Can Psychopathic Offenders Discern Moral Wrongs? A New Look at the Moral/Conventional Distinction

Eyal Aharoni,
The Mind Research Network, University of New Mexico, 1101 Yale Boulevard NE, Albuquerque, NM 87106, USA, Phone: 001-505-272-3746, Fax: 001-505-272-8002, eaharoni@unm.edu

Walter Sinnott-Armstrong, and
The Kenan Institute for Ethics, Duke University, 104AA West Duke Building, Box 90432, Durham, NC 27708, ws66@duke.edu

Kent A. Kiehl
The Mind Research Network, University of New Mexico, 1101 Yale Boulevard NE, Albuquerque, NM 87106, USA, Phone: 001-505-272-3746, kkiehl@unm.edu

Abstract

A prominent view of psychopathic moral reasoning suggests that psychopathic individuals cannot properly distinguish between moral wrongs and other types of wrongs. The present study evaluated this view by examining the extent to which 109 incarcerated offenders with varying degrees of psychopathy could distinguish between moral and conventional transgressions relative to each other and to non-incarcerated healthy controls. Using a modified version of the classic Moral/Conventional Transgressions task (Nucci & Turiel, 1978) that employs a forced-choice format to minimize strategic responding, the present study found that total psychopathy score did not predict performance on the task. Task performance was explained by some individual sub-facets of psychopathy and by other variables unrelated to psychopathy, such as IQ. The authors conclude that, contrary to earlier claims, insufficient data exist to infer that psychopathic individuals cannot know what is morally wrong.

Keywords

moral reasoning; moral/conventional transgressions distinction; psychopathy; insanity

1. Introduction

Psychopathy is a personality disorder exemplified by high levels of callousness, grandiosity, manipulation, impulsivity, criminal versatility, and other antisocial and affective characteristics (Hare & Neumann, 2008). Within one year of release from prison, psychopathic criminal offenders are up to four times more likely to recidivate than non-psychopathic offenders (Hart, Kropp, & Hare, 1988; Hemphill, Hare, & Wong, 1998). Within 10 years of release, as one study has shown, a full 77% of psychopathic offenders had committed a new violent offense compared to only 21% of non-psychopathic offenders (Harris, Rice, & Cormier, 1991).

To address these problems, decades of research have been devoted to understanding the proximate causes of psychopathy. Candidate explanations have included abnormalities in

psychopathic individuals' emotional and physiological responses (Fowles, 1993; Hare, 1978; Lykken, 1957), in their perception of others' distress (Blair, 2005; Blair, Jones, Clark, & Smith, 1997), in their sensitivity to punishment (Lykken, 1957; Schachter & Latane, 1964; Newman, Widom, & Nathan, 1985; Newman & Kosson, 1986; Shmauk, 1970), in their attentional capacities (Newman, Patterson, Howland, & Nichols, 1990), and more.

Studies in the moral reasoning capacities of individuals with psychopathy have comprised only a modest proportion of psychopathy research (e.g., Blair, 1995; Blair, Jones, Clark, & Smith, 1995; Cima, Tonnaer, & Hauser, 2010; Ermer & Kiehl, 2010; Glenn, Iyer, Graham, Koleva, & Haidt, 2009; Harenski, Harenski, & Kiehl, 2010; Link, Sherer, & Byrne, 1977; Simon, Holzberg, & Unger, 1951; O'Kane, Fawcett, & Blackburn, 1996). Yet when it comes to questions of criminal responsibility, it is the nature of their moral reasoning that may matter most. This is because, if such capacities are compromised, this fact could potentially be used to excuse these defendants' antisocial behavior on the basis of insanity (see Aharoni, Funk, Sinnott-Armstrong, & Gazzaniga, 2008; Blair, 2008; Fine & Kennett, 2004; Levy, 2007; Morse, 2008). The insanity defenses that are recognized in most U.S. jurisdictions state that the failure to know or appreciate wrongfulness is a basis for excuse (M'Naghten Rule, 1843; Model Penal Code § 4.01(1), 1962). Thus, if individuals with psychopathy lack the ability to understand moral wrongfulness, and if a criminal offender meets criteria for psychopathy, this could potentially be used to support an insanity defense.

Currently, the most common legal definition of insanity includes a clause that was intended to exclude psychopathy (MPC § 4.01(2)); and courts almost never find psychopaths not guilty by reason of insanity, but these facts could change as scientific arguments mount. According to Morse (2008), such a revision to the law may in fact be legally justified, and its consequences could be dramatic. Successful insanity defenses could result in indefinite, involuntary civil commitment either in place of or after criminal punishment. For these reasons, serious concerns related to community safety, human rights, and tax-payer dollars hinge on knowledge of the moral capacities of individuals with psychopathy.

Background in Psychopathic Moral Reasoning

Early observations in psychopathic moral reasoning contended that at the heart of psychopathy lies a deficit not in their knowledge of right and wrong, but in emotional processing and behavioral control (Cleckley, 1941). Subsequent research confirmed the hypothesis that individuals with psychopathy understand right and wrong but that this knowledge does not guide their conduct. For instance, a pioneering study on adult females showed that psychopathic participants provided similar responses to controls on a moral dilemma questionnaire that obeyed a multiple-choice format, but they provided normatively deviant responses to the same questionnaire when it followed a free-response format (Simon et al., 1951). The authors concluded that females with psychopathy can accurately identify moral norms but they nonetheless fail to utilize this knowledge when doing so would compete with immediate, personal goals. Studies among males have yielded even more startling results, for example, that psychopathic participants performed *better* than controls on Kohlberg's Moral Judgment scale, which challenges respondents to freely justify their judgments in various moral dilemmas (Link et al., 1977). These studies lent support to the view that psychopathy is characterized, not by moral knowledge deficits, but perhaps only by emotional or motivational abnormalities.

The prevailing view of psychopathic moral reasoning departs from these early findings in psychopathy. This view, which has been cited in hundreds of scholarly articles, maintains that compared to healthy adults, psychopathic individuals are largely unable to distinguish between moral wrongs and non-moral wrongs (Blair, 1995; Blair et al., 1995). On this view, psychopaths are able to spot transgressions and to identify acts as impermissible, but they

cannot tell which acts are wrong in distinctively moral ways. This view seems to ally with observations of behaviorally disordered children, who have been shown to judge particular moral violations as less wrong than that of healthy controls (Nucci & Herman, 1982). Many interpret Blair's result as evidence that psychopathic individuals appear to lack distinctively moral knowledge (See also Fine & Kennett, 2004; Levy, 2007; Malatesti, 2009). This is not to deny any role of emotion in moral judgment. To the contrary, in Blair's view, it is precisely because psychopathic individuals lack a normal emotional appraisal of harmful acts that they fail to distinguish moral wrongs from conventional wrongs.

To demonstrate this failure in psychopathic moral knowledge, Blair and colleagues (Blair, 1995; Blair et al., 1995) utilized a classic moral reasoning survey known as the Moral-Conventional Transgressions task (MCT). The MCT, developed by Turiel and colleagues, is designed to assess what makes an act morally wrong in the psychology of moral judgment (Nucci & Nucci, 1982; Nucci & Turiel, 1978; Turiel, 1979; Turiel, 1983). Turiel and colleagues found that healthy participants draw consistent lines between acts that are considered *morally* wrong (e.g., pushing someone) versus those considered wrong merely by *social convention* (e.g., spitting in public). These two types of acts were distinguished along four dimensions: whether the wrongness of the act is judged as (1) independent of permission by relevant authorities, (2) involving a violation of physical welfare, rights, or standards of fairness, (3) temporally and geographically universal, and (4) serious. Though some have challenged whether these dimensions are definitional of moral classification (e.g., Kelly, Stich, Haley, Eng, & Fessler, 2007), the MCT has remained central to theoretical and empirical developments in the psychology and psychopathology of moral reasoning (e.g., Huebner, Lee, & Hauser, 2010; Nado, Kelly, & Stich, 2009; Nucci & Herman, 1982).

