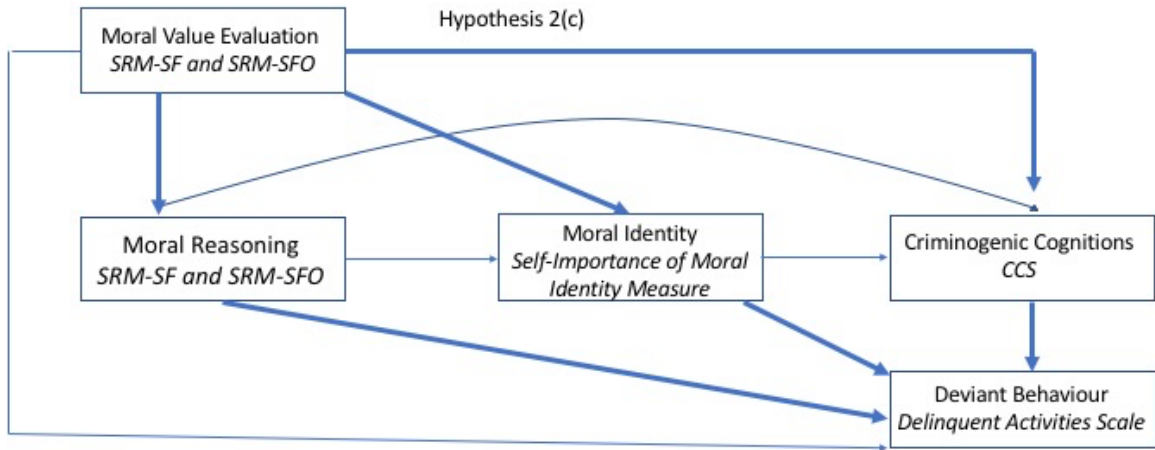


Figure 5. *Proposed path model for hypothesis 2(c).*

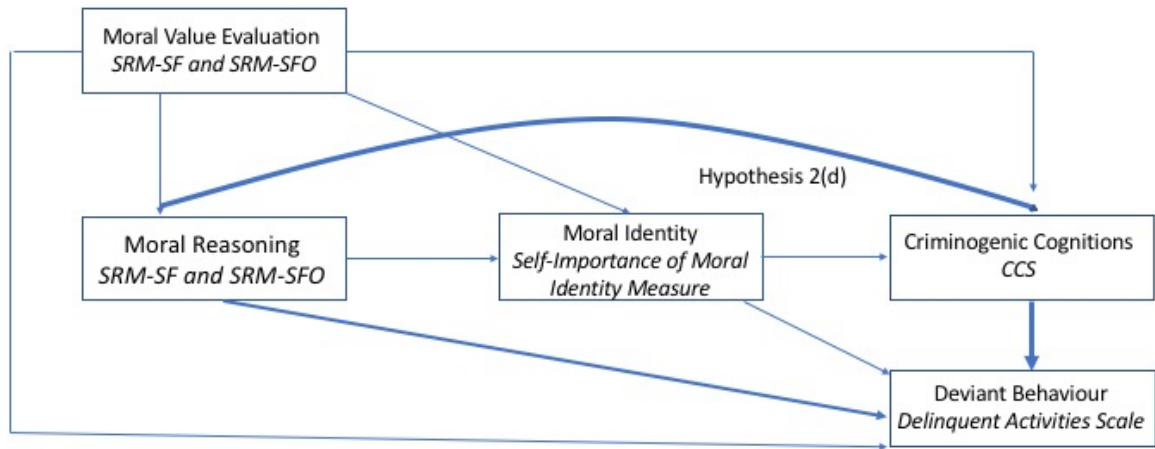


Figure 6. *Proposed path model for hypothesis 2(d).*

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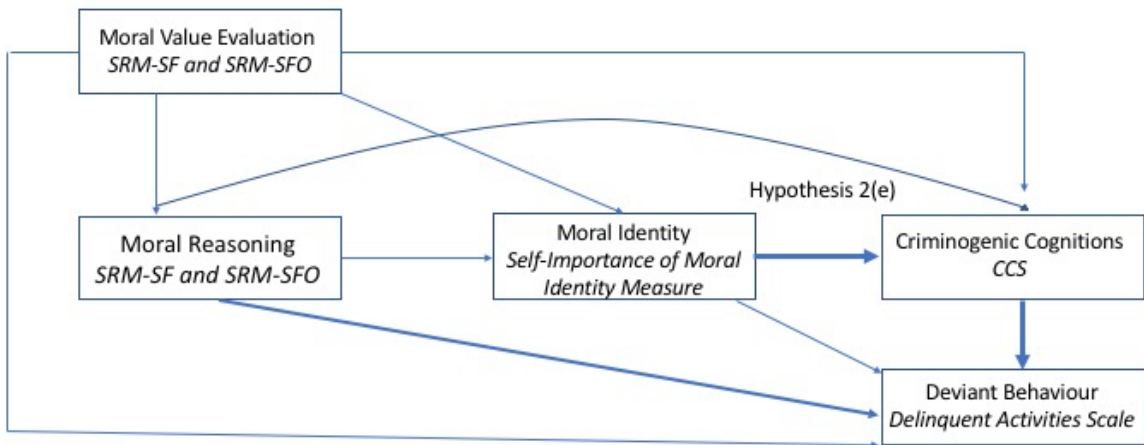


Figure 7. *Proposed path model for hypothesis 2(e).*

3. The third set of hypotheses is that Barriga et al. (2001) and Beerthuizen and Brugman (2013) findings will be replicated for sexually coercive behaviours. That is, moral value evaluation, moral reasoning, moral identity, and criminogenic cognitions would be significantly correlated with self-reported sexually coercive behaviours.
 - a. It is hypothesized that sexually coercive behaviours will be negatively correlated with moral value evaluations, moral reasoning and moral identity.
 - b. Next, it is hypothesized that sexually coercive behaviours will be positively correlated with criminogenic cognitions.
4. The fourth set of hypotheses is that similar to Barringa et al. (2001) and Beerthuizen and Brugman (2013) findings, moral cognitions will be significant predictors of sexually coercive behaviours.

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- a. It is hypothesized that moral reasoning will have a significant direct effect on sexually coercive behaviours when the moral domain is specific to the delinquent behaviour. That is, immature moral reasoning in the moral domain of love and sexual love will be predictive of high rates of sexually coercive behaviours (see Figure 8).
- b. Further, it is hypothesized that both moral identity and criminogenic cognitions will be significant predictors of sexually coercive behaviours (see Figure 9).
- c. It is hypothesized that moral value evaluation will have an indirect effect on sexually coercive behaviours and be fully mediated through moral reasoning, moral identity, and criminogenic cognitions (see Figure 10).
- d. Next, it is hypothesized that criminogenic cognitions will mediate the relation between moral reasoning and sexually coercive behaviours (see Figure 11).
- e. Additionally, it is hypothesized that criminogenic cognitions will mediate the relation between moral identity and sexually coercive behaviours (see Figure 12).

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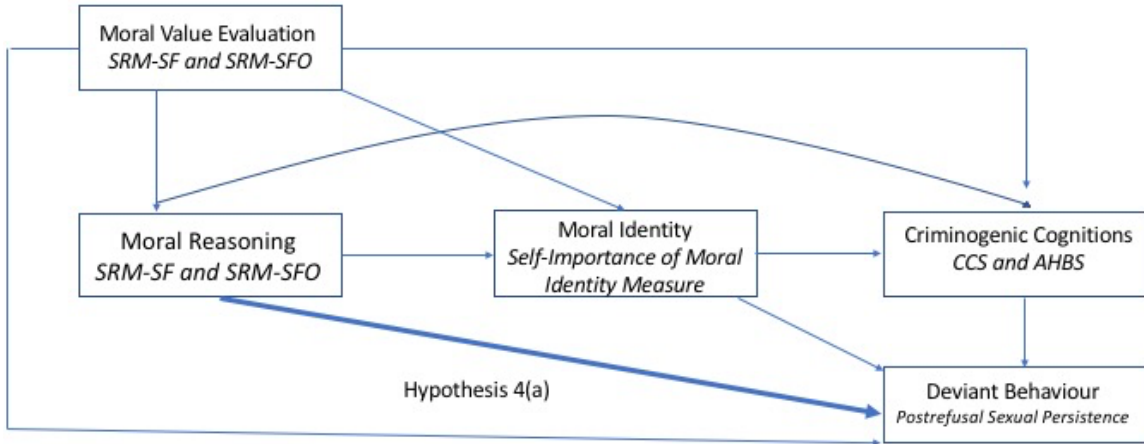


Figure 8. Proposed path model for hypothesis 4(a).

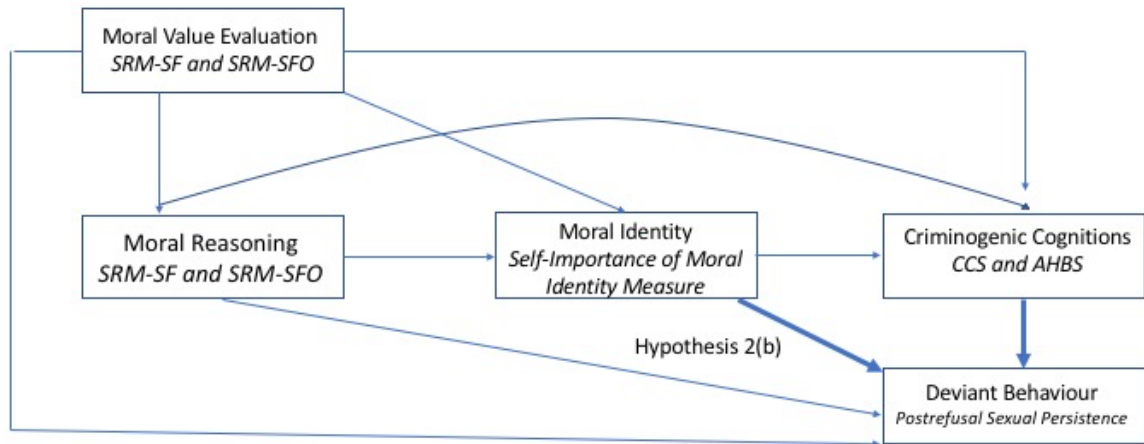


Figure 9. Proposed path model for hypothesis 4(b).

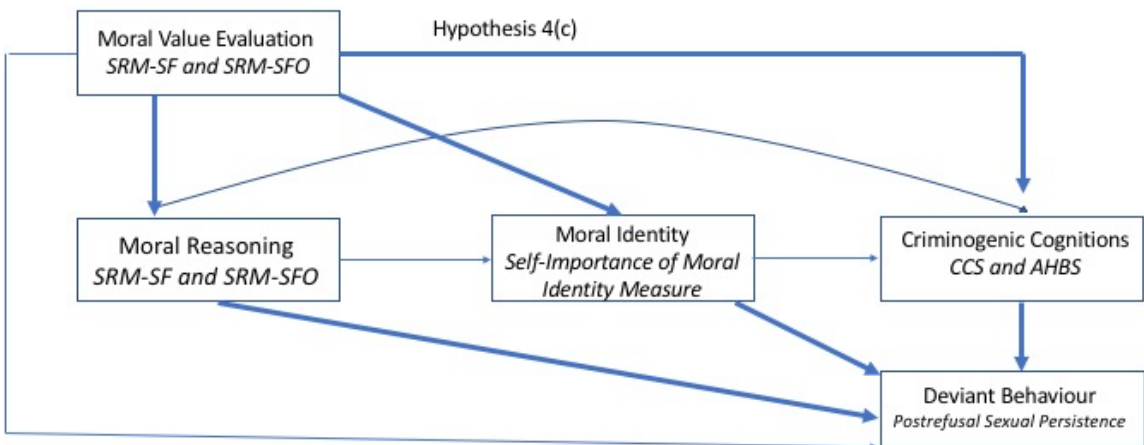


Figure 10. Proposed path model for hypothesis 4(c).

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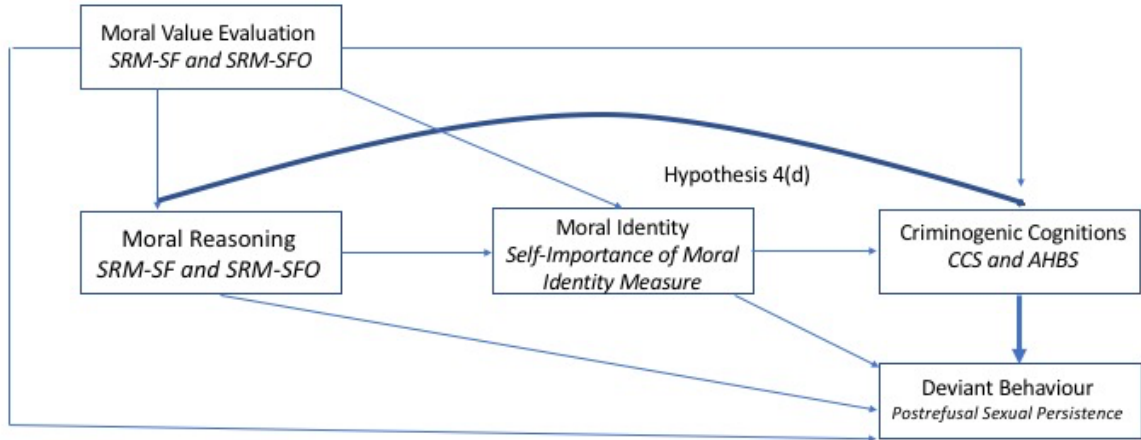


Figure 11. *Proposed path model for hypothesis 4(d).*

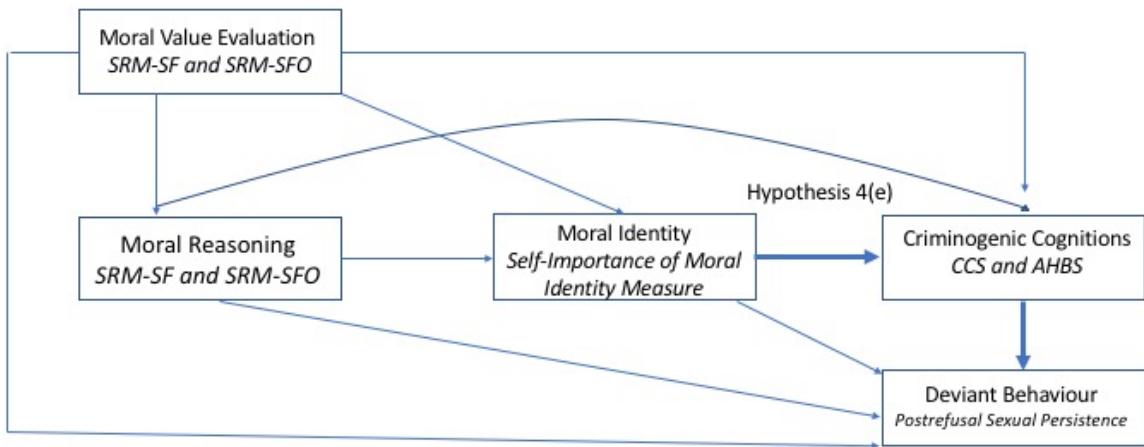


Figure 12. *Proposed path model for hypothesis 4(e).*

5. The final set of hypotheses is that the SRM-SFO will be a valid measure of moral reasoning but will produce higher stage scores than the SRM-SF.
 - a. It is hypothesized that the SRM-SFO and the SRM-SF will be positively correlated with each other.
 - b. Next, it is hypothesized that the SRM-SFO will produce higher moral reasoning stages than the SRM-SF.

CHAPTER III METHOD

Participants

The participants for this study were a total of 183 undergraduate students from the University of Windsor's student online participant pool. Participants were awarded bonus course credit for their participation, which is in accordance with participant pool policy.

Participants who did not complete entire measures looking at the five variables of interest (i.e., moral value evaluation, moral reasoning, moral identity, criminogenic cognition and delinquent activities), were removed. Additionally, participants with three or more non-scorable responses on the SRM-SF were also removed from the analysis (Gibbs et al., 1992). The remaining sample consisted of 123 participants. Of the remaining participants 95 (77.2%) were female, 27 (22%) were male and 1 (0.8%) self-identified as non-binary. Participants ages ranged from 18-years-old to 43-year-old, with the median age of the sample being 20-years-old (21.12%). The majority of participants self-identified as Caucasian (67.5%), were heterosexual (87.8%), and single (48%).

Measures

Delinquent Activities Scale (DAS; Reavy, Stein, Paiva, Quina, & Rossi, 2012).

The Delinquent Activities Scale is a 37-item questionnaire that measures a wide range of delinquent behaviours such as: theft (e.g., “stolen [or tried to steal] something worth more than \$50”), assault (e.g., “hit [or threatened to hit] an adult.”), and illicit drug sale (e.g., “sold hard drugs such as heroin or LSD.”). Participants are asked to indicate the age they first and last engaged in the delinquent activity, whether alcohol or marijuana use was involved, and whether they engaged in the delinquent behaviour 12 months prior to their most recent incarceration. The current study slightly modified the DAS to only ask

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whether the participant had engaged in the delinquent behaviour and the frequency of said behaviour. Four additional questions were also added to the scale that are reflective of crimes typically committed by women (e.g., “made threatening or harassing phone calls”; Statistics Canada, 2017). The Delinquent Activities Scale has demonstrated to be reliable and have acceptable internal consistency ($\alpha = .75$; Reavy et al., 2012).

Postrefusal Sexual Persistence (Struckman-Johnson, Struckman-Johnson, & Anderson, 2003). The Postrefusal Sexual Persistence is a 19-item self-report measure which assesses the tactics individuals use in order to engage in sexual activity after the person with whom they wish to engage in sexual activity has already declined or rejected the sexual advance (Appendix B). Tactic types assessed include: sexual arousal (e.g., “persistent kissing and touching”), emotional manipulation and deception (e.g., “repeatedly asking”), exploitation of the intoxicated (e.g., “purposely getting a target drunk”), and physical force, threats, or harm (e.g., “using physical restraint”). Participants are asked to indicate whether they have or have not engaged in these tactics with a sexual partner since the age of 14 by selecting ‘yes’ or ‘no’. For scoring, responses of ‘yes’ are coded as 1 and responses of ‘no’ are coded as 0. Thus, scores ranged from 0 to 19, with higher scores representing higher levels of sexually coercive tactics use.

Sociomoral Reflection Measure- Short Form (SRM-SF; Gibbs et al., 1992).

The Sociomoral Reflection Measure-Short Form is a moral reasoning *production* measure that requires individuals to independently produce their own responses to moral questions (Appendix C). The aim of the SRM-SF is to elicit moral reasoning by asking questions about moral topics such as keeping a promise or saving a life (e.g., “Think about when you’ve made a promise to a friend of yours. How important is it for people to keep

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promises, if they can, to friends?”). Individuals must then rate on a 7-point Likert scale whether they believe each dilemma is “not important” to “very important” (i.e., the moral value component; Beerthuisen & Brugman, 2016). Participants are then asked to state their reasoning behind their choice (i.e., the moral reasoning component).

The SRM-SF comprises of 11 questions, which measure seven constructs: Contract, Truth, Affiliation, Life, Property, Law and Legal Justice. For the purpose of the current study, three questions from van Vugt et al. (2008) and one question from Beerthuisen and Brugman (2012) were added to measure participants reasoning in the moral domain of love and sexual love. These questions focus on sexual content and have demonstrated adequate internal consistency reliability (Beerthuisen & Brugman, 2012; van Vugt et al., 2001). Thus, the SRM-SF comprised of 15 questions which measure eight moral domains.

In order to score the SRM-SF, participants’ moral justifications are compared to protocols in the SRM-SF handbook. Each question is coded according to the corresponding major moral stage, or transitional moral stage of Gibb’s sociomoral reasoning theory. For example, a ‘Stage 1’ response is coded as 1, whereas the transitional stage 1(2) is coded as a 1.5. All transitional scores are coded with a numerical value that is halfway between the stages that are represented in the transition. After all questions are scored, a summary score representing the participants overall level of moral reasoning is generated by calculating the arithmetic mean of all the scorable responses, this is referred to as the Sociomoral Reflection Maturity Score (SRMS). The SRMS is then multiplied by 100 for data-analytic purposes (Gibbs et al., 1992). Thus, scores range from 100 – 400. The SRMS score also corresponds to a Global Stage, which represents

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the participants overall developmental stage. For example, an SRMS score of 275 would be representative of a Global Stage of 3. Table 2 presents SRMS scores and the corresponding Global Stage.

The SRM-SF has demonstrated excellent internal consistency ($r = .92$) and good test-retest reliability ($r = .88$; Gibbs et al., 1992). The SRM-SF has also demonstrated acceptable levels of concurrent validity with the Moral Judgment Interview ($r = .69$, $p < .001$; Gibbs et al., 1992), which is based upon Kohlberg's six stage model (Colby & Kohlberg, 1987). Gibbs et al. (1992) reported no significant correlations between the SRM-SF and social desirability, however the social desirability measure used was not reported.

Table 2. *SRMS Score and Global Stage*

SRMS Score Range	Global Stage
100 - 125	Stage 1
126 - 149	Transition Stage 1(2)
150 - 174	Transition Stage 2(1)
175 - 225	Stage 2
226 - 249	Transition Stage 2(3)
250 - 274	Transition Stage 3(2)
275 - 325	Stage 3
326 - 349	Transition Stage 3(4)
350 - 374	Transition Stage 4(3)
375 - 400	Stage 4

Sociomoral Reasoning Measure- Short Form Objective (SRM-SFO; Basinger, Brugman, & Gibbs, 2007). The SRM-SFO is a relatively new moral reasoning *recognition* measure that requires individuals to recognize and select responses to moral questions (Appendix D). Based upon its predecessor, the SRM-SF, the SRM-SFO elicits moral reasoning by asking questions about moral topics that are identical to those presented in the SRM-SF (e.g., keeping a promise). Individuals are asked to rate on

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a 7-point Likert scale whether they believe each dilemma is “not important” to “very important” (i.e., the moral value component; Beerthuizen & Brugman, 2016). Participants must then select whether the provided reasons are close to a response the participant would provide. The participant is then asked to select which of the four provided reasons most closely reflect the reasoning they would give.

The SRM-SFO comprises of 10 questions, which measure five constructs: Contract and Truth, Affiliation, Life, Property and Law, and Legal Justice. The SRM-SFO contains the same questions as the SRM-SF, excluding one question related to suicide. For the purpose of the current, three questions from van Vugt et al. (2008) and one question from Beerthuizen and Brugman (2012) were added to measure participants reasoning in the moral domain of love and sexual love. Thus, the SRM-SF will comprise of 14 questions which measure six moral domains. Each question related to a moral issue (e.g., “if you had to give a reason why it is [at least sometimes] important to keep a promise to a friend, if you can, what reason would you give?”), is followed by four reasonings that reflect each of the four stages within Gibb’s moral reasoning theory. For example, the response “because otherwise that person won’t be your friend again” for the above question demonstrates Stage 1 moral reasoning whereas, “because friendships as well as society must be based on trust” demonstrates Stage 4 reasoning. Participants must indicate whether the response is reflective of their own moral reasoning by either selecting ‘yes’, ‘no’, or ‘not sure’ beside the given response. Participants are then asked to select which of the four provided best represents a response that individual would provide.

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A moral value evaluation score and two moral reasoning scores, the Sociomoral Reflection Maturity Score (SRMS) and the Sociomoral Reflection Maturity Percentage (SRMP), are calculated for the SRM-SFO. To calculate the moral value evaluation score, each question is given a score range between 1.00 to 7.00, with higher scores representing higher moral importance. These scores are then averaged across individual moral domains so that each moral domain has a single moral value evaluation score. The SRMS is calculated by first assigning each 'yes' answer the value that corresponds with that responses particular stage. For example, the response "because otherwise that person won't be your friend again" represents Stage 1 reasoning, thus that particular response would be given a score of 1.00. Responses with either a 'no' or 'not sure' are given a value of 0. Then, scores (which represent the reasoning stage associated with that particular response) are assigned to the answer participants selected as the closest to their own reasoning. For example, if a participant selected the response "because friendships as well as society must be based on trust" (a Stage 4 response) as being the most reflective of their own moral reasoning, that participant would receive a score of 4.00. The average of the four reasoning responses (i.e., the 'yes' responses) are then added with the value of the response which is most reflective of the participant's own reasoning, with the most reflective response being weighted twice as heavy as the reasoning responses, and divided by three. These responses are then averaged within and across each moral domain, producing a SRMS score for each moral domain and an overall SRMS score. The SRM-SFO has demonstrated acceptable internal consistency for the moral evaluation scale and the moral reasoning scale (Cronbach's $\alpha = .72$ and $.58$, respectively; Beerthuisen, Brugman, & Basinger, 2013).

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The Self-Importance of Moral Identity Measure (Aquino & Reed, 2002). The Self-importance of Morality Identity Measure is a 10-item self-report questionnaire that measures both the internalization and symbolization of moral identity (Appendix E). Participants are provided a list of characteristics that are associated with a moral person and asked to imagine someone who embodies these characteristics. They are then asked to read statements and rate on a 5-point Likert scale the degree to which they agree with each statement, with 1 indicating “Strongly disagree” and 5 representing “Strongly agree”. For the purpose of the current study, only the five internalization questions of moral identity were utilized. The internalization subscale has been shown to be directly related how important moral characteristics are to an individual and has demonstrated validity in predicting altruistic behaviours (Aquino & Reed, 2002). Scores on each question will be summed and averaged, with two items being reverse coded. Thus, a single moral identity score ranging from 1 to 5 will be used, with higher scores representing greater self-relevance of moral characteristics. The Self-importance of Moral Identity Measure internalization subscale has demonstrated good reliability (Cronbach’s α range of .83 to .85; Reed & Aquino, 2003).

Criminogenic Cognitions Scale (CCS; Tangney, Meyer, Furukawa, & Cosby, 2002). The CCS is a 25-item self-report questionnaire designed to measure five cognition domains associated with criminality: Short term orientation (e.g., “The future is unpredictable and there is no point planning for it.”), notions of entitlement (e.g., “When I want something, I expect people to deliver.”), failure to accept responsibility (e.g., “Bad childhood experiences are partly to blame for my current situation.”), negative attitudes toward authority (e.g., “Most police officers/guards abuse their power.”), and

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insensitivity to impact of crime (e.g., “My crime(s) did not really harm anyone.”).

Participants are asked to read several statements and indicate on a 4-point Likert scale how applicable the statement is to their situation, with 1 indicating ‘Strongly disagree’ and 4 representing ‘Strongly agree’. For scoring, the total criminogenic cognitions scale is calculated by finding the mean of all items on the scale, with three items being reverse coded. Thus, scores range from 0 to 4, with a higher score representing more criminogenic cognitions. The CCS has demonstrated good reliability and validity (Tangney et al., 2012).

Adversarial Heterosexual Beliefs Scale (AHBS; Lonsway & Fitzgerald, 1995).

The Adversarial Heterosexual Belief Scale is a 15-item questionnaire that measures participants’ beliefs about the nature of relationships between romantic/sexual partners, including both platonic (e.g., “men and women cannot really be friends”) and romantic relationships (e.g., “It is natural for one spouse to be in control of the other.”) (Appendix G). Six of the 15 items are not specific to heterosexual relationships. Participants are asked to read statements about sex relationships and rate on a 7-point Likert scale the degree to which they agree with each statement, with 1 indicating “Strongly disagree” and 7 representing “Strongly agree”. Higher scores on the items represent more adversarial beliefs, with three items being reverse coded. The AHBS has demonstrated good internal consistency (Cronbach’s $\alpha = .78$; Lonsways & Fitzgerald, 1995).

Hostility Toward Women Scale (Longsway & Fitzgerald, 1995). The Hostility Toward Women Scale is a 10-item questionnaire that measures participants’ hostility towards women (Appendix H). Participants are asked to read statements about women (e.g., “I think that most women would lie just to get ahead.”) and rate on a 7-point Likert

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scale how much the statement best describes them, with 1 indicating “Strongly disagree” and 7 representing “Strongly agree”. Higher scores on the items represent more hostility towards women, with two items being reverse coded (e.g., “I believe most women tell the truth” and “I usually find myself agreeing with [other] women.”). The Hostility Toward Women Scale has demonstrated good internal consistency (Cronbach’s $\alpha = .83$; Lonsways & Fitzgerald, 1995).

Hostility Toward Men Scale (Longsway & Fitzgeralds, 1995). The Hostility Toward Men Scale is a 10-item questionnaire that measures participants’ hostility towards men and was adapted by the supervisor of this study for a different research project (Langton, 2018) using the Hostility Toward Women Scale (Appendix I). The statements on this measure are identical to the Hostility Toward Women Scale with the exception that ‘women’ has been changed to ‘men’, (e.g., “I think that most *men* would lie just to get ahead.”). Participants are asked to read statements about men and rate on a 7-point Likert scale how much the statement best describes them, with 1 indicating ‘Strongly disagree’ and 7 representing ‘Strongly agree’. Higher scores on the items represent more hostility towards men, with two items being reverse coded.

Basic Demographic Information. Participants completed a basic demographic measure (Appendix J) that included questions about the participant’s gender identity, age, ethnicity, year of enrollment, and relationship status.

Balanced Inventory of Desirable Responding-16 (BIDR-16; Hart, Ritchie, Hepper, Gebauer, 2015) The BIDR-16 is a 16-item short form questionnaire of the 40-item Balanced Inventory of Desirable Responding (Paulhus, 1991; see Appendix I). The BIDR-16 measures participants’ impression management (i.e., providing inaccurate

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responses in order to appear more favourable) and self-deception (i.e., providing inaccurate, but believed, responses; Kroner & Weekes, 1996; Appendix K). Participants are asked to read statements (e.g., “I never regret my decisions.”) and rate on a 7-point Likert scale how true that statement is for them, with 1 indicating ‘Not true’ and 7 representing ‘Very true’. In order to score the BIDR-16, 4 items per subscale are reverse coded (i.e., impression management subscale and self-deception enhancement subscale) and questions with ratings of 6 or 7 are given a score of 1. Thus, the minimum score is 0 and the maximum score is 8 for each subscale. The BIDR-16 has demonstrated good internal consistency (Cronbach’s $\alpha = .63$ to $.83$), test-retest reliability ($r = .74$ to $.79$; Hart et al., 2015).

Procedure

Participants were recruited through the Psychology Participant Pool at the University of Windsor and received 1 bonus points towards an eligible class for their participation (1 bonus point). The online session took approximately 60 minutes to complete. Before the study began, participants were presented with the consent form. Participants were informed that they can skip any questions they feel uncomfortable providing a response for and can withdraw their participation at any time throughout the study by closing their web browser and emailing their request to withdraw to the primary investigator.

After acquiring their consent, participants were asked to complete a series of online self-report questionnaires which included: basic demographics, Sociomoral Reasoning Measure-Short Form, Adversarial Heterosexual Beliefs Scale, the Hostility Towards Women Scale, The Hostility Towards Men scale, the Balanced Inventory of

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Desirable Responding-16, the Postrefusal Sexual Persistence Scale, the Criminogenic Cognitions Scale, the Self-Importance of Moral Identity Measure, the Delinquent Activities Scale, the Sociomoral Reasoning Measure-Short Form Objective. Participants always received the basic demographics questionnaire first, followed by the Sociomoral Reasoning Measure-Short form. The Sociomoral Reasoning Measure- Short Form Objective was always given last. All other questionnaires were given in a randomized order. After the completion of the questionnaires, participants saw a notice thanking them for their participation.

CHAPTER IV RESULTS

Data Screening

Prior to conducting the main analyses, preliminary examination of the data was screened using Tabachnik and Fidell (2007) recommendations. First, an examination of the validity measures was investigated. Second, the presence of outliers was investigated and the regression assumptions were assessed. Third, missing data analyses were conducted. Notably, the entire dataset was used for the initial stage of data screening as the entire dataset was required for the latter missing data correction technique (Enders, 2010). All data screening was conducted using SPSS 23 (IBM, 2015).

Validity Check. The validity of the data was checked using four individual measures. Two production measures and two recognition measures were utilized; with each type of measure asking either mathematical questions or language-based questions. These measures were to ensure that participants were paying adequate attention while completing the online questionnaires. A total of 13 participants made at least one mistake on one of the four validity measures. Only one participant made two mistakes. Participant's data was then examined for indications of patterned responses. No such patterns were found. As such, the 13 participants' data was left within the analyses. Additionally, validity checks within individual measures were also utilized (e.g., "If you are reading this select answer 4"). A total of 6 participants answered one of the validity checks incorrectly. Participants data was once again examined for indications of patterned responses. No such patterns were found. As such, the 6 participants' data was left within the analyses.

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Outliers. The data were investigated for the presence of both univariate and multivariate outliers. Univariate outliers were assessed using the combination of the z-score method and associated cut-offs set at ± 4 (Pituch & Stevens, 2016). No univariate outliers were found using this method. As both the latter missing data correction and the primary analysis (i.e., Path Analysis) procedures are based on regression calculations (Enders, 2010) regression diagnostics were conducted to identify multivariate outliers. External studentized residuals were calculated and cut-offs of values above ± 3 were used to identify extreme cases when the measured variables were positioned as dependent variables (Cohen, Cohen, West, & Aiken, 2003). Twelve outliers were found. These values were plotted into an index plot for visual examination (Cohen et al., 2003).

Inspection of the index plot did not identify any extreme outliers. Mahalanobis Distance statistics were calculated and a conservative chi-squared cut-off value was selected at $p < .001$ (Tabachnik & Fidell, 2007) to classify outliers when the measured variables were positioned as independent variables. Three cases were found to be outliers. To examine whether outliers exerted undue global influence on the data DFFIT were run. The general cut-offs of ± 1 were utilized (Cohen et al., 2003). No influential outliers were found in the dataset. Subsequent calculations for specific influence using DFBETAs and cut-offs of ± 1 failed to identify any outlying cases. Thus, no outlier cases were deleted.