Sampling from prison populations and mental hospitals, Blair and colleagues (Blair, 1995; Blair et al., 1995) found that psychopathic participants, unlike controls, failed to make the proper normative distinctions between acts independently pre-rated as moral wrongs and conventional wrongs. Both moral and conventional acts were rated as equally permissible and equally authority-independent (dimension 1 above).[1] From this pattern, scholars have suggested that high-psychopathy individuals lack normative moral reasoning abilities (e.g., Levy, 2007). It has also been suggested that, for this reason, individuals with psychopathy may potentially merit diminished responsibility for their actions (Blair, 2008; Levy, 2007).

Interestingly, in Blair's studies, psychopathic participants did not rate both sets of acts as highly permissible. Instead, they rated all acts as markedly *impermissible*, as if *both* "moral" and "conventional" transgressions were considered *morally* wrong (Blair, 1995; see also Blair et al., 1995). The authors explained this counter-intuitive effect as a product of social desirability factors. Because psychopathic individuals, particularly incarcerated ones, tend to be concerned with impression management, and because they could not distinguish between the moral and conventional acts, these participants must have hedged their bets by over-rating all acts as wrong and authority independent. Although plausible, this explanation was never empirically tested. Indeed, others have cast doubts that failures in the classic moral-conventional task necessarily represent failures in moral understanding (Maibom, 2008).

Despite the consistent failure to observe differences between moral and conventional transgressions among individuals with psychopathy, there might still be reason to suspect that when social desirability factors are removed, psychopathic individuals will identify

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[1]Blair and colleagues report similar patterns among children with psychopathic tendencies (Blair, 1997; Blair, Monson, & Frederickson, 2001). However, because life-course persistent psychopathy can only be diagnosed in adults, the present study focuses on the adult demographic only.

moral transgressions correctly. One line of evidence derives from early studies in psychopathy noted above (Link et al., 1977; Simon et al., 1951). More recently, research using a moral dilemmas task showed that a psychopathic sample, like healthy adults, judged "personal" harms (i.e. requiring physical contact) as less permissible than "impersonal" harms. As the study's title suggests, the investigators conclude that "psychopaths know right from wrong but don't care" (Cima et al., 2010). It remains unknown whether such results would extend to the MCT.

In the original formulation of the MCT, the question format does not explicitly attempt to distinguish participants' subjective opinions about the acts' permissibility from objective knowledge of what seen as permissible by most people in society. Thus, it remains possible that Blair's results represent a mix of these two types of judgments. It would be useful know whether Blair's pattern of results does or does not apply to objective knowledge of general societal beliefs about what is morally permitted.

Finally, Blair and colleagues' adult studies using the MCT (Blair, 1995; Blair, et al., 1995) tested modest samples of male participants only. The MCT has not been systematically tested in larger adult samples that include females. In addition, those studies used "schoolyard" scenarios that were originally designed for children (e.g., pushing another child off a swing), so it is not clear whether adults with psychopathy would react differently to scenarios that describe choices that adults face.

Taken together, if psychopathic individuals can correctly classify moral transgressions, then the causes of their antisocial behavior may not be well-explained by failures in moral knowledge or reasoning. Such a result could re-focus attention to other possible sources of psychopathic behavior, such as emotional or motivational processes (e.g., Fowles, 1993; Hare, 1978; Latane, 1964; Lykken, 1957). Such a result could also potentially inform conceptions of psychopathic legal responsibility by ruling out one common basis for claiming that psychopaths should be eligible for an insanity defense. Thus, there remains a demand to re-evaluate psychopathic moral knowledge absent of impression management.

To help eliminate the possibility of impression management in the MCT, a forced-choice method was employed. In this method, we informed participants with varying degrees of psychopathy that exactly half of the listed acts were pre-rated by members of society to be morally wrong, and instructed them to determine which half met that criterion. This method serves at least two functions. First, it helps to remove the incentive to over-rate all acts as wrong for reasons such as social desirability. Second, it stipulates a set of correct answers in the normative sense. This way, failures to obtain the "correct" answers can be more confidently interpreted as reflecting a moral reasoning deficit, which is of direct interest to questions of legal responsibility. Moral reasoning measurements that lack such objective standards might be less probative in this way.

The hypothesis according to research by Blair is that psychopathy will be negatively associated with moral categorization accuracy. In addition to testing this hypothesis, we also examined absolute performance by evaluating whether group accuracy was greater than chance performance. We also sought to examine whether traditionally defined subsets of psychopathic personality traits (i.e., factors and facets) might predict moral classification accuracy as well or better than total psychopathy score. Finally, we examined the extent to which other variables such as harm judgments and IQ explained variance in task performance. If psychopathy and its factors do not explain moral classification accuracy, this result would suggest that the primary deficits in psychopathy may not reflect a failure in moral knowledge per se.

2. Method

2.1. Participants

Three samples were collected: (1) a healthy pilot sample (N = 102) used to develop study stimuli, (2) the incarcerated experimental sample (N = 109), and (3) a small unincarcerated comparison group composed of students (N = 30). The pilot sample (56 males and 46 females) was recruited from an Internet survey website. Enrollment was restricted to U.S. addresses and to a minimum age of 18. Pilot participants were paid $4 for participating. The experimental sample consisted of incarcerated criminal offenders (74 males and 35 females) recruited from two correctional facilities in North America. Incarcerated recruits were excluded if they had a history of traumatic brain injury or psychosis, or if they had a below-fourth-grade reading level. They were paid $1/hr., a rate commensurate with standard pay for work assignments. The unincarcerated comparison group (15 males and 15 females) consisted of adult undergraduates from the University of California, Santa Barbara, who received course credit for their participation. This latter group was expected to perform at least as well as inmates on the MCT. Although not a strict control group, this group was included to help interpret the range of performance success within the incarcerated sample. If both incarcerated and student samples exhibit modest performance, this would indicate possible range restriction inherent to the task. This study was approved by Institutional and University ethics review committees. Participation was voluntary and all participants provided written informed consent. (See Table 1 for demographic information.)

2.2. Design

The study was composed of a forced-choice categorization task with transgression type (moral vs. conventional) as a within-subjects sorting variable and psychopathy as a between-subjects quasi-independent variable. The primary hypothesis was evaluated by comparing scores within the incarcerated sample. Transgression type was determined by the pilot sample ratings. Moral wrongfulness was defined by acts that society would consider wrong even if there were no rules, customs, or laws against them (dimension 1 above). For each transgression, the presence or absence of harm (dimension 2 above) was also rated in order to assess the extent to which harm judgments explain variance in moral categorization accuracy.

Previous studies assumed that different features (including seriousness, universality, and basis in individual harm or rights) cluster together with authority independence. However, recent arguments (Kelly et al. 2007) show that these various features diverge in many cases, so these features need to be tested separately. In order to make our study more precise, therefore, we decided to focus on authority independence as our sole criterion for distinguishing moral from non-moral wrongs. For this reason, we did not examine perceptions of the acts' universality or seriousness (dimensions 3 & 4) in categorization judgments.