Assumptions. The data was also examined to ensure that assumptions were met for the analyses conducted. Normality and Linearity are important assumptions for conducting regression procedures. Normality was first assessed at the univariate level. Inspection of histograms, skewness and kurtosis, and Shapiro-Wilk statistics indicated the majority of the variables were non-normally distributed. As univariate normality is required for

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multivariate normality, multivariate normality can also be assumed to be violated (Looney et al., 1995); therefore, missing data estimation will have to be conducted with caution (Enders, 2010). Linearity was evaluated using bivariate scatter plots (Cohen et al., 2003). There were too many variables to conduct a comprehensive inspection of each bivariate combination thus, a randomly selected subset of the variables was examined (Cohen et al., 2003; Tabachnik & Fidell, 2007). The random selection of bivariate scatterplots yielded no curvilinear relations. As curvilinear data is more problematic than poor linear relations, the data met the assumption of linearity. In addition, conditions of multicollinearity and singularity were assessed (Kline, 2011; Tabachnik & Fidell, 2007). First, Spearman's correlation matrix was examined to assess univariate collinearity at values at or above $r_s = .9$. Collinearity was not found. Multicollinearity was assessed using Tolerance statistics with values at or below .10 indicating conditions of multicollinearity (Kline, 2011; Tabachnik & Fidell, 2007). Multicollinearity was not found to be an issue for the dataset (values ranged from .234 to .802). Finally, homoscedasticity was assessed using scatterplot of residuals versus predicted values, no clear pattern within the distributions was found (Tabachnik & Fidell, 2007).

The assumptions of multivariate normality are satisfied if there is a minimum of 20 degrees of freedom between participant error terms (Tabachnik & Fidell, 2007). The degrees of freedom between participant errors were $df = 112$, therefore, this assumption was met. A Levene's test of homogeneity of variance was used to inspect the homogeneity of covariance within each dependent variable. The analyses revealed that the variance within certain dependent variables were significantly different, meaning that the variance between variables is unlikely to occur by chance. The null hypothesis of

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equal variance was rejected in the following variables: moral identity, $F(1, 120) = 29.97$, $p < .001$ and moral reasoning for sexually coercive behaviours $F(1, 120) = 6.06$, $p = .015$. A Hotelling's T^2 statistic was used to report the results, as it is robust to homogeneity of covariance violations (Field, 2009).

Missing Data. The progression of missing data evaluation follows the recommendations of Enders (2010). In the current dataset, missingness per variable of interest ranged from 0% to 10.6%. Next, Little's test of Missing Completely At Random (MCAR) was conducted and indicated the data was MCAR with the exception of the Criminogenic Cognitions Scale (CCS). As there are no statistical tests to determine if data are Missing at Random (MAR) or Missing Not at Random (MNAR) the questions were qualitatively evaluated to determine if the content of the item might have influenced non-responding. An examination of the questions revealed that the unanswered questions were no more sensitive than other questions on the measure and there were no obvious reasons for the missing data. As such, the data is believed to be MAR. For the current analysis, the Expected-Maximization (EM) was utilized. EM is a Multiple Imputations (MI) technique that produces unbiased estimates when missingness has been found to be MCAR or MAR (Lee & Huber, 2011). When missingness is found to be NMAR, MI creates biased estimates when the percentage of missing data is high (Lee & Huber, 2011). Given that CCS had a total of 5.5% missing data, biased estimates were not a concern. Thus, these final values were used in the place of the original missing values. The newly imputed dataset was then screened again as values had been added.

Inter-rater reliability on SRM-SF. In the current study, interrater reliability was evaluated based on a sample of 10.16 % of the qualitative answers on the SRM-SF

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selected through a random number generator. Cohen's k was run to determine if there was agreement between raters on their judgment of which moral reasoning stage qualitative answers on the SRM-SF belonged to. There was moderate agreement between the two raters' judgments, $k = .520, p < .001$.

Investigation of Gender Differences on Main Variables of Interest. Descriptive statistics for the main variables of interest for males, females, and genders combined can be found in Table 3. To investigate gender differences on the main variables of interest a multivariate analysis of variance (MANOVA) was conducted. Nine dependent variables were included in the analysis: moral value evaluation for general delinquency, moral value evaluation for sexually coercive behaviours, moral reasoning for general delinquency, moral reasoning for sexually coercive behaviours, moral identity, criminogenic cognitions, adversarial beliefs, delinquent activity, and sexually coercive behaviours. Using a Hotelling's T^2 test statistics, there was a significant main effect of gender, $T = .301, F(9, 112) = 3.76, p < .001$. To investigate this significant main effect, univariate analyses of variance (ANOVAS) were run for each of the dependent variables with gender included as the independent variable (see Table 4). There was a significant difference between males and females on adversarial beliefs $F(1, 120) = 6.61, p = .011, \eta^2 = .05$; criminogenic cognitions, $F(1, 120) = 10.12, p = .002, \eta^2 = .078$; moral identity, $F(1, 120) = 19.97, p < .001, \eta^2 = .143$; and moral reasoning for sexually coercive behaviours, $F(1, 120) = 6.68, p = 0.11, \eta^2 = .053$.

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Table 3.

Descriptive Statistics for Variables of Interest for Male, Female and Genders Combined.

<u>Variable</u>	Min	Max	<i>M</i>	<i>SD</i>
MVE				
Male	4.24	7.00	5.88	0.69
Female	4.39	7.00	6.00	0.56
Combined	4.24	7.00	5.10	0.59
MVE-S				
Male	3.88	5.31	4.73	0.33
Female	4.00	5.31	4.83	0.30
Combined	3.88	5.31	4.81	0.31
MR				
Male	1.89	3.53	2.90	0.34
Female	2.11	3.48	3.01	0.25
Combined	1.89	3.53	2.99	0.27
MR-S				
Male	2.35	3.69	2.91	0.33
Female	2.35	3.69	3.06	0.25
Combined	2.35	3.69	3.02	0.27
Moral ID				
Male	8.00	13.00	10.81	1.12
Female	3.00	18.00	11.45	1.95
Combined	3.00	18.00	11.31	1.81
CCS				
Male	21.00	49.00	37.03	7.73

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Female	13.00	56.00	32.29	7.55
Combined	13.00	56.00	33.39	7.80
ABS				
Male	1.00	46.00	23.00	12.20
Female	1.00	48.00	16.88	12.02
Combined	1.00	48.00	18.10	11.40
DAS				
Male	0.00	19.00	9.93	5.90
Female	0.00	40.00	7.11	7.05
Combined	0.00	40.00	7.79	6.90
PSPS				
Male	0.00	14.00	1.33	3.00
Female	0.00	11.00	0.81	1.84
Combined	0.00	14.00	0.92	2.12

Note. MVE = moral value evaluation for general delinquency, MVE-S = moral value evaluation for sexually coercive behaviours, MR = moral reasoning for general delinquency, MR-S = moral reasoning for sexually coercive behaviours, Moral ID = moral identity, CCS = criminogenic cognitions scale, ABS = adversarial beliefs scale, DAS = delinquent activities scale, PSPS = post-refusal sexual persistence scale.

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Table 4.

ANOVAs with Gender as an Independent Variable

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η^2
MVE	1	0.33	0.33	0.94	.335	.008
MVE-S	1	0.19	0.19	2.06	.154	.017
MR	1	0.25	0.25	3.64	.059	.029
MR-S	1	0.47	.047	6.68	.011	.053
Moral ID	1	138.23	138.23	19.98	<.001	.143
CCS	1	510.08	510.08	10.12	.002	.078
ABS	1	804.13	804.13	6.62	.011	.052
DAS	1	167.28	167.28	3.59	.060	.029
PSPS	1	5.75	5.75	1.25	.266	.010

Note. *N*=122, MVE = moral value evaluation for general delinquency, MVE-S = moral value evaluation for sexually coercive behaviours, MR = moral reasoning for general delinquency, MR-S = moral reasoning for sexually coercive behaviours, Moral ID = moral identity, CCS = criminogenic cognitions scale, ABS = adversarial beliefs scale, DAS = delinquent activities scale, PSPS = post-refusal sexual persistence scale.

Primary Analyses

Hypothesis set one: Moral value evaluation, moral reasoning, moral identity and criminogenic cognitions are significantly correlated with self-reported deviant behaviours.

To address these hypotheses, bivariate correlations and partial correlations were calculated between self-reported delinquent activity and each of the dependent variables, with the desirable responding statistically controlled in the partial correlations.

Specifically, hypothesis 1(a) predicted that general delinquency would be negatively correlated with moral value evaluation, moral reasoning, and moral identity. This hypothesis was not supported, as neither the partial correlations or the bivariate

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correlations found a significant association between the variables of interest (see Table 5). It was also hypothesized that general delinquency would be positively correlated with criminogenic cognition. There was a significant positive correlation between self-reported delinquency and criminogenic cognitions in the bivariate correlations and the partial correlations (see Table 5) thus, hypothesis 1(b) was supported. Finally, hypothesis 1(c) predicted that criminogenic cognitions would be negatively correlated with moral value evaluation, moral reasoning, and moral identity. The bivariate correlations partially supported this hypothesis, as there was a significant association between moral value evaluation and criminogenic cognitions (see Table 5). However, this association became non-significant when social desirability was controlled for in the partial correlations. Thus, hypothesis 1(c) was not supported.

Table 5.

Bivariate Correlation and Partial Correlations Between Moral Cognitions and General Delinquency.

	Moral Value Evaluation	Moral Reasoning	Moral Identity	Criminogenic Cognitions	Delinquent Activity
Mora Value Evaluation	-	-.038	-.038	-.138	.044
Moral Reasoning	-.018	-	.286**	-.124	.123
Moral Identity	.056	.290**	-	-.001	-.026
Criminogenic Cognitions	-.206*	-.134	-.071	-	.189*
Delinquent Activity	-.025	.108	-.083	.230*	-

Note. Below the diagonal are bivariate correlations, above the diagonal are partial correlations controlling for social desirability. * $p < .05$, ** $p < .01$

Hypothesis set two: Moral cognitions are significant predictors of general

delinquency. In order to test this hypothesis, a modified path model based on Barringa et al., (2001) and Beerthuizen and Brugman (2013) was utilized (see Figure 13). A notable difference between the current model and the models run by Barringa et al (2001) and Beerthuizen and Brugman (2013) was the inclusion of desirable responding as a control variable. A power analysis conducted using G*Power (Faul, Erdfelder, Buchner, & Lang, 2009), assuming a medium effect size and a power level greater than .95, indicated that 129 participants in total would be needed for a study including four predictor variables. Given that the current study had 123 participants, the model was underpowered.

The current model did not fit the data well, as can be seen from the goodness-of-fit statistics shown in Table 6. However, Jackson (2003) stated that small sample size tends to produce poor fits. Hypothesis 2(a) predicted that moral reasoning would have a significant direct effect on general delinquency. A non-significant direct effect of moral reasoning on general delinquency, $\beta = .170$ $p = .058$, was found. As such, the hypothesis was not supported. Hypothesis 2(b) predicted that moral identity and criminogenic cognitions would be significant predictors of general delinquency. There was no significant direct effect of moral identity on general delinquency $\beta = -.075$, $p = .423$. However, there was a significant positive association between criminogenic cognitions and general delinquency, $\beta = .221$, $p = .013$, with higher criminogenic cognitions predicting higher engagement in delinquent behaviour. As such, hypothesis 2(b) was partially supported. Next, hypothesis 2(c) predicted that moral value evaluation would have an indirect effect on general delinquency. As expected, there was no significant direct effect between moral value evaluation and general delinquency, $\beta = .080$, $p = .352$.

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Table 6.

Summary of Goodness-of-Fit Indices for General Delinquency Model

χ^2	CFI	TLI	SRMR	RMSEA
12.969(1)	.737	-2.943	.359	.313
$p < .001$				

To test the indirect effects, a macro program developed by Preacher and Hayes (2008) was used, as AMOS does not provide significance levels for indirect effects. There was a significant negative indirect effect of moral value evaluation on general delinquency through the proposed mediators (i.e., moral identity, moral reasoning, and criminogenic cognitions), $\beta = -.807, p = .039$. As such, the hypothesis was supported. Hypothesis 2(d) predicted that criminogenic cognitions would mediate the association between moral reasoning and general delinquency. The hypothesis was not supported, as there no significant indirect effects of moral reasoning on delinquency through criminogenic cognitions was found, $\beta = -.577, p = .313$. However, it should be noted that the association was in the expected direction. Finally, hypothesis 2(e) predicted that criminogenic cognitions would mediate the association between moral identity and general delinquency, this hypothesis was not supported $\beta = -.039, p = .453$.

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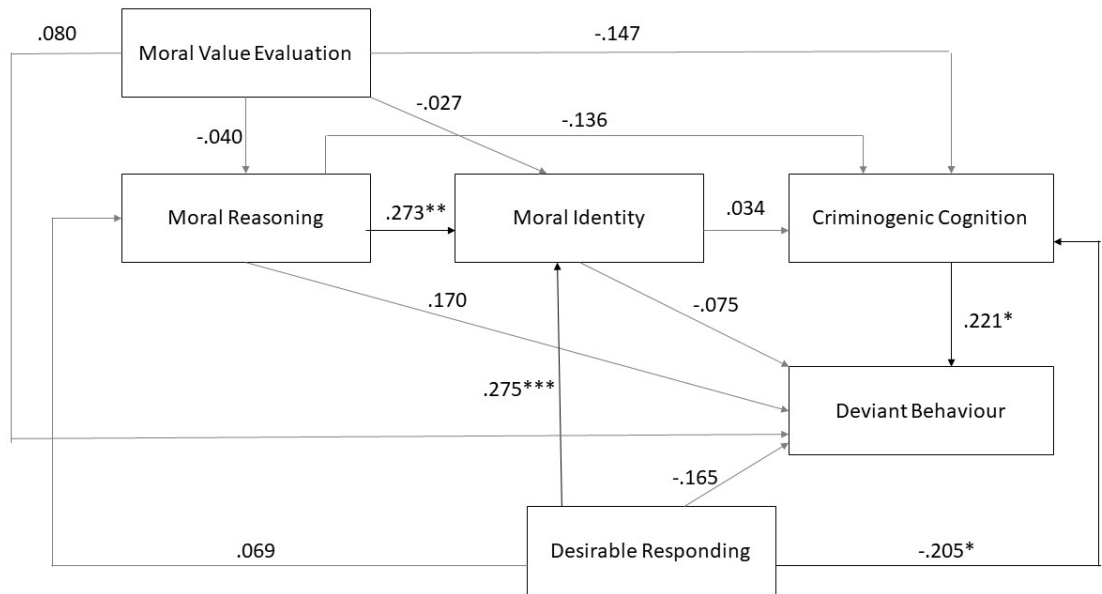


Figure 13. *Path analysis for moral cognitions on general delinquency.* Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Hypothesis set three: Moral value evaluation, moral reasoning, moral identity and criminogenic cognitions are significantly correlated with self-reported sexually coercive behaviours. To address the third set of hypotheses, bivariate correlations as well as partial correlations were run between self-reported sexually coercive behaviours and each of the dependent variables, with desirable responding statistically controlled in the analysis. Hypothesis 3(a) predicted that sexually coercive behaviours would be negatively correlated with moral value evaluation, moral reasoning, and moral identity. This hypothesis was not supported, as no associations between the variables of interest were found in the bivariate correlations nor the partial correlations (see Table 7). Recall that hypothesis 3(b) predicted that sexually coercive behaviours would be positively correlated with criminogenic cognitions. This hypothesis was supported when examining

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the bivariate correlations as well as the partial correlations controlling for social desirability. As such, hypothesis 3(b) was supported.

Table 7.

Bivariate Correlations and Partial Correlations Between Moral Cognitions and Sexually Coercive Behaviours

	Moral Value Evaluation	Moral Reasoning	Moral Identity	Criminogenic Cognitions	Sexually Coercive Behaviours
Mora Value Evaluation	-	.560***	.113	-.200*	-.032
Moral Reasoning	.565***	-	.236**	-.131	-.041
Moral Identity	.144	.253**	-	-.241**	-.073
Criminogenic Cognitions	-.231*	-.157	-.314***	-	.202*
Sexually Coercive Behaviours	-.057	-.060	-.125	.254**	-

Note. Below the diagonal are bivariate correlations, above the diagonal are partial correlations controlling for social desirability. * $p < .05$, ** $p < .01$, *** $p < .001$

Hypothesis set four: Moral cognitions are significant predictors of sexually coercive behaviours. The fourth set of hypotheses predicted that moral cognitions would be significant predictors of sexually coercive behaviours. Once again, a modified path model based on Barringa et al., (2001) and Beerthuizen and Brugman (2013) was utilized, with hostile attitudes and desirable responding as controls (see Figure 14). An inspection of the goodness-of-fit indices indicated a better fitting model than the path model for general delinquency (see Table 8). Specifically, the Comparative Fit Index (CFI), which is not very sensitive to sample size, and the Tucker Lewis Index (TLI) and the Root Mean

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Square Error Approximation (RMSEA), indicated a good fitting model. However, the Standardized Root Mean Square Residual (SRMR) indicated a poor fitting model.

Table 8.

Summary of Goodness-of-Fit Indices for Sexually Coercive Behaviours Model.

χ^2	CFI	TLI	SRMR	RMSEA
2.067(2)	1.000	.995	.927	.017
$p = .356$				

Recall that hypothesis 4(a) predicted that moral reasoning would have a significant direct effect on sexually coercive behaviours. No significant association between the two variables was found and the hypothesis was not supported, $\beta = .012$, $p = .911$. Hypothesis 4(b) predicted that both moral identity, $\beta = -.020$, $p = .831$ and criminogenic cognitions, $\beta = .141$, $p = .183$ would be significant predictors of sexually coercive behaviours. An examination of the path model revealed no significant associations, however, both paths were in the expected direction. Hypothesis 4(c) predicted that moral value evaluation would have an indirect effect on sexually coercive behaviours and be fully mediated through moral reasoning, moral identity, and criminogenic cognitions. As expected, there was no significant direct effect of moral value evaluation on sexually coercive behaviours $\beta = -.010$, $p = .927$. As hypothesized, there was a significant negative indirect effect of moral value evaluation on sexually coercive behaviours through the proposed mediators (i.e., moral identity, moral reasoning, criminogenic cognitions), $\beta = -.274$, $p = .042$. There was also a significant positive direct effect of moral value evaluation on moral reasoning, $\beta = .563$, $p < .001$ and a significant negative direct effect on criminogenic cognitions, $\beta = -.242$, $p = .007$.

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However, no significant direct effect of moral value evaluation on moral identity was found. There was a significant negative direct effect of moral identity on criminogenic cognitions $\beta = -.172, p = .030$. Additionally, there was a significant direct effect of moral reasoning on moral identity $\beta = .212, p = .042$. In order to test hypothesis 4(d), which predicted that criminogenic cognitions would mediate the association between moral reasoning and sexually coercive behaviours, indirect effects were examined using the macro program developed by Preacher and Hayes (2008). There were no significant indirect effects of moral reasoning on sexually coercive behaviours through criminogenic cognition, $\beta = -.335, p = .104$. Thus, the hypothesis was not supported. The final hypothesis in this set predicted that criminogenic cognitions would mediate the association between moral identity and sexually coercive behaviours. This hypothesis was supported as there was a significant negative indirect effect of moral identity on sexually coercive behaviour $\beta = -.057, p = .034$.

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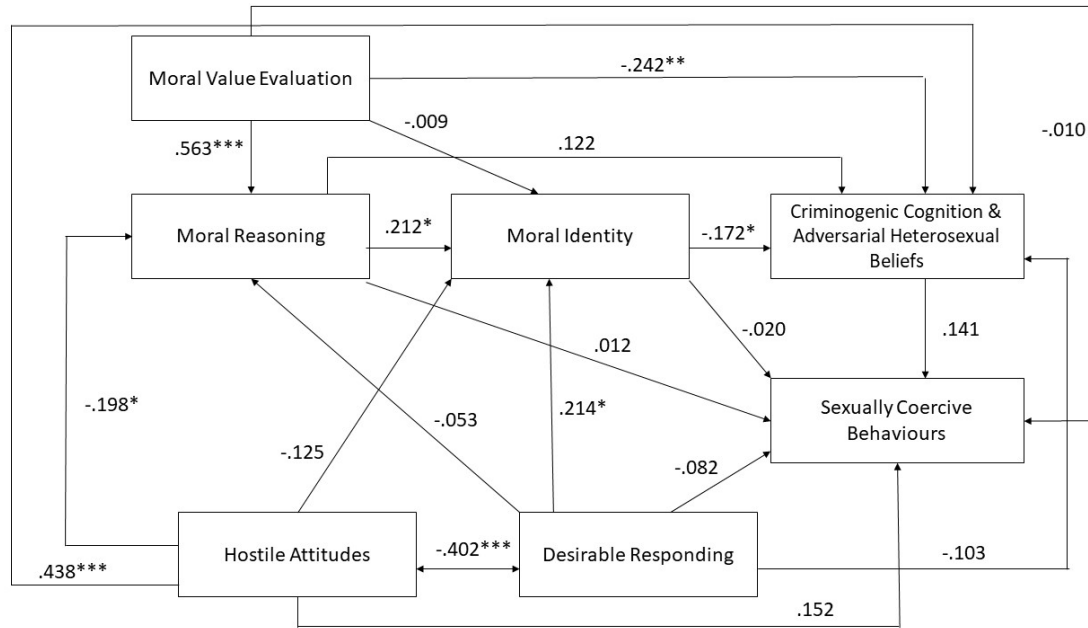


Figure 14. Path analysis for moral cognitions on sexually coercive behaviours. Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Hypothesis set five: SRM-SFO would be a valid measure of moral reasoning. Recall that the final set of hypotheses aimed to investigate whether the SRM-SFO is a valid measure for moral reasoning when compared to the SRM-SF. In order to test hypothesis 5(a), which predicted that there would be a positive correlation between the two measures, a correlation analysis was conducted. Correlation analysis was run between moral reasoning on the SRM-SF and moral reasoning on the SRM-SFO. There was a non-significant positive correlation between SRM-SF moral reasoning and SRM-SFO moral reasoning, $r = .133$, $p = .073$. Additionally, to address hypothesis 5(b) which predicted that the SRM-SFO would produce higher moral reasoning stages, a paired samples t-test was conducted. There was a significant difference in the scores for moral reasoning on the SRM-SF ($M = 2.91$, $SD = .361$) and the SRM-SFO ($M = 3.054$, $SD =$

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.397; $t(120) = 3.00, p = .003$) with the SRM-SFO producing higher scores. As such, the hypothesis was supported.

Additional Analyses.

Path analysis using only the SRM-SFO as the moral reasoning measure for general delinquency. Given the low inter-rater reliability produced by the SRM-SF, the path analysis investigating moral cognitions and general delinquency was run only using the SRM-SFO as the moral reasoning measure. Recall, that hypothesis 2(a) predicted that moral reasoning would have a significant direct effect on general delinquency. Similar to the previously run model, there was no significant direct effect of moral reasoning on general delinquency, $\beta = .084, p = .346$. As such, the hypothesis was not supported.

Comparable to the previous model, there was no significant direct effect of moral identity on general delinquency $\beta = -.045, p = .628$. However, there was a significant positive association between criminogenic cognitions and general delinquency, $\beta = .206, p = .020$. As such, hypothesis 2(b) was partially supported. Next, hypothesis 2(c) predicted that moral value evaluation would have an indirect effect on general delinquency. As expected, there was no significant direct effect between moral value evaluation and general delinquency, $\beta = .069, p = .426$.

In line with the previous model, there was a significant negative indirect effect of moral value evaluation on general delinquency through the proposed mediators (i.e., moral identity, moral reasoning, and criminogenic cognitions), $\beta = -1.065, p = .027$. As such, the hypothesis was supported. Hypothesis 2(d) predicted that criminogenic cognitions would mediate the association between moral reasoning and general delinquency. The hypothesis was not supported, as there no significant indirect effects of

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moral reasoning on delinquency through criminogenic cognitions was found, $\beta = -.577$, $p = .313$. However, it should be noted that the association was in the expected direction.

Finally, hypothesis 2(e) predicted that criminogenic cognitions would mediate the association between moral identity and general delinquency, this hypothesis was not supported $\beta = -.471$, $p = .255$.

Path analysis using only the SRM-SFO as the moral reasoning measure for sexually coercive behaviours. In line with the previous model investigating moral cognitions on sexually coercive behaviours, there was no significant association between moral reasoning and sexually coercive behaviours, $\beta = .003$, $p = .971$. There were no significant associations between sexually coercive behaviours and moral identity, $\beta = -.018$, $p = .844$, or sexually coercive behaviours and criminogenic cognitions, $\beta = .142$, $p = .175$. As expected, there was no significant direct effect of moral value evaluation on sexually coercive behaviours $\beta = -.003$, $p = .973$. Similar to the previous model, there was a significant negative indirect effect of moral value evaluation on sexually coercive behaviours through the proposed mediators (i.e., moral identity, moral reasoning, criminogenic cognitions), $\beta = -.281$, $p = .037$. There were no significant indirect effects of moral reasoning on sexually coercive behaviours through criminogenic cognition, $\beta = -.190$, $p = .199$. The final hypothesis in this set predicted that criminogenic cognitions would mediate the association between moral identity and sexually coercive behaviours. This hypothesis was supported as there was a significant negative indirect effect of moral identity on sexually coercive behaviour $\beta = -.056$, $p = .037$.

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Correlation analysis between the SRM-SF and the SRM-SFO on individual questions.

Given the surprising finding that the two moral reasoning measures were not significantly correlated, an additional correlation analysis comparing the individual moral reasoning questions on each measure was conducted. The analysis revealed that only four of the questions were significantly correlated with each other. More specifically, the questions asking how important it is to: keep a promise to a child ($r = .201, p = .030$), save a life of a friend ($r = .310, p = .001$), not steal ($r = .213, p = .023$) and for a judge to send people to jail ($r = .209, p = .028$) were significant. All other question pairings were non-significant and correlations ranged from $r = .004$ to $r = .101$.

Table 9.

Correlations between paired questions on the SRM-SF and the SRM-SFO.

Question	(<i>r</i>)	Sig.
How important is it for people to keep promises, if they can, to friends?	.004	.960
How important is it for people to keep promises, if they can, even to someone they hardly know?	.009	.928
How important is it for parents to keep promises, if they can, to their children?	.201	.030
How important is it for people to tell the truth?	.013	.895
How important is it for children to help their parents?	.022	.819
How important is it for a person (without losing his or her own life) to save the life of a friend?	.310	.001
How important is it for a person (without losing his or her own life) to save the life of a stranger?	.080	.400
How important is it for people not to take things that belong to other people?	.213	.023
How important is it for people to obey the law?	.101	.284

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How Important is it for judges to send people who break the law to jail?	.209	.028
How important is it that people are <i>not</i> allowed to force others into having sex?	.097	.304
How important is it that victims of sexual abuse receive help?	.097	.304
How important is it that rapists are being punished?	.031	.749
Imagine two people kissing. How important is it that someone stops kissing if the other person says no?	.026	.781

CHAPTER V DISCUSSION

The main goal of the present study was to replicate Barriga's et al. (2001) updated cognitive developmental model (Beerthuisen & Brugman, 2013) and extend their work by applying the model to sexually coercive behaviours. To investigate these associations, participants completed online questionnaires that measured their moral value evaluation, moral reasoning, moral identity, criminogenic cognitions and self-reported delinquent behaviours, including sexually coercive behaviours. Additionally, hostile attitudes towards men/women and desirable responding were measured and were used as control variables. The secondary goal of the current study was to gain insight into the concurrent validity of a relatively new recognition moral reasoning measure the SRM-SFO (Basinger et al., 2007) by comparing it to a well-established production moral reasoning measure the SRM-SF (Gibbs et al., 1992). Gender differences on the variables of interest will be discussed first. This will then be proceeded by a discussion of moral cognitions in association to general delinquency followed by a discussion of moral cognitions in association to sexually coercive behaviours. Finally, the investigation of the SRM-SFO in comparison to the SRM-FO will be reviewed.

Gender Differences in Moral Cognitions and Antisocial Behaviours

The current study's path model is based on the work of Barriga et al. (2001) and Beerthuisen and Brugman (2013). Within both of the respective studies, gender differences were investigated by running the separate path models for males and females. Barriga and colleagues found that female participants endorsed higher moral self-concepts (i.e., moral identity) and significantly less self-serving cognition distortions when compared to their male counterparts. However, in their path analyses, they found

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no difference in the association between moral cognitions and delinquent behaviours when comparing males and females. Using Barriga et al. (2001) model with the addition of moral value evaluation, Beerthuizen and Brugman (2013) found that overall males and females exhibit the same patterns between moral cognitions and self-reported delinquent behaviours. However, there was a notable exception. Moral identity was significantly related to self-reported delinquent behaviours in females but not males, with females endorsing lower levels of moral characteristics engaging in higher levels of deviant behaviours. One aim of the current research was to investigate gender differences in extensions of these earlier models.

Given the relatively low male participation rate (22%) as well as the smaller sample size (i.e., 123 participants in total) running separate path analyses based on gender was not statistically appropriate. Thus, in the current study data for males and females within the sample were analyzed together and gender differences were only explored in terms of simple group differences on the variables of interest. Broadly speaking, effect sizes indicated no meaningful differences between men and women on the variables of interest, with the exception of moral identity scores (which aligns with both Barriga and Beerthuizen's previous findings). Women endorse, on average, more morally relevant moral characteristics when compared to men. Not being able to fully explore gender differences is a limitation of the current study. However, the general finding in the extant literature that the pattern of associations between moral cognitions and delinquent behaviours are similar across gender, would suggest that the findings of the current study may not be heavily influenced by the use of a combined sample.

Correlations between Moral Cognitions and General Delinquency

Both Barriga et al. (2001) and Beerthuisen and Brugman (2013) studies found significant associations in the expected direction between moral reasoning, moral identity, self-serving cognitive distortions (i.e., an aspect of criminogenic cognitions) and general delinquency. Additionally, Beerthuisen et al. (2013) found a significant negative correlation between moral value evaluation and delinquent behaviour. In line with previous research, the current study found a significant positive association between criminogenic cognitions and self-reported delinquent activity (e.g., Barriga et al., 2001; Beerthuisen & Brugman, 2013; Tangney et al., 2012). Recall, that criminogenic cognitions include beliefs and attitudes that offenders use to minimize and rationalize their deviant behaviours (Tangney et al., 2012). As such, those who engaged in deviant behaviours were more likely to use self-serving cognitive distortions (a facet of criminogenic cognitions) to reduce feelings of guilt and responsibility, which in turn protected the individuals' core concept of themselves as "good" person (Barriga et al., 2000; Barriga et al., 2001). Additionally, individuals who engaged in deviant behaviours were more likely to have negative attitudes towards authority and demonstrate more short-term thinking.

To measure self-serving cognitive distortions, previous research (e.g., Barriga et al., 2001) relied on measures that depended heavily on behavioural context (i.e., the HIT questionnaire). Importantly, the current study utilized a criminogenic cognitions scale (i.e., the Criminogenic Cognitions Scale; Tangney et al., 2012), that used the endorsement of certain attitudes and beliefs, instead of relying on behavioural context. As such, one can be more confident that the association between criminogenic cognitions

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and delinquent behaviour is not due to measure contamination and is an important facet of an individual's moral cognition.

The current study also found a small negative correlation between moral reasoning and delinquent behaviours. This aligns with Barriga's et al. (2001) findings, in which the authors found a small negative correlation (i.e., $r = -.20$) between moral reasoning and delinquent behaviours. As such, it appears that as individuals reach higher stages of moral reasoning they become less likely to engage in delinquent behaviours. This finding supports the theoretical understanding of delayed moral development being a potential contributing factor to individuals engaging in antisocial behaviours (e.g., Kohlberg et al., 1975; Palmer, 2003).

In contrast to the findings of Barriga et al (2001) and Beerthuisen and Brugman (2013), the current study did not find meaningful associations between moral value evaluation, moral identity and general delinquency. However, there are several differences between the current study and those done by Barriga and Beerthuisen that may explain the discrepancies in findings. Perhaps the most obvious difference is the relatively small sample size of the current study when compared to that of Beerthuisen (i.e., 542 participants) and Barriga (i.e., 193 participants). Beerthuisen justified such a large sample as it allowed "even relatively weak relationships to emerge" (p.317). Thus, it is probable that the current study did not have enough power to allow these weaker associations to become apparent.

Additionally, the age range of the current sample (i.e., 18- to 43-years-old, $M = 22.37$ -years-old) was older and larger than the sample in both Barriga's et al. (2001; i.e., 16- to 19-years-old, $M = 18.23$ -years-old) and Beerthuisen and Brugman's (2013; i.e.,

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11- to 18-years-old, $M = 14.3$ -years-old) studies. This is an important difference, as Barriga originally proposed his model as a developmental model. That is, as individuals mature so does their moral reasoning and the importance they place on moral characteristics being part of their self-concepts. This conceptualization aligns with Kohlberg's and later Gibbs' conceptualization of moral stages (Gibbs et al., 2007; Kohlberg, 1981). Specifically, children, young adolescents, and those involved in frequent criminal activity demonstrate immature moral reasoning, whereas, older adolescents and adults would reach mature moral reasoning. Barriga and then Beerthuisen proposed that similar to moral reasoning, moral identity, and later moral value evaluation (Beerthuisen et al., 2013 addition to the model) would also mature with development and these moral cognitions would protect against self-serving cognitive distortions. Therefore, the current sample may have been too mature to capture the differences in moral development.

Even though Beerthuisen and Brugman (2013) proposed that the maturation would protect against self-serving cognitive distortions, criminogenic cognitions appeared to be a more stable feature of an individual than other moral cognitions. As such, criminogenic cognitions may not be influenced by developmental maturation in the same way as other moral cognitions. There are several reasons as to why criminogenic cognitions may not necessarily decrease as an individual matures. As noted above, an aspect of criminogenic cognitions are beliefs and attitudes. Unsurprisingly, attitudes and beliefs are not easily changed and an entire field of research has emerged investigating and building theories on how to effectively persuade people to change their current attitudes (Petty & Brinol, 2010).

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Additionally, research has demonstrated that negative interactions with authority figures have been linked to adverse attitudes towards authority (Hurts & Frank, 2000) and that negative attitudes towards one authority type (e.g., teachers) is predictive of negative attitudes towards other authority figures (e.g., police; Nihart, Lersch & Mieczkowski, 2005). As such, an individual who committed deviant behaviours as an adolescent may have had negative interactions with parents, teachers or law enforcement. These individual then continue to interact with authority figures in such a way that perpetuate these negative interactions (e.g., self-fulfilling prophecy; Jussim, 1986). Although the individual may no longer come into contact with law enforcement, they continue to interact with authority in an adverse way that not only confirms their attitude towards authority but translates to all authority types, not just the one in which they have experienced negatively.