2.3. Materials

To develop moral and conventional stimuli, normative ratings were collected from a web-based pilot sample for 40 single-sentence scenarios designed by the authors (See Appendix)2. These were designed to evoke judgments of wrongfulness by representing violations of various rules, laws, and customs relevant to adults. The violations were designed to involve moral domains previously observed to be abnormal in psychopathy,

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[2] Two "non-wrong" manipulation checks were also included: "With plans to build a new balcony, a homeowner demolishes the wooden frame of his old balcony with a sledgehammer," and "When his new office mate enters the room, an employee extends his hand to offer a handshake." No participants were excluded based on their responses to these (combined) questions.

such as harm, unfairness, and disgust (Aharoni, Antonenko, & Kiehl, 2011; Glenn et al., 2009). The survey was administered using Amazon.com's *Mechanical Turk*© website. For each scenario, participants were asked the following: "Was this act wrong?" If yes, "How wrong was the act?" 1 (slightly) to 10 (extremely), and "If there were no rules, customs, or laws against the act, would it still be wrong?"[3]

Several criteria were used in combination to select "moral" and "conventional" stimuli, respectively. First, to examine whether the items could be distinguished into independent components on the basis of their wrongfulness ratings, a Principal Components Analysis with an oblique (Promax) rotation was performed (see Huebner et al., 2010; Jollifee, 2002). A two-component structure emerged with eigenvalues of 12.09, 3.26, 2.45, and 1.73. This structure accounted for a substantial portion of the variance in the items (48.81%), with the first and second components accounting for 30.21% and 8.14% of the explained variance, respectively. These were the only two components whose eigenvalues exceeded that of a parallel analysis using a distribution of random scores (see Horn, 1965, 1966). Using a cut-off value of .40, 15 items loaded onto the first component and 25 items onto the second component. All of the component 1 items and 88% of the component 2 items conformed to a priori predictions as fitting a moral vs. conventional structure, respectively. No other model structure yielded loadings with this degree of differentiability.

Eight items from each of the two components were then randomly selected from a set that conformed to the authors' predictions and also met a criterion related to the combination of their wrong and wrongfulness ratings. These 16 "moral" and "conventional" items were selected for the experimental forced-choice task. Selection was constrained to 16 in order to limit task difficulty while still exceeding the number of items used in previous research (e.g., Blair, 1995). The wrongfulness scores from each category were moderately correlated ($r = .39$, $p < .001$) and significantly greater than zero, $t(101) = 49.73$, $p < .001$ and $t(101) = 8.42$, $p < .001$, respectively.

2.4. Assessment

Study participants were assessed for drug dependence, intelligence, and several self-reported demographic variables shown in Table 1. Drug dependence in the incarcerated sample was assessed using a modified version of the Addiction Severity Index (McLellan, Kushner, & Metzger, 1992). Addiction severity was defined by the cumulative number of years of regular use (3+ times per week for at least once month) for over 10 drug types ($M = 35.13$, $SD = 36.45$).[4] Intelligence among inmates was assessed using Vocabulary and Matrix Reasoning subtests of the Wechsler Adult Intelligence Scale ($M = 93.26$, $SD = 13.19$; WAIS; Wechsler, 1997; validated by Ryan, Lopez, & Werth, 1999).

Pilot and unincarcerated comparison samples were assessed for psychopathy using a 56-item subclinical self-report measure known as the Psychopathic Personality Inventory short form (PPI; Lilienfeld, 1990). The PPI was designed to assess normal variation in psychopathic personality traits among non-incarcerated populations, and its validity has been confirmed in a number of studies (e.g., Cale & Lilienfeld, 2006; Lilienfeld, 1990; Lilienfeld & Andrews, 1996; Lilienfeld & Hess, 2001). The PPI items have been usefully grouped into two factors known as the Fearless Dominance (I) and Impulsive Antisociality factors (II; Benning, Patrick, Hicks, Blonigen, & Krueger, 2003; for an exception see Neumann, Malterer, & Newman, 2009). One additional dimension—Coldheartedness—does not load onto either of

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[3]Due to a technical error, several items were not rated for authority independence, so we were unable to base our final selection on this criterion and favored a Principal Components Analysis instead. Complete factor loadings available upon request.
[4]Drug categories included: alcohol, heroin, cocaine, cannabis, methamphetamine, other amphetamines, hallucinogens, inhalants, methadone, other opiates/analgesics, nicotine, poly-drug use, miscellaneous.

these factors and so is typically analyzed separately. PPI total scores for the pilot sample (*M* = 157.94) and the student comparison sample (*M* = 128.40) were comparable to those of previously observed undergraduate samples (e.g., Aharoni, Weintraub, & Fridlund, 2007 (M = 138); Lilienfeld & Hess, 2001 (M = 119)). The maximum possible score is 224.

In the incarcerated, experimental sample, psychopathy was assessed using the Psychopathy Checklist–Revised (PCL-R; Hare, 2003), a detailed archival analysis and semi-structured interview. The PCL-R has been shown to provide a reliable and valid assessment of psychopathy in incarcerated, forensic, psychiatric, and normal populations (Hare, 1980; 1991; 1996; Harpur et al., 1988, 1989; see Fulero, 1996, for a review). Clinical psychopathy is conventionally diagnosed by a total score of 30+ (Hare, 1991), though others have favored a more liberal threshold of 26+ (e.g., Cooke, 1996; Gacone & Hutton, 1995; Haapasalo, 1992). To examine the independent components of psychopathy, the PCL-R items have also been organized into separable sub-factors (Hare, 2003). The two-factor model distinguishes between Interpersonal/Affective and Antisocial Behavioral attributes (Factors 1 and 2). The four-factor model further divides these attributes into the (1) interpersonal, (2) affective, (3) lifestyle, and (4) antisocial facets of psychopathy. Example items from each facet include glibness, lack of empathy, impulsivity, and juvenile delinquency, respectively. PCL-R assessments were conducted by twelve raters, each of whom completed extensive PCL-R training and regular reliability testing. High PCL-R inter-rater reliability (.93) in this lab has been documented for total PCL-R score (see Harenski et al., 2010). Five percent of the experimental sample met traditional criteria for psychopathy. Although this rate is too low for psychopathy group comparisons, our primary analyses adhere to a dimensional rather than taxonomic model of psychopathy. A supplementary analysis is also provided, which examines the effect of high vs. low psychopathy using the more liberal PCL-R cut-point of 26+ (20% of experimental sample).

For purposes of validation, the self-report PPI was also collected from 103 members of the experimental sample. The PCL-R and the PPI and their factors have been shown to be positively correlated (Edens, Poythress, Lilienfeld, & Patrick, 2008; Poythress, Edens, & Lilienfeld, 1998). This was partially confirmed in the present sample (Total score *r* = .29, *p* < .01; Factor 1 *r* = .00, p = .97; Factor 2 *r* = .27, p < .01).

2.5. Procedure

The eight moral and eight conventional stimuli were administered to the incarcerated and student samples explaining that exactly half of these acts had been judged by members of society to be morally wrong. Moral wrongfulness was defined by acts that society would consider wrong even if there were no rules, customs, or laws against them. Participants were then instructed to specify which eight items were judged by the former sample to be wrong in this way. Subsequently, each act was rated for the presence or absence of harm. Last, demographic information was collected.

3. Results

3.1. Unincarcerated Comparison Sample Analyses (Students)

Undergraduate participants correctly classified 92.5% of the "moral" transgressions as morally wrong, *M* = 7.40 (.97). (Moral and conventional accuracy were identical, given the design of the task.) In order to determine whether these scores exceeded that of chance performance, we first compared moral accuracy to a chance score of 4, using a one-sample *t*-test. This test confirmed that participants' moral accuracy was in fact significantly greater than chance performance, *t*(29) =19.23, *p* < .0001. To examine just how accurate their moral transgression ratings were, increasingly strict criteria were selected in a series of *t*-tests.

Participants' accuracy exceeded 85%, $t(29) = 3.39$, $p < .01$. See Table 2 for wrongness scores for each item.