Another important aspect to consider is when participants engaged in their delinquent behaviour. Specifically, at what point in the participants' lifetime did they engage in the anti-social behaviour they are reporting on the Delinquent Activities Scale (DAS). The current study's DAS questionnaire asked whether participants have *ever* engaged in certain delinquent activities. It is possible that participants were reporting activities that they engaged in several years ago. This assumption is in line with the "age-crime curve", which states that crime increases in adolescence (with a peak around 15-years-old) and decreases in adulthood (Shulman, Steinberg, & Piquero, 2013). As such, a participant who is 20-years-old (the median age in the current study) may be reporting delinquent behaviours from 5 years ago. Yet, the moral value evaluation, moral reasoning, and moral identity measures were not retrospective but measured the

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participants' *current* moral cognitions. Thus, participants may have reported antisocial activities from a time in their life when they had less mature moral cognitions. As such, it is possible that even the youngest participants were reporting activities that happened at a time when they had immature moral cognitions that are no longer reflective of their current morals.

Even though both Barriga et al. (2001) and Beerthuisen and Brugman (2013) used a delinquency scale that asked whether participants had ever engaged in a certain delinquent activity (similar to the DAS questionnaire used in the current study), given the age of the participants within their studies, participants would have had less time lapse between delinquent activity and when they were retrospectively reporting these activities. More specifically, in Beerthuisen and Brugman (2013) the average age of a participant was 14-years-old. This is around the general time in which criminal behaviour reaches its peak. Thus, it is not unreasonable to assume that the activities reported in this study would be relatively recent and still reflective of the participants' current moral cognitions. As such, future research investigating moral cognitions in an adult population should specify the recency of the delinquent behaviours. This will help to ensure that the moral cognitions being measured are reflective of the moral maturity the individual had at the time they committed the antisocial act.

Direct and Indirect Effects Between Moral Cognitions and General Delinquency

The current study investigated the association between moral cognitions and general delinquency by using a modified path analyses based on the models described by Barriga et al. (2001) and Beerthuisen and Brugman (2013). More specifically, moral value evaluation, moral reasoning, moral identity and criminogenic cognitions were

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investigated in terms of their association to each other as well as their association to the outcome variable of delinquent behaviour. Unique to the current study, social desirability responding was used as a control within the model. Overall, the fit of the model to the data was poor. However, in both Barriga's and Beerthuisen's models, all possible parameters were included. As such, model fit was not evaluated in either study, as it was not statistically appropriate. Thus, it is unclear as to whether the current model's fit is meaningfully different from previous research.

Both Barriga et al. (2001) and Beerthuisen and Brugman (2013) found a marginally significant negative association between moral reasoning and delinquent behaviours. More specifically, immature moral reasoning was related to higher reports of delinquent activity. However, in the current study, the opposite association was found, with more mature moral reasoning being significantly related to higher rates of delinquent behaviours. As discussed above, this may be due to the time lapse between when these delinquent activities occurred and when the individual's moral reasoning was measured. For example, a participant who is 20-years-old and has reached a mature stage of moral reasoning may have reported delinquent activity they engaged in during a period in their life when they were at an immature moral stage. As such, the association between moral reasoning and delinquent behaviour would be positive, but not so if measured for a contemporaneous period.

Another possible explanation for this positive association was originally proposed by Palmer (2003). He stated that delinquent behaviour can be justified at all developmental levels of moral reasoning. For example, an individual whose has achieved a stage 3 moral reasoning level may justify delinquent behaviour by reasoning that it

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helped to maintain important relationships (Palmer, 2003). However, it would require substantial mental gymnastics to justify all delinquent behaviour as either maintaining relationships (stage 3), maintaining society (stage 4), or maintaining/furthering social justice (stage 5). Thus, this is not a likely explanation as to why individuals with higher moral reasoning were found to engage in higher levels of delinquent activity.

It should also be noted that one of the current moral reasoning measures, the SRM-SF, had lower inter-rater agreement than demonstrated in previous research (e.g., Barriga et al., 2001). Although two moral reasoning measures were used (i.e., the SRM-SF and the SRM-SFO) it is possible that the qualitative answers provided by the participants on the SRM-SF were not detailed enough and/or the coding of these responses was not sufficiently reliable to accurately reflect participants moral reasoning. The qualitative answers provided on the SRM-SF were significantly shorter and less detailed than those provided in the SRM-SF manual (Gibbs et al., 1992). The lack of detail in participants reasoning behind why certain moral issues were important (or were not important) made coding the answers challenging at times. As such, the moral reasoning stages produced by the SRM-SF should be interpreted with caution. Given the lower inter-rater agreement, additional analyses using only the SRM-SFO (which was used by Beerthuisen & Brugman, 2013) were run to examine whether the results of the path models would differ. However, results between the two path analyses (i.e., one path model run with both the SRM-SF and the SRM-SFO and one path analysis only run with the SRM-SFO) produced identical results. Thus, one can be more confident in the results of the original path analyses conducted.

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As expected, there was a significant and positive direct effect of criminogenic cognitions on delinquent activity. This finding aligns with both Barriga's et al. (2001) and Beerthuizen and Brugman's (2013) results, as well as others (e.g., Tangney et al., 2012; Tangney et al., 2007). It appears that individuals who engage in self-serving cognitive distortions and have anti-authority attitudes are more likely to engage in delinquent behaviours. As previously discussed, these distortions likely protect the individual's self-concept and neutralize feelings of self-blame and guilt, allowing the individual to engage in deviant behaviours. Additionally, the effect of negative attitudes towards authority on delinquent behaviours aligns with previous research that has found that anti-authority attitudes is predictive of delinquent behaviours in both men and women (Rigby et al., 1989; Tarry & Emler, 2007).

Beerthuizen and Brugman (2013) proposed that the importance individuals place on certain morals (i.e., moral value evaluation) would be activated before all other moral cognitions and would therefore act as an "influential elicitor" of other moral cognitions. Moral value evaluation is intuitive and reflects instinctual judgments that are later justified through moral reasoning. When an individual holds the belief that a certain moral value is important, that person is unlikely to engage in deviant behaviours that go against these personal values. This in turn protects the individual's self-concept (Beerthuizen and Brugman, 2013), and avoids feelings of guilt or shame (Gibbs et al., 2007). Thus, moral value evaluation acts almost as a gate, and dictates whether the current moral issue holds enough self-relevance or importance to "activate" other moral cognitions (i.e., moral reasoning, moral identity, and criminogenic cognition). The authors found support for the hypothesis, that moral value evaluation would be

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completely mediated through other moral cognitions. The current study replicated Beerthuizen's findings. That is, moral value evaluation had significant indirect effects on delinquent behaviours that were mediated through moral reasoning, moral identity, and criminogenic cognitions. Therefore, it appears that moral value evaluation is a promising component of moral cognitions and furthers our understanding how moral cognitions influence deviant behaviour.

Barriga et al. (2001) found that self-serving cognitive distortions partially mediated the association between moral reasoning and moral self-relevance (i.e., moral identity) on delinquent behaviours. The authors theorized that this is because mature moral judgment and high moral self-relevance discouraged the use of cognitive distortions. Further, the authors stated, "a profound understanding of the bases of moral values and a sense of commitment to moral virtues may deter one from distorting the facts of a social situation..." (p.554). However, the authors also acknowledged that individuals may still engage in self-serving cognitive distortions to rationalize deviant behaviours. This interpretation of this association makes intuitive sense; nonetheless, this mediation was not evident in the current study.

As discussed previously, the lack of findings may be due to the potential for reported deviant behaviours to be historical in nature and not reflective of actions the participant would engage in currently. As such, some moral cognitions (i.e., moral value evaluation, moral reasoning, moral identity) may go through a maturation process between the time of the deviant behaviour and reporting said behaviour. Whereas, criminogenic cognitions may not be as influenced by development. This would account for why there is a direct effect of criminogenic cognitions on deviant behaviour but that

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criminogenic cognitions do not mediate the association between moral reasoning and moral identity (which are now developmentally different from when the behaviour occurred).

Correlations between Moral Cognitions and Sexually Coercive Behaviours

Similar to those who engage in general delinquent behaviour, it is assumed that those who engage in sexually coercive behaviours exhibit more immature moral cognitions and endorse higher levels of criminogenic cognitions. The current study found an association between criminogenic cognitions and sexually coercive behaviours. That is, individuals who endorsed more criminogenic cognitions also self-reported engaging in more sexually coercive behaviours. This aligns with previous research, which has found that men who have been convicted of sexual offense hold attitudes that are supportive of sexually coercive behaviours (Beech, Fisher, & Ward, 2005; Polaschek & Gannon; 2004). It appears that engaging in this distorted thinking may allow individuals to minimize, justify, and deny the negative impact of their sexually coercive behaviours have on others (Polaschek & Ward, 2002). However, the current study did not find an association between moral reasoning and sexually coercive behaviours. This is in contrast to previous research which has shown that those who have been convicted of sexual offences demonstrated lower levels of moral reasoning (Ashkar & Kenny, 2007).

It should be noted that there were several methodological differences between the current study and previous studies that found an association between sexually coercive behaviours and moral reasoning. For example, Ashkar and Kenny (2007) found that males convicted of sexual offences demonstrated lower levels of moral reasoning in sexual offending dilemmas when compared to nonsexual offenders. Yet, their study used

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the Moral Judgment Interview, which is an in-person interview that presents participants with a series of moral dilemmas (Elm & Weber, 1994). Additionally, the participants were 16- to 19- year-old males who had been convicted of a sexual offense, whereas, the current study utilized an older sample that had not been convicted of a sexual offence. Within the current sample, less than 1% of the participants reported using physical harm to coerce a partner in sexual activity. The most frequently reported sexually coercive behaviours within the sample were persistent kissing/touching (10.6%) and repeatedly asking (9.8%). Although all sexually coercive behaviours should be condemned, on the continuum of sexually coercive behaviours, these actions might be considered less extreme than behaviours that involve physical restraint or aggression.

This is not to say that persistent kissing, touching, and asking are not harmful to the victim but that the perpetrator may be unaware that they are engaging in sexually coercive behaviours. Whereas, physical force and threats to coerce a partner into sexual activity are more obvious violations of a partner's right to determine whether or not to engage in sexual activity. Thus, if a perpetrator does not believe that they are engaging in an act that violates their partner's autonomy, their moral cognitions may not be activated in the same way as when they engage in activities that society has deemed unacceptable (e.g., violent sexual assault). Thus, the association between moral reasoning and sexually coercive behaviours found by Ashkar and Kenny (2007) for their sample of adolescent males may be due, in part, to their participants engaging in sexual violence that clearly goes against social norms, whereas, the participants in the current sample of predominantly female young adults did not report engaging in such activities.

Direct and Indirect Effects Between Moral Cognitions and Sexually Coercive Behaviours

Moral value evaluation, moral reasoning (specific to the moral domain of sex) moral identity and criminogenic cognitions (including adversarial heterosexual beliefs) were investigated in terms of their association to each other as well as their association to the outcome variable of sexually coercive behaviours. Social desirability responding and hostile attitudes towards men and women were used as controls within the model. Overall, the fit of the model to the data was poor- to- good, which was an improvement upon the general delinquency model. This gives support to the notion that having moral cognitions specific to the delinquent behaviour (e.g., moral reasoning stage and moral value evaluations related to sexual issues when examining sexually coercive behaviours).

Given that no statistically significant associations between sexually coercive behaviours and moral cognitions were found in the correlation analysis, it was not surprising that this was replicated in the path analysis. More specifically, moral reasoning, moral identity and criminogenic cognitions were found to have no significant direct effect on sexually coercive behaviours. As previously discussed, this may be due to the low percentage of sexually coercive behaviours endorsed by the current study's participants.

Interestingly and similar to the results of the general delinquency analyses, moral value evaluation was found to be completely mediated through moral identity, moral reasoning, and criminogenic cognitions. Thus, similar to the general delinquency model, it appears that moral value evaluation may act as an "influential elicitor" on moral cognitions related to sexually coercive behaviours. That is, an individual who deems

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moral issues related to sexual violence and respecting the autonomy of others as important will demonstrate more mature moral reasoning in sexual moral domains, endorse more moral characteristics as self-relevant, and engage in few criminogenic cognitions, which in turn leads to less engagement in sexually coercive behaviours. Given the replication of Beerthuisen's findings in both the general delinquency model as well as the sexually coercive behaviours model, moral value evaluation appears to be a very promising addition to models of moral cognitions and should be included in future research.

Recall that Barriga and Brugman (2001) found that criminogenic cognitions partially mediated the association between moral reasoning and moral identity on delinquent behaviours. This finding was partially replicated within the current study, with criminogenic cognitions mediating the association between moral identity on sexually coercive behaviours. This suggests that individuals who regard themselves as having higher moral characteristics were less likely to endorse criminogenic cognitions or, more specifically, attitudes that are supportive of sexually aggressive behaviours. However, the strength of this relation was relatively weak and individuals likely still engaged in criminogenic cognitions (although likely to a lesser extent) to "disengage" themselves from their sexually coercive behaviours.

Moral Reasoning Measures: Production vs. Recognition

Somewhat surprisingly, the current study found that the moral reasoning score on the SRM-SF and the moral reasoning score on the SRM-SFO were not significantly correlated with each other. Upon further inspection, only four of the moral reasoning questions were significantly correlated with each other (i.e., keeping a promise to a child,

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saving a life of a friend, not stealing, and for a judge to send people to jail). There are several possibilities as to why score on the SRM-SFO were not predictive of scores on the SRM-SF. First, it may be that the multiple-choice answers on the SRM-SFO are no longer reflective of the answers individuals would give today. Recall that the multiple-choice options provided in the SRM-SFO are based upon responses in Gibbs et al. (1992) work. Although Gibbs' work and the creation of the SRM-SF was instrumental in moving the field of moral reasoning forward, the 27-year-old responses may no longer be reflective of the modern thought processes.

Given that some of these answers may no longer be reflective of what an individual would choose, participants may just select the options that "sounds the best" or appears to be mature. Even though participants have the option to choose that none of the answers are reflective of what they think, a cursory look into the data demonstrates that this is not a typically chosen response. Thus, it may be advantageous for researchers to gather more current responses to the moral situations created by Gibbs et al. (1992). If participants see answers that are more reflective of their true responses, they may be more likely to choose this one choice, instead of selecting multiple reasons.

Secondly, the lack of association between the two measures may be due to the lack of detailed responses in the production portion of the SRM-SF. In comparison with the answers provided in the SRM-SF manual, qualitative answers provided by participants in the current study were shorter, less detailed and demonstrated less thought process than exemplars provided in the manual. Additionally, there was also only moderate agreement between raters, whereas, in Barriga's et. (2001) study inter-rater agreement was high (i.e., $r(20) = .81, p < .001$). This may be due to the current study

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being completed online, whereas, previous research has administered the SRM-SF in person. The difference of environment, (i.e., in a classroom setting or at home) may have impacted the level of detail provided. In a classroom-like environment, writing and putting forth effort in work is expected. At home the environment may be more leisurely and the participant may not put forth as much effort. Thus, it may be that the current studies participants did not put as much effort into their answers as participants in previous research.

Even though the answers within the current study were codable, individuals may have not given enough detail in their responses to demonstrate the “true” maturity of their moral reasoning. This in turn would artificially lower their moral reasoning level. In the SRM-SFO individuals are able to quickly select which answers are reflective of their own reasoning, requiring less effort from the participant. As such, it is possible that the SRM-SFO moral reasoning responses are more reflective of participant’s moral reasoning. This may also explain why the moral reasoning score in the SRM-SFO were higher (and within the mature stage range) than the SRM-SF moral reasoning scores (which fell just below the mature stage range). Thus, future research should consider systematically investigating the potential impact of administration setting/medium on SRM-SF scores. Given the detail of the responses needed, researchers could encourage participants to continue writing when short responses are provided. Additionally, the social pressure of seeing other participants write substantial answers may encourage others to continue to writing.

Although the current study was unable to confirm the validity of the SRM-SFO, the measure still demonstrated promise, as there were small to moderate correlations on

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five of the ten original items. Additionally, as discussed above, the moderate inter-rater agreement on the SRM-SF was substantially lower than previous research (e.g., Barriga et al., 2001), which suggests that the current answers provided on the SRM-SF by the current study may not be of the same high quality as in Barriga's study. Thus, the current results should be interpreted with some restraint. The utility of having a moral reasoning recognition measure is substantial; as the complexity of analyses required to adequately investigate moral cognitions increases (which requires large sample sizes) and research continues to move to an online format, the use of the SRM-SF may become less and less practical. Thus, continued work on the SRM-SFO would be extremely advantageous to the field of moral psychology.

Limitations and Future Directions

Though the current study expands our understanding of association between moral cognitions as well as their association with anti-social behaviours, there are some limitations of the current study that should be addressed. First, due to the correlational nature of the data, causation cannot be inferred. In order to claim causal effect, all other explanations of the association must be ruled out (Field, 2009). This of course, was not possible and it is quite plausible that the associations found in the current study were due to outside confounding variables. Even though there is strong theoretical reasoning to suspect a causal association between moral cognitions and antisocial behaviours, one must remember that correlation does not equal causation. Secondly, a larger sample of participants would have been advantageous. The path analyses used in the current study were underpowered and thus weaker associations between certain variables of interest may have gone undetected. Similarly, the smaller sample size may have affected the

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results of the partial and bivariate correlations. This may have played a role in the failure to replicate all of Barriga's and Beerthuisen's findings in their analyses. Additionally, a larger sample may have allowed for more instances of delinquent behaviours and self-reported sexually coercive behaviours. Therefore, it is suggested that future research have adequate power for the purpose.