3.2. Experimental Sample Analyses (Inmates)

3.2.1. Inmate accuracy across items—As a whole, incarcerated participants correctly classified 82.6% of the "moral" transgressions as morally wrong, $M = 6.61$ (1.35). Using a one-sample t-test, participants' moral accuracy was significantly greater than chance performance, $t(108) = 20.29$, $p < .001$. In fact, participant's accuracy exceeded 75%, $t(108) = 4.72$, $p < .001$, though remained significantly lower than the student sample mean of 92.5%, $t(107) = -6.16$, $p < .0001$.

3.2.2. Inmate Item-Level accuracy—We also computed percentage correct responses for each stimulus item and evaluated its deviation from a chance sorting threshold of 50% using a series of Chi-Square tests (χ^2). Categorization accuracy reached significance in the predicted direction for each item (see Table 2).

3.2.3. Role of Psychopathy—First, to examine whether psychopathy interacts with other characteristics to influence participants' performance on the MCT, we computed (Pearson and Point Biserial) correlations between age, education, IQ, years of drug use, gender, PCL-R, and moral accuracy. Neither age ($r = .04$, $p = .73$), education ($r = .01$, $p = .90$), IQ ($r = .05$, $p = .63$), drug use ($r = .14$, $p = .14$), nor gender ($r = -.03$, $p = .80$) correlated with psychopathy, so these were not entered as control variables in subsequent hypothesis tests.[5]

To assess the possibility of a negative association between psychopathy and moral accuracy, two-tailed Pearson correlational analyses were performed between PCL-R score and moral and conventional transgression accuracy, respectively. These tests yielded no evidence of a correlation between psychopathy and MCT accuracy. For moral accuracy, $r = -.03$, $p = .73$. For conventional accuracy, $r = -.02$, $p = .87$ (see Fig. 1). A similar pattern was obtained using PPI scores whereby no correlation was found for either moral accuracy ($r = -.04$, $p = .71$) or conventional accuracy ($r = -.02$, $p = .87$; see Table 3).

To determine whether any associations between psychopathy score and moral classification accuracy might change at high levels of psychopathy, we conducted curvilinear multiple regressions for PCL-R and PPI total scores. No associations were found for the PCL-R ($R^2 = .02$, $p = .42$) or the PPI ($R^2 = .02$, $p = .43$).

Finally, group differences in psychopathy were examined. First, we compared moral accuracy scores between participants above (n = 22) and less than or equal to (n = 87) the cut-point PCL-R score of 25. Using an independent samples t-test, no accuracy differences were observed between those high ($M = 6.82$, $SD = .91$) and low ($M = 6.53$, $SD = 1.44$) in psychopathy, $t(106) = -.84$, $p = .40$. A similar null effect resulted from the comparison of PCL-R scores of 25 ($M = 6.83$, $SD = .91$) and below 15 ($M = 6.50$, $SD = 1.53$, n = 24), $t(44) = -.85$, $p = .40$. See Table 2 for item-level means.

3.2.4. Psychopathy Factor Effects—Next we examined whether subsets of traits within psychopathy, particularly the Interpersonal/Affective and Antisocial Behavioral factors of the PCL-R, might predict moral classification accuracy (Table 3). Using hierarchical regression analysis, neither factor was associated with moral classification accuracy, either additively, $R^2 = .01$, $p = .69$, or controlling for the other factor, $\Delta R^2 = .01$, $p = .69$. A similar

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[5]To further examine whether gender might have moderated the relationship between PCL-R and moral accuracy, a moderated multiple regression was conducted. Neither gender, PCL-R, nor their interaction yielded an effect in any combination (all $p > .48$).

result was obtained from regressing moral accuracy on the Fearless Dominance and Impulsive Antisociality factors of the PPI, $\Delta R^2 = .02$, $p = .11$. In addition, the PPI's Coldheartedness scale also produced no significant correlation with moral accuracy.

PCL-R facets 1–4 (interpersonal, affective, lifestyle, and antisocial facets, respectively) were also subjected to a hierarchical regression with moral classification accuracy as the dependent measure. Facets 2–4 yielded significant effects whereby facets 2 and 4 uniquely predicted reduced moral accuracy, and facet 3 uniquely predicted increased moral accuracy, controlling for the other facets, $R^2 = .14$, $p < .01$ (Table 3).

3.2.5. Relation to Harm—Was moral accuracy explained by harm judgments, and if so, did this association depend on psychopathy? First, a correlational analysis found no evidence of an association between harm ratings and PCL-R score, $r = -.11$, $p = .25$. Next, using a hierarchical linear regression, we regressed the number of correct moral items onto (1) the number of moral items judged to involve harm, (2) PCL-R score, and (3) the interaction of # 1 and 2 (all mean-centered) (see Table 4A). This test and an accompanying semipartial correlation revealed that harm judgments ($M = 7.54$, $SD = 1.0$) uniquely explained a significant proportion of the variance (26.2%) in the number of transgressions correctly classified. However, the effect of harm judgments on moral accuracy did not depend on participants' degree of psychopathy or the interaction of these factors (Step 2: $R^2 = .07$, $R^2 = .03$, $p < .05$). See Table 2 for harm ratings for each item.

3.2.6. Role of Intelligence—In subsequent analyses, IQ strongly correlated with moral accuracy, $r = .52$, $p < .0001$. In order to observe how much variance in performance was independently explained by IQ or its possible interaction with psychopathy, we conducted a hierarchical linear regression with (1) IQ, (2) PCL-R, and (3) their product as independent predictors, and moral accuracy as the dependent measure (see Table 4B). The model explained a significant proportion of the variance in moral accuracy (Step 2: $R^2 = .29$, $p < .001$). All of this variance was attributable to IQ, which, according to a semipartial correlation, uniquely explained 53.6% of this variance.

4. Conclusion

The present study sought to evaluate the view that individuals with psychopathy exhibit poor performance in the ability to classify transgressions as moral rather than conventional. This view was not based on direct evidence that psychopathic individuals fail to distinguish moral transgressions. This premise was only inferred from their tendency to categorize all transgressions as morally wrong, including the conventional transgressions (Blair, 1995; Blair et al., 1995). This over-categorization was originally interpreted as motivated by impression management concerns. The suggestion was that psychopathic individuals' true deficits in moral judgment would be apparent if only the social incentives to over-classify transgressions was moral were removed.

The present study attempted to minimize incentives for over-classification by structuring the MCT so that a perfect score could not be attained by categorizing all transgressions in the same way. This task was performed on a large sample with both male and female participants with age-appropriate stimuli. Contrary to the standard view, the present study found no evidence that high-psychopathy offenders—as measured by total psychopathy score—were any poorer at distinguishing moral from conventional transgressions than were low-psychopathy offenders. This pattern was independent of different statistical models and modestly correlated measures of psychopathy. In addition, all offenders performed similarly above chance regardless of their total psychopathy score. Finally, the positive association

between harm ratings and moral categorization accuracy held independently of total psychopathy score.

These results are consistent with earlier work showing that psychopathic participants performed no worse than controls in moral reasoning tasks (Link et al., 1977; Simon et al., 1951). They also parallel recent work examining psychopathic responses to images depicting moral wrongs, nonmoral but unpleasant social scenes, and neutral social scenes (Harenski et al., 2010). In this research, psychopathic and non-psychopathic criminal offenders rated the moral violation severity depicted in each type of image. Both groups rated moral violations with significantly higher moral severity than nonmoral unpleasant scenes, and no differences were observed between groups within any of the image conditions, suggesting equally accurate abilities to distinguish moral wrongs. As a whole, our results support the conclusion that psychopathy is not well-characterized by a distinct deficit in classifying moral as opposed to conventional wrongs.