Another limitation to note was the decision to use a retrospective delinquency measure that did not specify a time-frame in which the antisocial activity should have taken place. As previously discussed, it is possible that participants were reporting delinquent behaviour from several years ago. Given the potential time lapse between committing the delinquent act and the participant having their moral cognitions measured, it is possible that these cognitions went through some developmental maturation. This would mean that the present moral cognitions are no longer reflective of the moral cognitions used at the time the individual chose to engage in the delinquent behaviour. Thus, future research, particularly research using adult participants, should use a delinquency measure that specifies a time-frame in which the activities occur.

Another limitation of the current study was the moderate (Altman, 1990; Landis & Koch, 1977) inter-rater agreement on the SRM-SF. As previously discussed, the overall quality of the qualitative responses provided on the SRM-SF was poor, which may have accounted for the lower inter-rater agreement. This highlights the challenges of using a production measure to measure moral reasoning. It is highly dependent on the effort participants are willing to put forth in answering each question. Furthermore, even though both raters relied on the manual (Gibbs et al., 1992) to code participant responses, it is possible that more time was required than the two months that was dedicated to

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coding the SRM-SF in the current study. Thus, future research should be aware that this measure will be heavily time consuming. Within the current study, after an explanation of how to use the manual and a cross check of a small subset of coding of participants responses, both raters coded completely independently. The two raters of the current study did not discuss and come to a collective agreement on responses that the raters had a disagreement on. Thus, it may be beneficial for coders to spend more time collectively coding answers to produce higher inter-rater agreement.

Future research should also consider exploring the developmental trajectory of moral cognitions. Although it has been well researched that moral reasoning is influenced by development (e.g., Kohlberg, 1981). It is less clear as to whether other moral cognitions (i.e., moral value evaluation, moral identity, and criminogenic cognitions) are influenced by development to the same degree as moral reasoning (or if at all). If these cognitions are influenced by maturation, what would this influence look like? Would issues considered important and morally relevant in moral value evaluation change or remain static? As individuals age, would they identify more with moral characteristics? It would be possible to answer these questions (and others) through a longitudinal or cross-sectional design. This study would help further our understanding on the association between moral cognitions, behaviours, and the impact of maturation (and potentially life experience) on these cognitions.

Conclusion

The question of why individuals engage in deviant behaviours has been a topic of interest in psychology for many years (e.g., Gluek & Gluek, 1940). Researchers have examined moral value evaluation (e.g., Beerthuisen and Brugman, 2013), moral

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reasoning (e.g., Kohlberg, 1981), moral identity (e.g., Barriga et al., 2001), and criminogenic cognitions (e.g., Tangney et al., 2012) in an attempt to understand how they influence antisocial behaviours. Barriga et al. (2001) proposed a multi-process cognitive developmental model that predicted not only these moral cognitions in association to deviant behaviours but also in association to each other. As such, the primary goal of the current study was to replicate and extend Barriga's model. The current study examined moral value evaluation (an addition contributed by Beerthuisen and Brugman, 2013), moral reasoning by specific moral domain (e.g., moral domain of sex) and used updated measures (i.e., moral identity) that did not rely on behavioural context (i.e., criminogenic cognitions). The second goal of the current study was to gain insight into the validity of the new recognition measure, the SRM-SFO (Basinger et al., 2007) by comparing it to the SRM-SF (Gibbs et al., 1992).

Even though not all of Barriga's et al., (2001) or Beerthuisen and Brugman's (2013) findings were replicated, the current study contributed several important findings and implications. First, the implication of the importance of having a delinquency measure that uses relatively recent antisocial activities became apparent within this study. This is important, as the vast majority of moral reasoning research use similar measures to the one utilized within the current study. Secondly, the finding that criminogenic cognitions were not dependent on behavioural contexts (as they had been in previous research) had a direct effect on general delinquency. This means that the one can have more confidence that the association between criminogenic cognitions and antisocial behaviour is not due to measurement contamination. Additionally, moral value evaluation, moral reasoning, and moral identity were mediated through criminogenic

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cognitions for both general delinquency and sexually coercive behaviours. Finally, the current study provided strong support for the inclusion of moral value evaluation as an “elicitor” of moral cognitions, as it was completely mediated through moral reasoning, moral identity, and criminogenic cognitions for both the general delinquency model and the sexually coercive behaviours. Thus, the current study furthers our understanding of moral cognitions and their association to not only general delinquency but sexually coercive behaviours as well.

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REFERENCES/BIBLIOGRAPHY

- Altman, D. G. (1990). *Practical statistics for medical research*. New York, NY: Chapman & Hall.
- Aquino, K., & Reed, I. I. (2002). The self-importance of moral identity. *Journal of Personality and Social Psychology*, 83(6), 1423-1440.
- Arnold, M. L. (1993). *The place of morality in the adolescent self*. Unpublished doctoral dissertation, Harvard University, Cambridge, MA.
- Ashkar, P. J., & Kenny, D. T. (2007). Moral reasoning of adolescent male offenders: Comparison of sexual and nonsexual offenders. *Criminal Justice and Behavior*, 34(1), 108-118.
- Barriga, A. Q., Landau, J. R., Stinson, B. L., Liau, A. K., & Gibbs, J. C. (2000). Cognitive distortion and problem behaviors in adolescents. *Criminal Justice and Behavior*, 27(1), 36-56.
- Barriga, A., Morrison, E., Liau, A., & Gibbs, J. (2001). Moral cognition: Explaining the gender difference in antisocial behavior. *Merrill-Palmer Quarterly*, 47(4), 532-562.
- Beerthuizen, M. G., & Brugman, D. (2013). Moral Value Evaluation. In *Handbook of Moral Motivation*. Rotterdam, Netherlands: Sense Publishers.
- Beerthuizen, M. G., & Brugman, D. (2016). The relationship of moral value evaluation with externalizing behaviour across value areas in adolescents. *European Journal of Developmental Psychology*, 13(1), 84-98.
- Beerthuizen, M. G., Brugman, D., & Basinger, K. S. (2013). Oppositional defiance, moral reasoning and moral value evaluation as predictors of self-reported juvenile delinquency. *Journal of Moral Education*, 42(4), 460-474.

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

- Beech, A., Fisher, D., & Ward, T. (2005). Sexual murderers' implicit theories. *Journal of Interpersonal Violence, 20*(11), 1366-1389.
- Beerthuizen, M. G., & Brugman, D. (2012). The impact of morality on externalizing behavior (Moral value evaluation: A neglected motivational concept in externalizing behaviour research). *ZuidamUithof Drukkerijen, Utrecht*.
- Blasi, A. (1980). Bridging moral cognition and moral action: A critical review of the literature. *Psychological Bulletin, 88*(1), 1-45.
- Blasi, A. (1983). Moral cognition and moral action: A theoretical perspective. *Developmental Review, 3*(2), 178-210.
- Bouffard, L. A. (2010). Exploring the utility of entitlement in understanding sexual aggression. *Journal of Criminal Justice, 38*(5), 870-879.
- Brugman, D., & Aleva, E. (2004). Developmental delay or regression in moral reasoning by juvenile delinquents? *Journal of Moral Education, 33*, 321-338.
- Brugman, D., Podolskij, A. I., Heymans, P. G., Boom, J., Karabanova, O. & Idobaeva, O. (2003). Perception of moral atmosphere in school and norm-transgressive behavior in adolescents: An intervention study. *International Journal of Behavioral Development, 27*, 289-300.
- Brusten, C., Jan Stams, G., & Gibbs, J. C. (2007). Missing the mark. *British Journal of Developmental Psychology, 25*(2), 185-189.
- Buttell, F. P. (2002). Exploring levels of moral development among sex offenders participating in community-based treatment. *Journal of Offender Rehabilitation, 34*(4), 85-95.

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

Colby, A., Kohlberg, L., Speicher, B., Candee, D., Hewer, A., Gibbs, J., & Power, C.

(1987). *The measurement of moral judgement: Volume 2, Standard issue scoring manual* (Vol. 2). Cambridge University Press.

Chen, C. A., & Howitt, D. (2007). Different crime types and moral reasoning

development in young offenders compared with non-offender controls. *Psychology, Crime & Law*, 13(4), 405-416.

Comunian, A. L., & Gielen, U. P. (2000). Sociomoral reflection and prosocial and

antisocial behavior: Two Italian studies. *Psychological Reports*, 87(1), 161-175.

Cheng, C. (2014). The predictive effects of self-esteem, moral self, and moral reasoning

on delinquent behaviors of Hong Kong young people. *International Journal of Criminology and Sociology*, 3, 133-145.

Dodge, K. A. (1993). Social-cognitive mechanisms in the development of conduct

disorder and depression. *Annual Review of Psychology*, 44(1), 559-584.

Elm, D. R., & Weber, J. (1994). Measuring moral judgment: The moral judgment

interview of the defining issues test? *Journal of Business Ethics*, 13(5), 341-355.

Emler, N., & Reicher, S. (1995). Adolescence and delinquency: The collective

management of reputation. Oxford: Blackwell.

Emler, N., & Reicher, S. (2005). Delinquency: Cause or consequence of social exclusion?

In D. Abrams, J. Marques, & M. Hogg (Eds.), *The social psychology of inclusion and exclusion* (pp. 211–241). Philadelphia: Psychology Press.

Gannon, T. A., Hoare, J. A., Rose, M. R., & Parrett, N. (2012). A re-examination of

female child molesters' implicit theories: evidence of female specificity?. *Psychology, Crime & Law*, 18(2), 209-224.

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

- Gavaghan, M. P., Arnold, K. D., & Gibbs, J. C. (1983). Moral judgment in delinquents and nondelinquents: Recognition versus production measures. *The Journal of Psychology, 114*(2), 267-274.
- Gibbs, J. C., Basinger, K. S., & Fuller, D. (1992). Moral maturity: Measuring the development of sociomoral reasoning. Hilldale, NJ: Lawrence Erlbaum Associates.
- Gibbs, J.C. (1979). Kohlberg's moral stage theory: A Piagetian revision. *Human Development, 22*, 89-112.
- Gibbs, J. C., Basinger, K. S., Grime, R. L., & Snarey, J. R. (2007). Moral judgment development across cultures: Revisiting Kohlberg's universality claims. *Developmental Review, 27*(4), 443-500.
- Glueck, S., & Glueck, E. (1940). Juvenile delinquents grown up. Oxford, England: Commonwealth Fund.
- Glueck, S., & Glueck, E. (1950). Unraveling juvenile delinquency. *Juv. Ct. Judges J.*, 2, 32.
- Gregg, V., Gibbs, J. C., & Basinger, K. S. (1994). Patterns of developmental delay in moral judgment by male and female delinquents. *Merrill-Palmer Quarterly (1982)*, 538-553.
- Hardy, S. A., Bean, D. S., & Olsen, J. A. (2015). Moral identity and adolescent prosocial and antisocial behaviors: Interactions with moral disengagement and self-regulation. *Journal of Youth and Adolescence, 44*(8), 1542-1554.
- Hardy, S. A., & Carlo, G. (2011). Moral identity: What is it, how does it develop, and is it linked to moral action?. *Child Development Perspectives, 5*(3), 212-218.

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

- Jackson, D. L. (2003). Revisiting sample size and number of parameter estimates: Some support for the n:q hypothesis. *Structural Equation Modeling, 10*(1), 128-141.
- Jussim, L. (1986). Self-fulfilling prophecies: A theoretical and integrative review. *Psychological Review, 93*(4), 429-445.
- Kohlberg, L. (1981). *Essays on moral development: The philosophy of moral development* (Vol. 1). San Francisco, CA: Haper & Row.
- Kohlberg, L., Kauffman, K., Scharf, P., & Hickey, J. (1975). The just community approach to corrections: A theory. *Journal of Moral Education, 4*(3), 243-260.
- Kohlberg, L., & Higgins, A. (1984). Continuities and discontinuities in childhood and adult development revisited—again. In L. Kohlberg (Ed.), *The psychology of moral development: The nature and validity of moral stages* (Vol. 2, pp. 426–497). San Francisco, CA: Jossey-Bass.
- Landis, J.R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*(1), 159-174.
- Langton, C. M., Barbaree, H. E., Harkins, L., Arenovich, T., McNamee, J., Peacock, E. J., ... & Marcon, H. (2008). Denial and minimization among sexual offenders: Posttreatment presentation and association with sexual recidivism. *Criminal Justice and Behavior, 35*(1), 69-98.
- Liau, A. K., Barriga, A. Q., & Gibbs, J. C. (1998). Relations between self-serving cognitive distortions and overt vs. covert antisocial behavior in adolescents. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression, 24*(5), 335-346.

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

- Lonsway, K. A., & Fitzgerald, L. F. (1995). Attitudinal antecedents of rape myth acceptance: A theoretical and empirical reexamination. *Journal of Personality and Social Psychology, 68*(4), 704.
- Milner, R. J., & Webster, S. D. (2005). Identifying schemas in child molesters, rapists, and violent offenders. *Sexual Abuse: A Journal of Research and Treatment, 17*(4), 425-439.
- Nelson, J. R., Smith, D. J., & Dodd, J. (1990). The moral reasoning of juvenile delinquents: A meta-analysis. *Journal of Abnormal Child Psychology, 18*(3), 231-239.
- Palmer, E. J. (2003). An overview of the relationship between moral reasoning and offending. *Australian Psychologist, 38*(3), 165-174.
- Palmer, E. J., & Hollin, C. R. (1998). A comparison of patterns of moral development in young offenders and non-offenders. *Legal and Criminological Psychology, 3*(2), 225-235.
- Paulhus, D. L. (1988). Balanced inventory of desirable responding (BIDR). *Acceptance and Commitment Therapy. Measures Package, 41*.
- Petty, R. E., & Brinol, P. (2010). Attitude Change In R. F. Baumeister & E. J. Finkel (Eds.), *Advanced social psychology: The state of the science* (pp. 217-259). New York, NY: Oxford University Press.
- Polaschek, D. L., & Ward, T. (2002). The implicit theories of potential rapists: What our questionnaires tell us. *Aggression and Violent Behavior, 7*(4), 385-406.
- Polaschek, D. L., & Gannon, T. A. (2004). The implicit theories of rapists: What convicted offenders tell us. *Sexual Abuse, 16*(4), 299-314.

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

- Reavy, R., Stein, L. A. R., Quina, K., & Paiva, A. L. (2014). Assessing conduct disorder: A new measurement approach. *Journal of Correctional Health Care*, 20(1), 4-17.
- Reed, I. I., & Aquino, K. F. (2003). Moral identity and the expanding circle of moral regard toward out-groups. *Journal of Personality and Social Psychology*, 84(6), 1270.
- Rigby, K., Mak, A. S., & Slee, P. T. (1989). Impulsiveness, orientation to institutional authority, and gender as factors in self-reported delinquency among Australian adolescents. *Personality and Individual Differences*, 10(6), 689-692.
- Schatzel-Murphy, E. A., Harris, D. A., Knight, R. A., & Milburn, M. A. (2009). Sexual coercion in men and women: Similar behaviors, different predictors. *Archives of Sexual Behavior*, 38(6), 974-986.
- Shulman, E. P., Steinberg, L. D., & Piquero, A. R. (2013). The age-crime curve in adolescence and early adulthood is not due to age difference in economic status. *Journal of Youth and Adolescence*, 42(6), 848-860.
- Smetana, J. (1990). Morality and conduct disorders. In M. Lewis & S. M. Miller (Eds.), *Handbook of developmental psychopathology* (pp. 157–179). New York, NY: Plenum.
- Spenser, K. A., Betts, L. R., & Das Gupta, M. (2015). Deficits in Theory of Mind, empathic understanding and moral reasoning: a comparison between young offenders and non-offenders. *Psychology, Crime & Law*, 21(7), 632-647.
- Snarey, J. R. (1985). Cross-cultural universality of social-moral development: a critical review of Kohlbergian research. *Psychological Bulletin*, 97(2), 202.

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

- Stams, G. J., Brugman, D., Deković, M., Van Rosmalen, L., Van Der Laan, P., & Gibbs, J. C. (2006). The moral judgment of juvenile delinquents: A meta-analysis. *Journal of Abnormal Child Psychology*, 34(5), 692-708.
- Statistics Canada (2014). Criminal victimization in Canada. *Statistics Canada Catalogue no.85-002x*. Ottawa. Version updated November 2015. /pub/85-002x/2015001/article/14241-eng.htm.
- Statistics Canada (2015). Rates of Criminal Code and other federal statute violation by sex and age of accused, 2015. *Statistics Canada. no.89-503-X*. Version undated June 2017. /pub/89-503-x/2015001/article/14785/tbl/tbl08-eng.htm.
- Statistics Canada (2015) Number and percentage of females and males accused, by type of crime, 2015. *Statistics Canada. no.89-503-x*. Version updated June 2017. /pub/89-503-x/2015001/article/14785/tbl/tbl07-eng.htm.
- Statistics Canada. (2017). Police-reported crime statistics, 2017. Retrieved from <https://www150.statcan.gc.ca>.
- Struckman-Johnson, C., Struckman-Johnson, D., & Anderson, P. B. (2003). Tactics of sexual coercion: When men and women won't take no for an answer. *Journal of Sex Research*, 40(1), 76-86.
- Tangney, J. P., Stuewig, J., Furukawa, E., Kopelovich, S., Meyer, P. J., & Cosby, B. (2012). Reliability, validity, and predictive utility of the 25-item Criminogenic Cognitions Scale (CCS). *Criminal Justice and Behavior*, 39(10), 1340-1360.
- Tangney, J. P., Mashek, D., & Stuewig, J. (2007). Working at the social-clinical community-criminology interface: The George Mason University Inmate Study. *Journal of Social and Clinical Psychology*, 26, 1-21.