Although psychopathy as a whole did not explain moral classification accuracy, some of its facets did. The Affective and Antisocial facets of the PCL-R predicted reduced performance on the MCT and the Lifestyle facet predicted positive performance. The negative association between performance and affect supports the conclusion that emotion may contribute to moral judgment abilities (e.g., Haidt, 2001). The negative association between performance and antisocial behavior may simply suggest that individuals with a poor understanding of moral norms may be more inclined to violate those norms. The positive association between performance and the Lifestyle facet was unexpected. Although this pattern is difficult to interpret in isolation, its opposition to facets 2 and 4 may help to explain why psychopathy as a whole failed to show a negative association with moral classification accuracy.

Among inmates as a whole, the variation in the ability to correctly classify moral transgressions was most strongly accounted by factors unrelated to psychopathy. IQ in particular—a measure of cognitive ability—explained approximately 54% of the variance in task performance. This effect of IQ might also help to explain the result showing that inmates as a whole performed less accurately than the university sample. Indeed, inmate IQ in this sample (93.3) was lower than that of typical university students. The effect of IQ on moral categorization accuracy is consistent with previous work conducted on civilly committed patients with criminal tendencies (O'Kane et al., 1996). In that research, the investigators found that IQ strongly positively correlated with patients' performance on a moral reasoning task, and the effect of psychopathy score on moral reasoning disappeared when IQ was entered into the statistical model. Thus, some combination of cognitive abilities captured by general intelligence measures may underscore the ability to classify moral wrongs while psychopathy does not.

In one study (Simon et al., 1951), psychopathic performance weakened when the response format was open-ended rather than multiple-choice. The authors suggested that psychopathic participants might only show moral reasoning difficulties when the task demands abstract moral reasoning unique to free-response formats. Likewise, in the MCT, it is possible that psychopathic participants lack the capacity to categorize moral wrongs only under free response conditions. Indeed, there is some evidence for deficits in abstract reasoning in psychopathy (e.g., Kiehl, Hare, McDonald, & Brink, 1999; Kiehl, Smith, Mendrek, Forster, Hare, & Liddle, 2004). Provided the possibility for impression management, it is also plausible that reduced performance in open-ended versions of the task (e.g., Blair, 1995; Blair et al., 1995) is explained by social desirability factors. As such, these factors could potentially mask the otherwise normal moral abilities of participants with psychopathy.

5. Discussion

Research has shown that people high in psychopathy exhibit reduced support for common moral intuitions such as harm prevention and fairness (Aharoni et al., 2011; Glenn et al., 2009). However, the present results suggest that an inability to distinguish moral from conventional wrongs—a lack of distinctively moral knowledge—is not an adequate explanation for their lack of concern for others.

If transgressive attitudes and behavior by psychopathic individuals do not result from a basic failure to understand moral wrongfulness, then the causes of their transgressions must lie elsewhere (Maibom, 2008). Indeed, when scholars theorize that psychopathic individuals understand moral norms but don't care about them, this suggests that the explanations for their antisocial behavior might be better sourced in emotional or motivational processes (Cima et al., 2010). For instance, whereas healthy adults tend to emotionally value others' welfare over the long term, individuals who devalue long term social investments would have less incentive to engage in pro-social relationships even if they have accurate moral knowledge (see Lalumiere, Harris, & Rice, 2001; Mealey, 1995). Without the inclination to assign emotional weight to prospective outcomes such as harming a person, psychopathic individuals could be less equipped to favor pro-social behaviors. If so, they could use their relatively accurate moral knowledge to exploit rather than invest in others. In other words, psychopathic individuals could potentially benefit by possessing representations of others' moral beliefs without personally endorsing those beliefs. In an ultimate sense, such behavior might even serve as an effective life-history strategy (Lalumiere et al., 2001; Mealey, 1995).

Whether emotion is important in moral knowledge development is highly debated even with regard to healthy cognition (see Haidt, 2001; Nado et al., 2009; Royzman, Leeman, & Baron, 2009). Given that psychopathy is characterized by emotional deficits, yet these individuals performed normally on the MCT, it would seem that healthy emotion may not be necessary for solving moral/conventional distinctions. However, the affective facet (#2) of the PCL-R suggests otherwise: that emotion predicts task performance. With regard to PCL-R total score, it is plausible that the facet 2 pattern was washed out by the null and negative effects attributable to the interpersonal (#1) and lifestyle (#3) facets.

Another debate concerns whether moral knowledge is sufficient to inspire moral conduct. Given that total psychopathy score is associated with increased antisocial conduct, the relatively accurate moral knowledge observed in these individuals does not appear to be sufficient to adequately regulate this conduct. However, this apparent disconnect between knowledge and conduct is complicated by the fact that increased facet 4 scores were associated with reduced MCT performance. In light of these inconsistencies, it would be useful to directly examine the extent to which moral knowledge mediates the relationship between emotion and conduct among those high and low in psychopathy. We speculate that without normal emotion, psychopathic individuals may have a weaker basis on which to value moral rules, despite having normal moral knowledge. Thus, if they do not value moral rules, their knowledge of those rules could be relatively powerless to deter them from antisocial behavior.

Whether individuals with psychopathy understand moral wrongfulness could bear on the insanity defense in many jurisdictions. The present study cautions that there is insufficient evidence to support insanity defenses based simply on the inability of these individuals to understand moral wrongfulness. How ever little they might value moral rules, people high in psychopathy total score do appear to understand these rules, at least in terms of classification accuracy (see also Glannon, 2008). Nonetheless, if psychopathic individuals prove to lack the motivational capacity to use this knowledge to drive their conduct, this could bear on

other criteria for insanity, like that of conforming one's conduct to the law (see MPC § 2.01, 1962). On this point, legal scholars Morse and Hoffman (2007) have argued that "The best reason to excuse psychopaths, if they should be excused at all, is not a 'general ignorance of law' defense. The better justification is that psychopaths lack the capacities—empathy and guilt—that are the primary tools rational agents use to give them good reason not to harm others unjustifiably" (p. 1131). Support for this claim will depend on whether psychopathic individuals truly lack such emotional/motivational capacities or whether the expression of these capacities is intact yet merely inconvenient.

In the present study, reduced moral categorization accuracy was significantly predicted by affective and antisocial traits and most strongly by an estimate of IQ. Although these factors are unlikely to provide sufficient grounds for legal excuse, our results suggest that they could potentially reflect some degree of inability to understand moral wrongfulness. If so, this interpretation would raise a demand for legislative bodies to further specify the ways in which reduced intelligence and these personality-related predictors ought to inform evaluations of criminal insanity.

5.1. Limitations & Future research

There are inherent difficulties in using a null result to infer support for a null hypothesis, and the present study is no exception to this statistical fact. However, there are at least three reasons we can have confidence that psychopathic performance as a whole was in fact on par with average performance of the entire inmate sample. First, all offenders performed at levels significantly greater than chance regardless of psychopathy level and method of measurement. Second, the null effect was independent of statistical method (e.g., linear regression, curvilinear regression, *t*-test). Third, our institutional sample size, which was substantially larger than previous studies of this kind (e.g., Blair, 1995; Blair et al., 1995), should have been large enough to detect true correlations between psychopathy total score and task accuracy, and yet no such effect was observed. Using power analysis, it is possible to estimate the number of subjects that would be required for our null effect to become statistically significant. Indeed, when defining liberal alpha and power thresholds of .05 and .8 respectively, this analysis indicated that a minimum of 5,469 subjects would be required for an effect of the size observed to achieve statistical significance. Thus, even if the trivial correlation between psychopathy total score and task accuracy ($R^2 = .0014$) were to represent a real effect, this effect would be so small that it would not be theoretically interesting by any standards.