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

Tarry, H., & Emler, N. (2007). Attitudes, values and moral reasoning as predictors of delinquency. *British Journal of Developmental Psychology*, 25(2), 169-183.

Van Vugt, E., Asscher, J., Stams, G. J., Hendriks, J., Bijleveld, C., & van der Laan, P. (2011). Moral judgment of young sex offenders with and without intellectual disabilities. *Research in Developmental Disabilities*, 32(6), 2841-2846.

Van Vugt, E., Jan Stams, G., Dekovic, M., Brugman, D., Rutten, E., & Hendriks, J. (2008). Moral development of solo juvenile sex offenders. *Journal of Sexual Aggression*, 14(2), 99-109.

Yates, P. M. (2008). Treatment of adult sexual offenders: A therapeutic cognitive-behavioural model of intervention. *Journal of Child Sexual Abuse*, 12(3-4), 195-232.

Yates, P. M. (2013). Treatment of sexual offenders: Research, best practices, and emerging models. *International Journal of Behavioural Consultation and Therapy* 8(3-4), 89-95.

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APPENDIX A

Delinquent Activities Scale (Revised)

Have you done any of the following activities?

		Have you done this activity?		If Yes, Please Select Frequency		
		No	Yes	0-1	2-4	5 or more
1	Stolen (or tried to steal) a motor vehicle, such as a car or motorcycle.	No	Yes	0-1	2-4	5 or more
2	Stolen (or tried to steal) something worth more than \$50.	No	Yes	0-1	2-4	5 or more
3	Knowingly bought, stole, or held stolen goods (or tried to do any of these things).	No	Yes	0-1	2-4	5 or more
4	Carried a hidden weapon other than a plain pocketknife.	No	Yes	0-1	2-4	5 or more
5	Stolen (or tried to steal) something worth \$50 or less.	No	Yes	0-1	2-4	5 or more
6	Attacked someone with the idea of seriously hurting or killing him/her.	No	Yes	0-1	2-4	5 or more
7	Been paid for having sexual relations with someone.	No	Yes	0-1	2-4	5 or more
8	Been involved in gang fights.	No	Yes	0-1	2-4	5 or more
9	Sold marijuana or hashish (pot, grass, hash).	No	Yes	0-1	2-4	5 or more
10	Hit (or threatened to hit) an adult.	No	Yes	0-1	2-4	5 or more
11	Hit (or threatened to hit) other peers.	No	Yes	0-1	2-4	5 or more
12	Been loud, rowdy or unruly in a public place (disorderly conduct).	No	Yes	0-1	2-4	5 or more
13	Sold cocaine or crack.	No	Yes	0-1	2-4	5 or more
14	Sold hard drugs such as heroin or LSD.	No	Yes	0-1	2-4	5 or more
15	Taken a vehicle for a ride (drive) without the owner's permission.	No	Yes	0-1	2-4	5 or more

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16	Had (or tried to have) sexual relations with someone against their will.	No	Yes	0-1	2-4	5 or more
17	Used force (strong-arm methods) to get money or things from other peers.	No	Yes	0-1	2-4	5 or more
18	Used force (strong-arm methods) to get money or things from an adult.	No	Yes	0-1	2-4	5 or more
19	Broke into a building or vehicle (or tried to break in) to steal something or just look around.	No	Yes	0-1	2-4	5 or more
20	Begged for money or things from strangers.	No	Yes	0-1	2-4	5 or more
21	Was arrested.	No	Yes	0-1	2-4	5 or more
22	Bullied, threatened or intimidated others.	No	Yes	0-1	2-4	5 or more
23	Initiated physical fights.	No	Yes	0-1	2-4	5 or more
24	Used a weapon (bat, brick, broken bottle, knife, gun).	No	Yes	0-1	2-4	5 or more
25	Been physically cruel to animals.	No	Yes	0-1	2-4	5 or more
26	Been physically cruel to people.	No	Yes	0-1	2-4	5 or more
27	Set fires with the intention of causing serious damage.	No	Yes	0-1	2-4	5 or more
28	Destroyed others' property on purpose (not by fire setting).	No	Yes	0-1	2-4	5 or more
29	Lied to obtain goods or favors or to avoid obligations (cons others).	No	Yes	0-1	2-4	5 or more
30	Stayed out at night despite house rules not to.	No	Yes	0-1	2-4	5 or more
31	Ran away from home overnight.	No	Yes	0-1	2-4	5 or more
32	Skipped school.	No	Yes	0-1	2-4	5 or more
33	Could not pay bills (loans, child support, etc.).	No	Yes	0-1	2-4	5 or more
34	Done something (left school, a job, etc.) before thinking of what might happen if you did it (had no other plans).	No	Yes	0-1	2-4	5 or more
35	Got in trouble at work, was late for work, or missed work.	No	Yes	0-1	2-4	5 or more

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36	Engaging in activities that could be dangerous to yourself or others (speeding, etc.).	No	Yes	0-1	2-4	5 or more
37.	Made threatening or harassing phone calls	No	Yes	0-1	2-4	5 or more
38.	Refused to provide an animal with needed food, water, or shelter	No	Yes	0-1	2-4	5 or more
39.	Threatened, scared, intimidated, or bullied an animal	No	Yes	0-1	2-4	5 or more
40.	Entered an animal into a fight with another animal	No	Yes	0-1	2-4	5 or more

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APPENDIX B

Postrefusal Sexual Persistence Scale

The purpose of this questionnaire is to look at the different tactics people use on other individuals to have sexual contact with them, when those individuals have already said no to their advances.

When answering the question to each item, please indicate either “yes” or “no”.

Since the age of 14 have you ever used any of the tactics on the list below to have sexual contact with a male/female after they have indicated ‘no’ to your sexual advances?

Tactics	Perpetrated the Tactic	
Sexual Arousal		
Persistent kissing and touching	Yes	No
Perpetrator taking off own clothes	Yes	No
Perpetrator taking off target’s clothes	Yes	No
Emotional Manipulation and Deception		
Repeatedly asking	Yes	No
Telling lies	Yes	No
Using authority of older age	Yes	No
Questionings target’s sexuality	Yes	No
Threatening to break up	Yes	No
Using authority of position	Yes	No
Threatening self-harm	Yes	No
Threatening blackmail	Yes	No

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Exploitation of the intoxicated

Taking advantage of the intoxicated	Yes	No
Purposely getting a target drunk	Yes	No

Physical force, threats, harm

Blocking target's retreat	Yes	No
Using physical restraint	Yes	No
Using physical harm	Yes	No
Threatening physical behaviour	Yes	No
Tying up the target	Yes	No
Threatening with a weapon	Yes	No

APPENDIX C

Social Reflection Questionnaire

Instructions

In this questionnaire, we want to find out about the things you think are important for people to do, and especially why you think these things (like keeping a promise) are important. Please try to help us understand your thinking by **WRITING AS MUCH AS YOU CAN TO EXPLAIN- EVEN IF YOU HAVE TO WRITE OUT YOUR EXPLANATIONS MORE THAN ONCE**. Don't just write "same as before." If you can explain better or use different words to show what you mean, that helps us even more. Please answer all the questions, especially the "why" questions.

1. Think about when you've made a promise to a friend of yours. How important is it for people to keep promises, if they can, to friends?

Not important		Important			Very Important	
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

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2. What about keeping a promise to anyone? How Important is it for people to keep promises, if they can, even to someone they hardly know?

Not important			Important			Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

3. How about keeping a promise to a child? How important is it for parents to keep promises, if they can, to their children?

Not important			Important			Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

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4. In general, how important is it for people to tell the truth?

Not important		Important				Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

5. Think about when you've helped your mother or father. How important is it for children to help their parents?

Not important		Important				Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

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6. Let's say a friend of yours needs help and may even die, and you're the only person who can save him or her. How important is it for a person (without losing his or her own life) to save the life of a friend?

Not important			Important			Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

7. What about saving the life of anyone? How important is it for a person (without losing his or her own life) to save the life of a stranger?

Not important			Important			Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

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8. How important is it for a person to live even if that person don't want to?

Not important		Important				Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

9. How important is it for people not to take things that belong to other people?

Not important		Important				Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

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10. How important is it for people to obey the law?

Not important			Important			Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

11. How Important is it for judges to send people who break the law to jail?

Not important			Important			Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

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12. How important is it that people are *not* allowed to force others into having sex?

Not important		Important			Very Important	
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

13. How important is it that victims of sexual abuse receive help?

Not important		Important			Very Important	
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

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14. How important is it that rapists are being punished?

Not important			Important			Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

15. Imagine two people kissing. How important is it that someone stops kissing if the other person says no?

Not important			Important			Very Important
1	2	3	4	5	6	7

Why is that very important/Important/Not Important (whichever one you circled)?

APPENDIX D

Sociomoral Reflection Measure-Short Form Objective

Instructions

In this questionnaire, we want to find out about the things that you think are important for people to do and especially why you think these things (like keeping a promise) are important. Please try to help us understand your thinking by choosing the answers that best match how you think. Also, please answer each question

Example

I.

How important is it to eat healthy, do you think?	Not important			Important			Very Important
	1	2	3	4	5	6	7

II. If you had to give a reason WHY it is IMPORTANT to eat healthy, what reason would you give? For each statement below, select is close or not close to your thinking. If the reason is too hard to understand, then just cross 'not sure.'

	Is this close to a reason you would give?
A) Because else you would become ill.	i. Yes ii. No iii. Not sure
B) Because your parents would like you to eat healthy.	i. Yes ii. No iii. Not sure
C) Because you will get old.	i. Yes ii. No iii. Not sure
D) Because eating healthy help to live in a healthy milieu	i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

1. Think about when you've made a promise to a friend

I.

How important is it for people to keep promises, if they can, to a friend?	Not important	Important	Very Important
	1	2 3	4 5 6 7

II. If you had to give a reason WHY it is IMPORTANT to keep a promise to a friend if you can, what reason would you give?

	Is this close to a reason you would give?
A) Because your friend may have done things for you, and you need friends	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
B) Because friendships as well as society must be based on trust	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
C) Because otherwise that person won't be your friend again	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
D) Because otherwise you would lose trust in each other	<ul style="list-style-type: none"> i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

2. What about keeping a promise to a person you hardly know?

I.

How important is it for people to keep promises if they can, even to someone they hardly know?	Not important	Important	Very Important
	1	2 3	4 5 6 7

II. If you has to give a reason WHY it is IMPORTANT to keep a promise to a person you hardly know, what reason would you give?

	Is this close to a reason you would give?
A) Because otherwise the person will find out and beat you up or do something bad to you.	i. Yes ii. No iii. Not sure
B) Because then you can feel good about yourself and keep from giving the impression that you are a selfish person	i. Yes ii. No iii. Not sure
C) Because it is important for the sake of your own integrity as well as the respect of others	i. Yes ii. No iii. Not sure
D) Because you might just run into that person again some tie	i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

3. How about keeping a promise to a child?

I.

How important is it for people to keep promises if they can, to their children?	Not important	Important	Very Important
	1	2 3	4 5 6 7

II. If you has to give a reason WHY it is IMPORTANT for parents to keep promises to their children, what reason would you give?

Is this close to a reason you would give?

- | | |
|---|-----------------------------------|
| A) Because parents want their children to keep promises, so parents should keep promises too. | i. Yes
ii. No
iii. Not sure |
| B) Because parents should never break promises | i. Yes
ii. No
iii. Not sure |
| C) Because children must understand the importance of reliability or consistency | i. Yes
ii. No
iii. Not sure |
| D) Because otherwise the children would lose faith in their parents | i. Yes
ii. No
iii. Not Sure |

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

4. What do you think about telling the truth?

I.

In general, how important it for people is to tell the truth?	Not important	Important	Very Important
	1	2	3
		4	5
			6
			7

II. If you has to give a reason WHY it is IMPORTANT for people to tell the truth what reason would you give?

	Is this close to a reason you would give?
A) Because people should always tell the truth	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
B) Because honestly is the best policy	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
C) Because lies catch up to you sooner or later	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
D) Because honesty is a standard that everyone can accept	<ul style="list-style-type: none"> i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

5. Think about when you've helped your mother or father.

I.

How important is it for children to help their parents?	Not important		Important		Very Important
	1	2	3	4	5 6 7

II. If you has to give a reason WHY it is IMPORTANT for children to help their parents; what reason would you give?

	Is this close to a reason you would give?
A) Because parents help their children, so children should help their parents	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
B) Because it's nice for children to help their parents	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
C) Because that is what a family is all about	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
D) Because parents sacrifice so much for their children	<ul style="list-style-type: none"> i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

6. What is a friend needs help and may even die, and you're the only person who can save him or her?

I.

How important is it for a person (without losing his or her own life) to save the life of a friend?	Not important	Important	Very Important
	1	2 3	4 5 6 7

II. If you had to give a reason WHY it is IMPORTANT for a person to save the life of a friend; what reason would you give?

	Is this close to a reason you would give?
A) Because it's your friend, who might be an important person	i. Yes ii. No iii. Not sure
B) Because you would feel close to your friend, and would expect that your friend would help you	i. Yes ii. No iii. Not sure
C) Because the friend may have done things for you, so you should do a favor for the friend, if you want your friend to help you in the future	i. Yes ii. No iii. Not sure
D) Because a friendship must be based on mutual respect and cooperation	i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

7. What about saving the life of a stranger?

I.

How important is it for a person (without losing his/her own life) to save the life of a stranger?	Not important	Important	Very Important
	1	2	3
		4	5
			6
			7

II. If you had to give a reason WHY it is IMPORTANT for a person to save the life of a stranger; what reason would you give?

	Is this close to a reason you would give?
A) Because the stranger is a person who wants to live	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
B) Because you should always be nice	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
C) Because people must help each other	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
D) Because life is precious and it is inhuman to let anyone suffer	<ul style="list-style-type: none"> i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

8. People are not allowed to take away things that belong to others

I.

How important is it for people not to take things that belong to other people?	Not important	Important	Very Important
	1	2 3	4 5 6 7

II. If you had to give a reason WHY it is IMPORTANT for people not to take things that belong to other people; what reason would you give?

	Is this close to a reason you would give?
A) Because stealing gets you nowhere, and you are taking too much of a risk	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
B) Because it is selfish and heartless to steal from others	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
C) Because living in society means accepting obligations and not only benefits	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
D) Because stealing is bad, and you will go to jail if you steal	<ul style="list-style-type: none"> i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

9. People have to obey the law.

I.

How important is it for people to obey the law?	Not important	Important	Very Important
	1	2	3
		4	5
			6
			7

II. If you had to give a reason WHY it is IMPORTANT for people to obey the law; what reason would you give?

	Is this close to a reason you would give?
A) Because the law is there to follow, and people should always obey it	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
B) Because otherwise everyone will be stealing from everyone else and nothing will be left	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
C) Because otherwise the world would go crazy, and there would be chaos	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
D) Because laws make society possible, and otherwise the system would break down	<ul style="list-style-type: none"> i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

10. What should a judge do with someone who breaks the law?

I.

How important is it for judges to send people who break the law to jail?	Not important	Important	Very Important
	1	2	3
		4	5
			6
			7

II. If you had to give a reason WHY it is IMPORTANT for judges to send people who break the law to jail, what reason would you give?

	Is this close to a reason you would give?
A) Because if they take the risk and get caught, then they go to jail	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
B) Because they must have known that what they did was wrong	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
C) Because otherwise the world would go because they must be prepared to be held accountable for their actions	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
D) Because they did something wrong and judges should never let them go free	<ul style="list-style-type: none"> i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

11. People are not allowed to force others into having sex.

I.

How important is it that people are <i>not</i> allowed to force others into having sex?	Not important	Important	Very Important
	1	2	3
		4	5
			6
			7

II. If you had to give a reason WHY it is IMPORTANT (at least sometimes) that people are *not* allowed to force others into having sex, what reason would you give?

	Is this close to a reason you would give?
A) Because in a society you have to respect other people's rights, including whether or not to have intimate relations with someone	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
B) Because forcing people to have sex may cause more problems than pleasure	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
C) Because otherwise the other person will turn you in and you will go to jail	<ul style="list-style-type: none"> i. Yes ii. No iii. Not sure
D) Because it is hard to imagine a more selfish or indecent person than a rapist	<ul style="list-style-type: none"> i. Yes ii. No iii. Not Sure

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

12. Should victims of sexual abuse receive help?

I.

How important is it that victims of sexual abuse receive help?	Not important			Important			Very Important
	1	2	3	4	5	6	7

II. If you had to give a reason WHY it is important that victims of sexual abuse receive help, what reason would you give?

Is this close to a reason you would give?

- | | |
|--|-----------------------------------|
| A) Because the victim is a person who needs help | i. Yes
ii. No
iii. Not sure |
| B) Because helping them in the nice thing to do | i. Yes
ii. No
iii. Not sure |
| C) Because people must help one another | i. Yes
ii. No
iii. Not sure |
| D) Because the person is valuable and it is inhuman to let anyone suffer | i. Yes
ii. No
iii. Not Sure |

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

13. People who commit a rape should be punished.

I.

How important is it that rapists are being punished?	Not important				Important			Very Important
	1	2	3	4	5	6	7	

II. If you had to give a reason WHY it is important that rapists are being punished, what reason would you give?

Is this close to a reason you would give?

- | | |
|--|-----------------------------------|
| A) Because if they do the crime they should do the time | i. Yes
ii. No
iii. Not sure |
| B) Because they should know that what they did was wrong | i. Yes
ii. No
iii. Not sure |
| C) Because otherwise other people would think that they can commit rape and there would be chaos | i. Yes
ii. No
iii. Not sure |
| D) Because punishment is a deterrent and keeps other people safe from being victims, without punishment the system would break down. | i. Yes
ii. No
iii. Not Sure |

III. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

14. Imagine two people are kissing.

How important is it that someone stops kissing if the other person says no?

	Not important				Important				Very Important
--	------------------	--	--	--	-----------	--	--	--	-------------------

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

I. If you had to give a reason WHY it is important that someone stops kissing if the other person says no, what reason would you give?

Is this close to a reason you would give?

- | | | |
|--|------|----------|
| A) Because forcing someone to kiss you will cause more issues than it is worth | i. | Yes |
| | ii. | No |
| | iii. | Not sure |
| B) Because it is hard to picture a more indecent person than someone who makes others kiss them | i. | Yes |
| | ii. | No |
| | iii. | Not sure |
| C) Because in society you have to respect another's autonomy, including whether or not to kiss you | i. | Yes |
| | ii. | No |
| | iii. | Not sure |
| D) Because they may tell other people that you forced them to kiss you | i. | Yes |
| | ii. | No |
| | iii. | Not Sure |

II. Of the reasons given, which one is the **closest** to the reason you would give?

- i. A
- ii. B
- iii. C
- iv. D

APPENDIX E

The Self-Importance of Moral Identity Measure

Listed below are some characteristics that might describe a person

Caring, Compassionate, Fair, Friendly, Generous, Helpful, Hardworking, Honest and Kind

The person with these characteristics could be you or it could be someone else. For a moment, visualize in your mind the kind of person who has these characteristics. Imagine how that person would think, feel, and act. When you have a clear image of what this person would be like, answer the following questions

	Strongly disagree	2	3	4	Strongly agree
	1				5
1. It would make me feel good to be a person who has these characteristics					
2. Being someone who has these characteristics is an important part of who I am					
3. I would be ashamed to be a person who has these characteristics (R)					
4. Having these characteristics is not really important to me (R)					
5. I strongly desire to have these characteristics					

APPENDIX F

Criminogenic Cognitions Scale

For the next set of statements, please indicate how well this describes your current thinking, using the following scale:

1= Strongly Disagree 2= Disagree 3= Agree 4= Strongly Agree

A few questions have an additional option of "N/A," which is used to indicate that the phrase is not applicable to your situation.

	Strongly Disagree	Disagree	Agree	Strongly Agree	
1. When I want something, I expect people to deliver.	1	2	3	4	
2. Bad childhood experiences are partly to blame for my current situation.	1	2	3	4	
3. The future is unpredictable and there is no point planning for it.	1	2	3	4	
4. My crime(s) did not really harm anyone.	1	2	3	4	NA, I've never committed any acts that could be considered criminal
5. I feel like what happens in my life is mostly determined by powerful people.	1	2	3	4	
6. I will never be satisfied until I get all that I deserve.	1	2	3	4	

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7. A theft is all right as long as the victim is not physically injured.	1	2	3	4	
8. Even though I got caught, it was still worth the risk.	1	2	3	4	NA, I've never been caught for any behaviors that could be considered criminal
9. If you are reading this item, click 1	1	2	3	4	
10. Because of my history I get blamed for a lot of things I did not do.	1	2	3	4	
11. Most of the laws are good.	1	2	3	4	
12. Victims of crime usually get over it with time.	1	2	3	4	
13. When you commit a crime the only one affected is the victim.	1	2	3	4	
14. Most police officers/guards abuse their power.	1	2	3	4	

	Strongly Disagree	Disagree	Agree	Strongly Agree	
14. Society makes too big of a deal about my crime(s).	1	2	3	4	NA, I've never committed any acts

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					that could be considered criminal
15. Sometimes I cannot control myself.	1	2	3	4	
16. I expect people to treat me better than other people.	1	2	3	4	
17. People in authority are usually looking out for my best interest.	1	2	3	4	
18. Why plan to save for something if you can have it now.	1	2	3	4	
19. I insist on getting the respect that is due to me.	1	2	3	4	
20. If a police officer/guard tells me to do something, there's usually a good reason for it.	1	2	3	4	
21. People in positions of authority generally take advantage of others.	1	2	3	4	
22. I am just a "born criminal."	1	2	3	4	
23. I deserve more than other people.	1	2	3	4	
24. I think it is better to enjoy today than worry about tomorrow.	1	2	3	4	
25. I do not like to be tied down to a regular work schedule.	1	2	3	4	

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APPENDIX G

Adversarial Beliefs Scale (ABS)

Please rate the degree to which you agree with the following statements. Remember that all your answers will be kept confidential so please be as honest as you can.

		Strongly Disagree			Neutral			Strongly Agree
		1	2	3	4	5	6	7
1.	In dating relationships people are mostly out to take advantage of each other.	1	2	3	4	5	6	7
2.	If you don't show who's boss in the beginning of a relationship you will be taken advantage of later.	1	2	3	4	5	6	7
3.	Most people are pretty devious and manipulative when they are trying to attract a potential romantic/sexual partner.	1	2	3	4	5	6	7
4.	Men and women are generally out to use each other.	1	2	3	4	5	6	7
5.	It's impossible for men and women to truly understand each other.	1	2	3	4	5	6	7
6.	In the work force any gain by one sex necessitates a loss for the other.	1	2	3	4	5	6	7
7.	When women enter the work force they are taking jobs away from men.	1	2	3	4	5	6	7
8.	If you are reading this item, click 2	1	2	3	4	5	6	7
9.	Men and women cannot really be friends.	1	2	3	4	5	6	7
10.	Sex is like a game where one person "wins" and the other "loses."	1	2	3	4	5	6	7
11.	In all societies it is inevitable that one sex is dominant.	1	2	3	4	5	6	7

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- | | | | | | | | | |
|------|--|---|---|---|---|---|---|---|
| 12. | It is natural for one spouse to be in control of the other. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. | When it comes to sex, most people are just trying to use the other person. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| *14. | It is possible for the sexes to be equal in society. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| *15. | Men and women share more similarities than differences. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| *16. | It is possible for a man and a woman to be "just friends." | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

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APPENDIX H

Hostility Toward Women Scale

Read each statement and circle the one number that best describes you.

		Strongly Disagree			Neutral			Strongly Agree
1.	I feel that many times women flirt with men just to tease them or hurt them.	1	2	3	4	5	6	7
2.	I believe that most women tell the truth.	1	2	3	4	5	6	7
3.	If you are reading this item, click 4	1	2	3	4	5	6	7
4.	I usually find myself agreeing with (other) women.	1	2	3	4	5	6	7
5.	I think that most women would lie just to get ahead.	1	2	3	4	5	6	7
6.	Generally, it is safer not to trust women.	1	2	3	4	5	6	7
7.	When it really comes down to it, a lot of women are deceitful.	1	2	3	4	5	6	7
8.	I am easily angered by (other) women.	1	2	3	4	5	6	7
9.	I am sure I get a raw deal from the (other) women in my life.	1	2	3	4	5	6	7
10.	Sometimes (other) women bother me by just being around.	1	2	3	4	5	6	7
11.	(Other) Women are responsible for most of my troubles.	1	2	3	4	5	6	7

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

APPENDIX I

Hostility Toward Men Scale

Read each statement and circle the one number that best describes you.

		Strongly Disagree			Neutral			Strongly Agree
1.	I feel that many times men flirt with women just to tease them or hurt them.	1	2	3	4	5	6	7
2.	I believe that most men tell the truth.	1	2	3	4	5	6	7
3.	I usually find myself agreeing with (other) men.	1	2	3	4	5	6	7
4.	I think that most men would lie just to get ahead.	1	2	3	4	5	6	7
5.	Generally, it is safer not to trust men.	1	2	3	4	5	6	7
6.	When it really comes down to it, a lot of men are deceitful.	1	2	3	4	5	6	7
7.	I am easily angered by (other) men.	1	2	3	4	5	6	7
8.	I am sure I get a raw deal from the (other) men in my life.	1	2	3	4	5	6	7
9.	Sometimes (other) men bother me by just being around.	1	2	3	4	5	6	7
10.	(Other) Men are responsible for most of my troubles.	1	2	3	4	5	6	7

MORAL COGNITIONS AND ANTISOCIAL BEHAVIOURS

APPENDIX J

General Background

Please complete the following information by filling in the blanks and circling the letter for each question that corresponds with the correct/best response for you. If you are unsure of the answer to a question, please give it your best guess.

1. How old are you? _____ / _____ (years / months)
2. What gender do you identify as?
 - a) Female
 - b) Male

OR

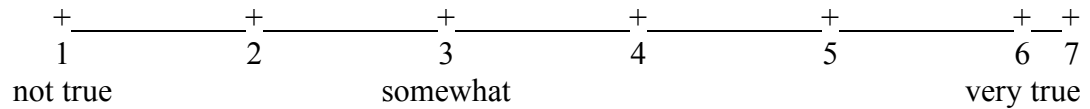
- c) Nonbinary (please describe in your own words): _____
3. What is your year of study?
 - a) In year 1
 - b) In year 2
 - c) In year 3
 - d) In year 4
 - e) Other (please describe): _____
4. What is your ethnicity?
 - a) White
 - b) South Asian (e.g., East Indian, Pakistani, Sri Lankan, etc.)
 - c) Chinese
 - d) Black
 - e) Filipino
 - f) Latin American
 - g) Arab
 - h) Southeast Asian (e.g., Vietnamese, Cambodian, Laotian, Thai, etc)
 - i) West Asian (e.g., Iranian, Afghan, etc.)
 - j) Korean
 - k) Japanese
 - l) Other (please describe): _____
5. What is your sexual orientation?
 - a) Heterosexual
 - b) Homosexual
 - c) Bisexual
 - d) Pansexual
 - e) Asexual
 - f) Other (please describe in your own words): _____
6. What is your current relationship status?
 - a) Single – not dating exclusively
 - b) Single – dating exclusively
 - c) Living with a partner
 - d) Engaged
 - e) Married
 - f) Separated
 - g) Divorced
 - h) Widowed
 - i) Other (please describe in your own words): _____
7. How long has this been your relationship status?
 - a) Less than three months
 - b) Three months to six months
 - c) Six months to less than one year
 - d) One year to less than two years
 - e) Two years to less than five
 - f) Five years or more

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APPENDIX K

BIDR-16

Using the scale below as a guide, write a number beside each statement to indicate how true it is.



- ___ 1. I have not always been honest with myself.
- ___ 2. I always know why I like things.
- ___ 3. It's hard for me to shut off a disturbing thought.
- ___ 4. I never regret my decisions.
- ___ 5. I sometimes lose out on things because I can't make up my mind soon enough.
- ___ 6. I am a completely rational person.
- ___ 7. I am very confident of my judgments
- ___ 8. I have sometimes doubted my ability as a lover.
- ___ 9. I sometimes tell lies if I have to.
- ___ 10. I never cover up my mistakes.
- ___ 11. There have been occasions when I have taken advantage of someone.
- ___ 12. I sometimes try to get even rather than forgive and forget.
- ___ 13. I have said something bad about a friend behind his/her back.
- ___ 14. When I hear people talking privately, I avoid listening.
- ___ 15. I never take things that don't belong to me.
- ___ 16. I don't gossip about other people's business

APPENDIX L

Consent to participate in research

Title of Study: Thinking things through: What do attitudes and reasoning have to do with types of delinquency?

You are asked to participate in a research study conducted by Sarah Gardiner under the supervision of Dr. Calvin Langton, from the Department of Psychology at the University of Windsor. If you have any questions or concerns about the research, please feel to contact Sarah Gardiner at gari111@uwindsor.ca or Dr. Calvin Langton at clangton@uwindsor.ca.

PURPOSE OF THE STUDY

The purpose of this study is to understand more about the relationships between people's moral reasoning, their attitudes about delinquent behaviours and about sexual activities (including unwanted sexual experiences), as well as their involvement in delinquent behaviours and unwanted sexual activities.

PROCEDURES

If you volunteer to participate in this study, you will be asked to provide demographic information and complete questionnaires that will ask about your personality, your opinions and attitudes about other people, about types of delinquent and criminal behaviours, and your involvement in types of delinquent behaviour as well as sexual activities that may have been unwanted. There is also a brief set of very basic math and English questions to help us understand types of responding. Some of the questionnaires include questions about various moral dilemmas or ask you to briefly explain (by typing sentences) your thinking about these moral dilemmas. Completion of the online surveys will take no longer than 60 minutes.

POTENTIAL RISKS AND DISCOMFORTS

One possible adverse effect of participation is the experience of fatigue and/or boredom given the general nature of the activity. Additionally, some of the items in the self-report measures concern sexually coercive behaviours, criminal activity, and hostile attitudes. Some of the items in the measures of moral reasoning pose challenging and potentially emotionally troubling dilemmas. The instruments are standardized tools and the language cannot be changed without affecting the reliability and validity of the scale, but it is not necessarily language endorsed by the researchers. It is possible that you may become distressed at recollecting experiences or reflecting about yourself or when pondering some of these moral dilemmas.

You can skip any questions for which you do not wish to provide a response. Further, you can stop your participation and withdraw from the study at any time without penalty. Another possible concern you might have is about the confidentiality of your participation and responses. No information will be collected that would be specific enough to 'trigger' a duty to report anything to anyone. All participants' data will be anonymized once the Participant Pool participation bonus points have been awarded and

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the final date for withdrawal has elapsed. Appropriate measures will be taken to ensure the confidentiality of the data at all stages of the project (see below). Importantly, we strongly encourage you to complete the online survey in a private location (such as your home) and you should delete the browser history and clear the cache of the computer used once you have submitted your full set of responses.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

There is no direct benefit of completing this study, but when completing these measures, you may gain some insight into yourself.

COMPENSATION FOR PARTICIPATION

This study will take no more than 60 minutes of your time and is worth 1 bonus points if you are registered in the pool and you are registered in one or more eligible courses.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Your identifying information needs to be recorded in order to allocate Participant Pool participation bonus points. Your identifying information will be kept separate from the data collected for the study that will be analyzed by us. Any identifying information that is collected will be deleted once bonus points have been awarded and the final date for withdrawal has elapsed. All electronic data will be deidentified and saved on password-protected computers belonging to us. Direct quotes may be used in one or more manuscripts, edited books, one or more posters, oral presentations at conferences, or other works. No identifying information will be revealed in any selected quotes. The anonymized data will be kept on password-protected computers belonging to us for a minimum of 5 years after the last publication associated with this data set has been published.

PARTICIPATION AND WITHDRAWAL

You may stop your participation in the study at any time by closing your web browser. You may withdraw your data from the study by emailing your request to the principal investigator (Sarah Gardiner) at any time up to the end of the semester in which you participated in the study. After this time, the data will be retrieved from the online survey site and anonymized, so withdrawal will no longer be possible after this date. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

Compensation will correspond with the proportion of the study completed. Full credit of 1 bonus point for the online session will be given to participants who complete 90% of the total items comprising the self-report measures in the session. Careful consideration will be given to cases in which the participant completes less than 90% of the items in order to ensure that commensurate partial credit is awarded.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

The study results will be posted to the University of Windsor REB website as soon as they are available. It is not anticipated that the results will be available until Fall 2020.

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SUBSEQUENT USE OF DATA

The data will be used in analyses in one or more manuscripts for submission to peer reviewed journals or edited books, and one or more posters or oral presentations at conferences.

RIGHTS OF RESEARCH PARTICIPANTS

If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario, N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

Services/Resources

If you're having any emotional or psychological difficulties after participating in this study, it is important to access resources that are available to you, some of which are on campus.

For help addressing mental health concerns, contact: (519) 253-3000: [Student Counselling Centre at ext. 4616](#) [Psychological Services Centre, University of Windsor at ext. 7012](#) [Peer Support Centre at ext. 4551](#) [Another resource is Good2Talk, a 24/7 helpline for Ontario college and university students \(not affiliated with University of Windsor\): 1-866-925-5454.](#)

SIGNATURE OF RESEARCH PARTICIPANT/LEGAL REPRESENTATIVE

I understand the information provided for the study Thinking things through: What do attitudes and reasoning have to do with types of delinquency as described herein. I have had an opportunity to email any questions I might have about the study to the investigator. I have been given the opportunity to print this form. By clicking "I Agree" I am giving consent to participate in this study.

Please remember to print out a copy of this consent form for yourself.

SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

Signature of Investigator

July 20th, 2018
Date

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VITA AUCTORIS

NAME: Sarah Lynn Gardiner

PLACE OF BIRTH: Ottawa, ON

YEAR OF BIRTH: 1993

EDUCATION: Carleton University, B.A., Ottawa, ON, 2015

Carleton University, M.A., Ottawa, ON, 2017