The conclusion that PCL-R total score is unrelated to moral classification accuracy potentially can be explained by patterns observed within its individual facets. Because some of these facet effects ran in opposing directions, this could serve to neutralize any effect of total psychopathy score. This pattern of results also presented new challenges in interpreting the reasons for the directionality of the facet effects. In particular, the unexpected positive association between facet 3 and moral classification accuracy will require additional investigation before it is possible to delineate whether this effect is replicable, and if so, how and why it would predict improved MCT performance.

Despite a substantial N of 109 incarcerated participants, the study recruited only six offenders meeting clinical criteria for psychopathy (30+). As examined above, this fact poses no conflict using a purely dimensional model of psychopathy. However, to test taxonomic models of psychopathy that observe the PCL-R's traditional cut-point score, a greater number of individuals scoring high in psychopathy would be required. It remains possible that these individuals could show distinct abnormalities not observed in the present analyses.

The present study defined "moral" and "conventional" items by testing the results of a principal components analysis against a priori predictions. As a whole, the wrongfulness of these items was rated greater than zero. To the extent that these item groups differed in authority independence, participants were able to discriminate between them. However, it remains unclear whether each item is a good example of a "moral" or "conventional" transgression as traditionally defined by Turiel and colleagues' four criteria. As such, it remains possible that differences between this study and Blair's may result from unknown differences between the two sets of study stimuli. For instance, it is possible that the adult stimuli did not portray authority figures as explicitly as Blair's schoolyard scenarios, or that our conventional items were relatively less wrong than in other studies. As a consequence, future research should take care to collect pilot judgments of the study stimuli along all four traditional criteria (authority independence; violation of welfare, rights, or fairness; universality; seriousness) and directly compare these to the traditional schoolyard items.

The comparison group, though not a strict control group, provided a useful comparison by which to interpret the range of moral categorization accuracy among incarcerated participants generally. Because student performance exceeded that of inmates, this suggests that the mean scores from the incarcerated sample were not likely to be biased by a range-restriction problem inherent to the task. It also raises the theoretical point that moral knowledge can vary in degree and highlights the inherent difficulty in deciding—as with legal insanity—whether or not a person has substantial moral understanding in a dichotomous sense. Importantly, the student group was not intended to be a control group in the classic sense. In order to draw strong, precise conclusions about the relative accuracy between incarcerated and non-incarcerated adults, a larger, more varied comparison group would be required, and attempts should be made to match samples for intelligence, socio-economic status, gender, and other basic demographic variables.

The current design measured untrained, retrospective moral abilities only. Thus, individuals who performed poorly on the MCT cannot be said to lack the general capacity for moral understanding because it remains possible that their accuracy is responsive to feedback. Future studies should examine effects of feedback on inmates' accuracy on the MCT to gauge their capacity for prospective moral reasoning.

Finally, it was beyond the scope of the present study to measure or control for the specific cues that determine whether an act is to be judged as moral or conventional. For instance, while developing study stimuli, we permitted wrongfulness to covary with severity of harm. We took this approach because harm, among other cues, is largely definitional of—not an alternative to—Turiel's theoretical model of wrongfulness. Indeed, our results showed that harm may be characteristic of wrongfulness determinations. Nonetheless, other research in healthy adults has shown that such cues may be neither necessary nor sufficient for distinguishing between moral and conventional wrongs (Haidt, Koller, & Dias, 1993; Kelly et al., 2007; Nichols, 2002; Nisan, 1987). Future research should attempt to discern these necessary and sufficient conditions in attempt to better understand criminal and psychopathic moral judgment.

Acknowledgments

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Appendix

	Stimulus Item	Pilot Wrong/ Not Wrong (%)	Pilot Wrong-fulness Mean (SD)	Type
1.	After weeks of begging her, a man has sex with a woman against her wishes.	98.0	9.15 (1.79)	M
2.	Hoping to get money for drugs, a man follows a passerby to an alley and holds him at gunpoint.	100	8.98 (1.39)	M
3.	To make a political statement, a man rigs explosives onto a city bus engine.	100	8.98 (1.39)	M
4.	Wondering whether he could get away with it, a man sets fire to a local liquor store.	99.0	8.79 (1.83)	M
5.	Irritated by a noisy neighborhood dog, a neighbor shoots the dog with an arrow.	94.1	8.18 (2.10)	M
6.	Feeling bored one evening, a married man goes out to a bar and cheats on his wife.	94.1	7.94 (2.45)	--
7.	A little short on cash, a man enters a private home, takes two televisions, and sells them.	99.0	7.89 (2.22)	--
8.	Upset that his pizza order arrived late, a man hits the pizza delivery boy in the nose.	98.0	7.69 (2.21)	M
9.	A star athlete bets money against his own team, and then drops the ball so that his team will lose.	98.0	7.69 (2.21)	--
10.	Out of curiosity and attraction, a man and his sister agree to have sex in private.	86.1	7.37 (2.95)	--
11.	Stricken by opportunity, a man charges his groceries to a credit card that he found.	98.0	7.24 (2.51)	M
12.	After backing up into another car and damaging it, a driver leaves the scene to avoid paying for it.	98.0	7.22 (2.40)	--
13.	Annoyed by her sarcastic attitude, a man pulls a flight attendant's hair, causing her to scream.	98.0	7.20 (2.48)	M
14.	After being skipped in line at a hotel, a man smashes the hotel piano with a hammer.	97.0	7.09 (2.33)	--
15.	Frustrated with his boss, an employee breaks a company computer by throwing it down.	96.0	6.62 (2.59)	--
16.	Despite knowing that his classmates will need to read it, a student steals a book from the library and sells it on Ebay.	98.0	6.35 (2.66)	--
17.	Out of hatred for his recently deceased father, a man urinates on his father's grave.	62.4	6.16 (2.89)	--
18.	On a hot summer day, a man goes swimming nude in a public swimming pool.	85.1	5.24 (3.01)	--
19.	After finishing an excellent meal, the patron does not tip his male server because he only tips women.	81.2	4.87 (2.98)	--
20.	On a crowded street, a man urinates down a sewer drain.	77.2	4.73 (3.25)	--
21.	In the middle of a co-worker's presentation, a man talks loudly to another man.	84.2	3.93 (2.94)	--
22.	At his mother's funeral, a man wears a t-shirt and shorts although everyone else is in formalwear.	46.5	3.83 (3.07)	C
23.	Sitting in a public square full of people, a man picks his nose and wipes what he finds there on his shirt.	32.7	3.79 (2.94)	--
24.	Eager to try the cake at his friend's wedding reception, a man helps himself to a slice before the cake has been presented.	94.1	3.79 (2.94)	--
25.	At a classical music concert, a man boss's the conductor during the applause because he disliked the performance.	43.6	3.68 (3.18)	--

	Stimulus Item	Pilot Wrong/ Not Wrong (%)	Pilot Wrong-fulness Mean (SD)	Type
26.	Just to push his limits, a man wears a colorful skirt to the office for everyone else to see.	24.8	2.96 (3.05)	C
27.	Without seeking permission from his boss, a man walks off the job to pick up his laundry.	78.2	2.96 (2.40)	--
28.	In a shopping mall, a woman goes into the men's bathroom and uses a stall.	40.6	2.76 (2.62)	--
29.	Without concern for her reaction, a man tells a story to his dinner date with his mouth full.	42.6	2.72 (2.63)	--
30.	While talking, a woman always turns her back toward her audience.	42.6	2.53 (2.87)	--
31.	In a hurry, a customer walks down the 'up escalator' to get to the lower level before the stores close.	24.8	2.44 (3.07)	--
32.	After going all day without a meal, a man goes to a restaurant and eats his dinner with his fingers.	21.8	2.41 (2.32)	C
33.	Although he is in no particular hurry, a man drives 40 mph where the speed limit is 30 mph.	68.3	2.33 (2.49)	C
34.	Instead of going to the dressing rooms, a man tries on dress shirts in the center of the department store.	44.6	2.31 (2.50)	C
35.	In the office, an employee interrupts his boss while his boss is talking to him.	53.5	2.31 (2.63)	--
36.	Late for a meeting with his boss, a man eats his microwave lunch in his boss's office.	27.7	2.18 (2.28)	C
37.	In a fancy restaurant, a woman slurps soup straight from her bowl without using a spoon.	31.7	2.03 (2.40)	C
38.	Anxious to speak, a college student yells out a question during a lecture without raising his hand.	47.5	1.98 (2.38)	--
39.	After entering a hotel elevator full of other guests, a man sits down on the ground until he arrives at his floor.	18.8	1.53 (2.61)	--
40.	Just to see what it tastes like, a man orders ice cream on top of his salad.	5.0	0.2 (.45)	C

[*]
Pilot stimuli percentage wrong and mean wrongfulness ratings. "M" and "C" denote items selected to be moral and conventional stimuli, respectively (N = 102).
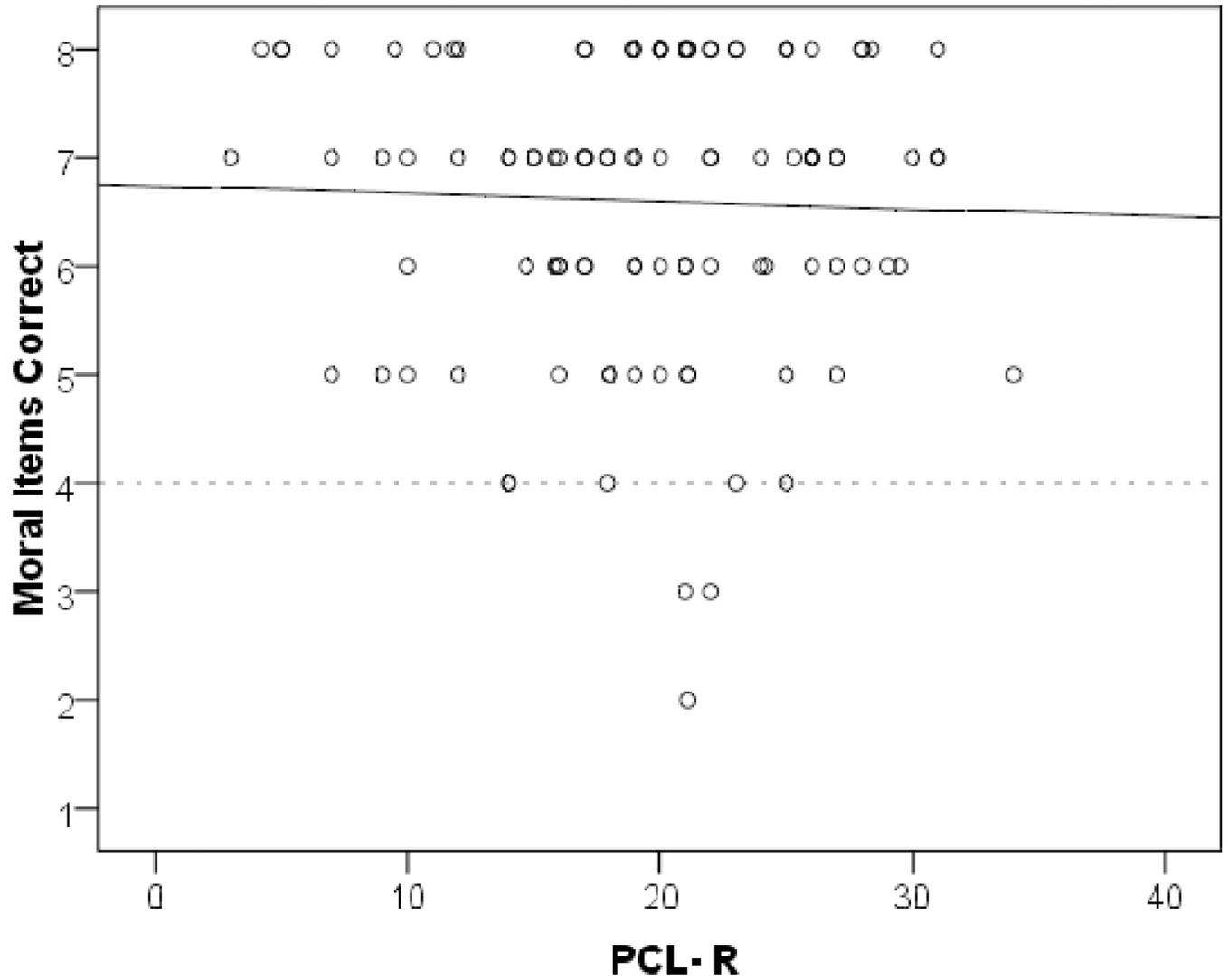
Figure 1.
Solid line represents association between PCL-R total score and number of moral
transgressions correctly classified in inmate sample (N = 109, *p* = .73). Dashed line
represents chance performance.
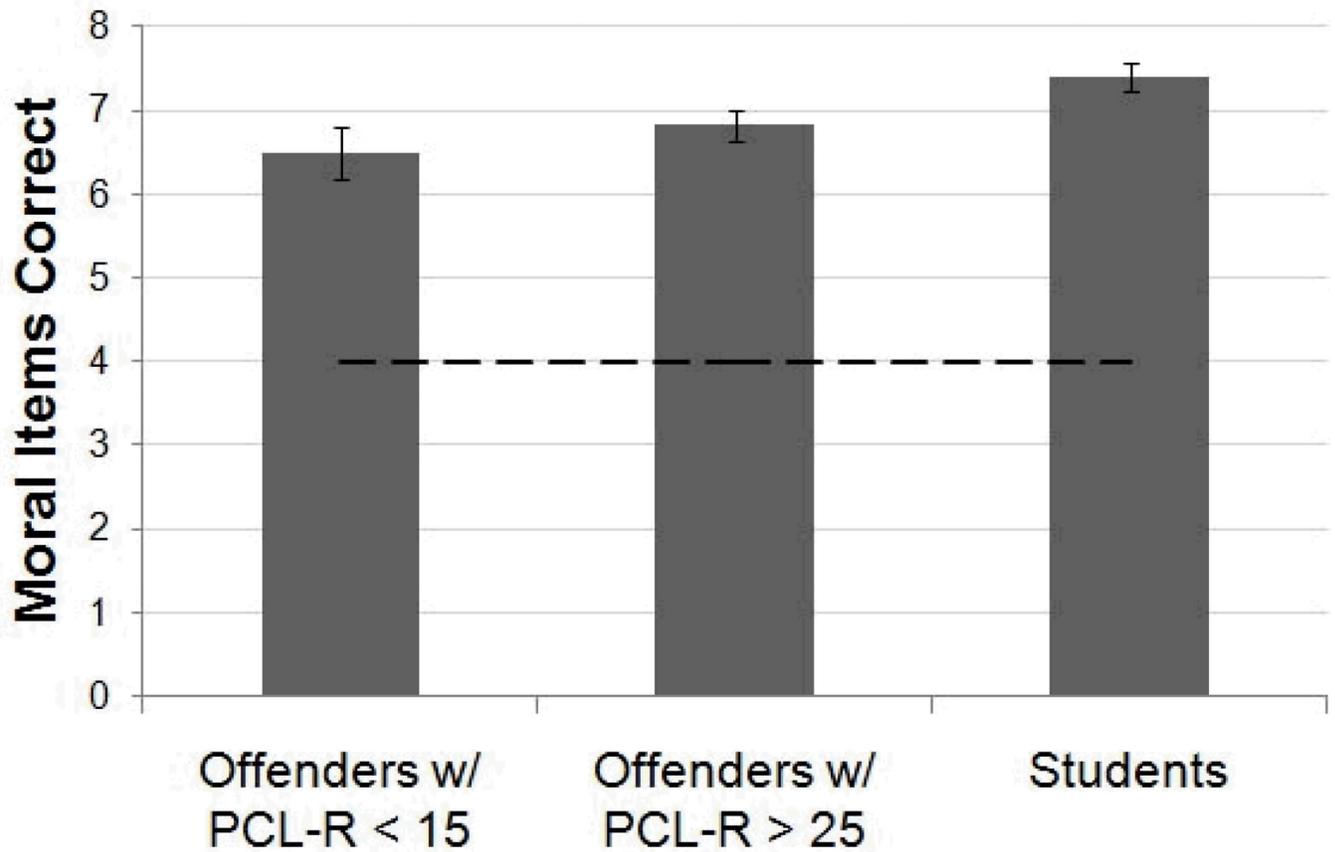
Figure 2.
Moral classification accuracy for inmates with high (n = 22) and low (n = 24) PCL-R scores as well as for students. High scoring inmates did not perform significantly worse than low scoring inmates (*p* = .40). Dashed line represents chance performance.

Table 1

Demographic characteristics of three samples. For experimental sample, education data was obtained for N = 96. Three percent of this sub-sample did not complete any high school courses. Experimental sample's economic status estimated by last annual salary ($0–24k, $25–74k, $75k+). Other samples' economic status estimated by self-report. Caucasian and Hispanic ethnic proportions non-mutually exclusive in accordance with standards of the National Institute of Health. Student sample's "other" ethnicity category derived by university estimate.

	Pilot Sample (Web)	Comparison Sample (Students)	Experimental Sample (Inmates)
N	102	30	109
Mean Age	31.2 (10.1)	19.0 (1.61)	36.2 (8.75)
Age Range	18–74	18–24	20–57
Sex ratio (male)	55%	50%	67.9%
Most Current GPA	3.55 (.45)	3.35 (.54)	Not collected
Education			
Some HS:	6%	0%	30%
HS diploma:	9%	0%	44%
Some college:	24%	100%	13%
BA:	33%	0%	5%
Tech degree:	8%	0%	5%
Grad degree:	21%	0%	0%
Economic Status			
Low:	23.8%	20.0%	56%
Middle:	67.3%	60.0%	27%
High:	8.9%	20.0%	4%
Ethnicity			
Caucasian:	86%	52%	25%
Hispanic:	1%	20%	41%
Asian:	3%	16%	0%
African Amer.:	4%	3%	5%
Native Amer.:	0%	1%	6%
Other:	6%	8%	34%
Religion			
Christian:	47%	23%	56%
Catholic:	11%	23%	24%
Jewish:	1%	0%	0%
Muslim:	0%	7%	1%
Buddhist:	2%	7%	0%
Hindu:	1%	0%	0%
Other:	8%	9%	11%
None:	31%	40%	8%

Table 2

(A) Chi-Square (χ^2) tests indicate that inmate accuracy on each wrongness item was significantly above chance (all $p < .001$). Percentage of inmates—total (B), low PCL-R score (C), and high PCL-R score (D)—who reported that the act was wrong even if there were no rules, customs, or laws against it (i.e., "morally wrong"). (E) Percentage of inmates who reported that the act involved harm. (F) Percentage of students who reported that the act was morally wrong.

Stimulus Item	Type	(A) χ^2 (vs. 50%)	Inmates "Wrong if no rules…?" (B) Total (%)	Inmates "Wrong if no rules…?" (C) PCL-R <15 (%)	Inmates "Wrong if no rules…?" (D) PCL-R >25 (%)	Inmates Harm (E) (%)	Students "Wrong if no rules…?" (F) (%)
		N = 109	N = 109	N = 24	N = 22	N = 109	N = 30
1. After weeks of begging her, a man has sex with a woman against her wishes.	M	65.33	91.3	87.0	90.9	97.3	96.7
2. Hoping to get money for drugs, a man follows a passerby to an alley and holds him at gunpoint.	M	71.10	91.3	87.0	100	99.1	93.3
3. To make a political statement, a man rigs explosives onto a city bus engine.	M	68.48	91.3	87.0	95.5	93.6	100
4. Wondering whether he could get away with it, a man sets fire to a local liquor store.	M	65.33	88.4	95.6	100	96.3	96.7
5. Irritated by a noisy neighborhood dog, a neighbor shoots the dog with an arrow.	M	50.70	84.8	87.0	81.8	96.3	96.7
6. Upset that his pizza order arrived late, a man hits the pizza delivery boy in the nose.	M	33.33	74.6	73.9	86.4	97.3	93.3
7. Stricken by an opportunity, a man charges his groceries to a credit card that he found.	M	14.82	69.6	65.2	54.5	80.6	73.3
8. Annoyed by her sarcastic attitude, a man pulls a flight attendant's hair, causing her to scream.	M	19.59	73.9	82.6	72.7	96.3	90.0
9. At his mother's funeral, a man wears a t-shirt and shorts although everyone else is in formalwear.	C	12.56	32.4	37.5	31.8	17.6	43.3
10. Just to push his limits, a man wears a colorful skirt to the office for everyone else to see.	C	31.15	23.2	17.4	13.6	6.5	6.7
11. After going all day without a meal, a man goes to a restaurant and eats his dinner with his fingers.	C	75.97	10.1	16.7	0.0	4.7	3.3
12. Although he is in no particular hurry, a man drives 40 mph where the speed limit is 30 mph.	C	36.41	20.1	20.8	27.3	30.6	0
13. Instead of going to the dressing rooms, a man tries on dress shirts in the center of the department store.	C	50.70	16.7	4.4	18.2	13.1	0
14. Late for a meeting with his boss, a man eats his microwave lunch in his boss's office.	C	66.28	8.6	20.8	4.5	9.3	0
15. In a fancy restaurant, a woman slurps soup straight from her bowl without using a spoon.	C	38.76	18.0	16.7	13.6	10.3	3.3
16. Just to see what it tastes like, a man orders ice cream on top of his salad.	C	66.28	9.4	16.7	0.0	3.7	3.3

Table 3

Zero-order and semi-partial correlation coefficients showing the association between moral classification accuracy and psychopathy score and that of its sub-factors for both the PCL-R and PPI in inmate sample (N = 109). Semi-partial correlation coefficients describe the proportion of variance explained by each factor controlling for other relevant factors.

	Zero-order r	Semi-partial r	Standardized β Coefficient
PCL-R Total	−.03	--	--
Interpersonal/Affective (I)	−.08	−.08	−.09
Antisocial Behavioral (II)	−.01	−.02	.03
Interpersonal Facet	.07	.04	.04
Affective Facet	−.18	−.19*	−.21
Lifestyle Facet	.16	.27**	.33
Antisocial Facet	−.17	−.24*	−.27
PPI Total	−.04	--	--
Fearless Dominance (I)	.17	.14	.14
Impulsive Antisociality (II)	−.16	−.13	−.13
Coldheartedness	−.15	--	--

Table 4

Variance in moral accuracy explained by (A) harm ratings, (B) IQ, and their interaction with PCL–R score in inmate sample (N = 109). β weights represent standardized regression coefficients.

Measure	Model	Harm	PCL-R	Harm*PCL-R	df
(A)	1	.20 *	--	--	106
	2	.31 **	–.01	–.21	104
		IQ	PCL-R	IQ*PCL-R	
(B)	1	.52 ***	--	--	102
	2	.55 ***	–.04	–.14	100

Standardized β coefficient

*
= p < .05;

**
= p < .01;

***
= p > .001.