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# Relations among psychopathy, moral competence, and moral intuitions in student and community samples

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**Purpose.** The nature of moral decision-making in those with pronounced psychopathic traits has been passionately debated, both in scientific literature and in the public policy arena. Research investigating the relationship between psychopathic traits and moral decision-making capacities has been largely inconclusive. However, recent research suggests individuals with elevated psychopathic traits may exhibit abnormal moral intuitions regarding the prevention of harm (Harm) and promotion of fairness (Fairness). Although moral intuitions are widely assumed to be related to moral judgement, no research has simultaneously examined the relations among psychopathy, moral intuition, and moral judgement.

**Methods.** We hypothesized that psychopathic traits would not be directly related to moral judgement outcomes but would be indirectly related by way of Harm and Fairness moral intuitions. To test these hypotheses, 121 undergraduate students and 205 community residents, across two studies, completed measures of psychopathy, moral intuitions, and moral judgement.

**Results.** Higher psychopathy scores were associated with decreased concerns about preventing harm and promoting justice across both samples. Individuals higher in psychopathic traits did not evidence deficits in moral judgement.

**Conclusions.** Our findings indicate that, although individuals with elevated psychopathic traits may organize their sense of morality differently, they can accurately discern moral from immoral decisions.

Psychopathy has long been considered a disorder with substantial moral implications. Prichard (1835) referred to psychopathy as 'moral insanity', reflecting the idea that individuals with high levels of psychopathic traits are lacking in basic morality. Ellis (1890) labelled these individuals as 'moral monsters' (p. 17), and Cleckley (1941) described individuals with marked psychopathic traits as lacking a moral sense.

These classic clinical descriptions notwithstanding, the nature of the moral deficits ostensibly observed in individuals with elevated levels of psychopathy has been a point of

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contention. Two opposing views have emerged. The first view is largely cognitive in nature, and centres on the notion that individuals with high levels of psychopathic traits possess deficits in the capacity to differentiate right from wrong. Some proponents of this view have argued that individuals with elevated psychopathic traits should be considered eligible for the insanity defence given that they do not grasp the moral gravity of their often antisocial actions (Levy, 2008; Morse, 2008). The contrasting view, which is largely motivational in nature, is that individuals with high levels of psychopathy scores understand and are aware of moral issues that they engage in antisocial behaviours with the knowledge their conduct is ethically wrong (Erickson & Vitacco, 2012; Vitacco, Erickson, & Lishner, 2013).

Research on psychopathy and moral judgement has often yielded mixed results and, as a result, is challenging to interpret (Borg & Sinnott-Armstrong, 2013). Because of the inconsistencies in the scientific literature, Marshall, Watts, and Lilienfeld (2016) conducted a meta-analysis to evaluate the relation between psychopathy and moral judgement. Drawing from 23 studies ( $N = 4,376$ ) that examined various measures of psychopathy, including self-report measures (e.g., PPI-R), and moral judgement tasks (e.g., Sacrificial Moral Dilemmas, Kohlbergian moral reasoning tasks), they detected small but statistically significant relations between psychopathy scores and commonly used measures of moral decision-making ( $r_w = .16$ ) and moral reasoning ( $r_w = .10$ ). However, they did not find much evidence for 'pronounced and overarching' moral deficits in conjunction with psychopathic traits, suggesting that reports of marked deficits may have been overstated, perhaps owing to publication biases (Marshall *et al.*, 2016, p. 48). As such, the authors concluded, 'Our results raise the distinct possibility that psychopathic individuals are more capable of understanding morality than has been traditionally assumed by laypersons, many mental health professionals, and some prominent psychopathy researchers and theorists. Our meta-analytic findings not only bear implications for our understanding of psychopathic individuals' immoral behavior, but may also raise questions concerning proposals from legal scholars (e.g., Levy, 2008) to excuse psychopathic individuals from criminal responsibility in light of their ostensibly deficient moral comprehension.' (p. 48).

### ***Psychopathy and moral psychology***

According to Kohlberg and colleagues, moral decision-making and behaviours are by-products of reasoning and deliberation (Kohlberg, Levine, & Hower, 1983, p. 69; see also Kohlberg, 1969). In other words, humans generally think about the consequences of an action before determining whether it constitutes a moral violation. According to this perspective, reasoning is the most important and dependable way to obtain moral knowledge (Haidt, 2012). In the context of psychopathy, rationalists (i.e., theorists who believe that reasoning is the optimal way to obtain moral knowledge) contend that individuals with elevated levels of psychopathic traits lack the capacity to make appropriate, morally based decisions (Nichols, 2002). Despite the prevalence of this perspective in moral psychology, some scholars have proposed that individuals with high psychopathic traits possess the ability to discern the appropriate moral action required to differentiate right from wrong (Aharoni, Sinnott-Armstrong, & Kiehl, 2012; Cima, Tonnaer, & Hauser, 2010). From this perspective, individuals with high levels of psychopathic traits possess the capacity to rationally appraise the moral quality of an argument without feeling compelled to modulate their moral behaviour (Nichols, 2002).

Such evidence challenges the validity of a purely rationalist model of highly psychopathic individuals' morality.

Work by Haidt (2001) suggests that individuals are frequently unable to explain the processes by which they formulate moral decisions or judgements, often judging certain social constructs (e.g., cannibalism of a deceased human; cutting up one's old American flag and using it as a cleaning rag) as 'wrong' without being able to articulate reasons why they are wrong, a curious phenomenon termed 'moral dumbfounding'. To this point, Haidt argued that moral reasoning is a skill humans acquired as a means to justify their moral decisions rather than vice versa. The Moral Foundations Model (Haidt, 2012; Haidt & Graham, 2007) proposes five basic foundations of morality, namely (1) preventing harm to others (Harm); (2) preserving fairness, equal rights, and justice (Fairness); (3) practising loyalty towards one's in-group relative to treatment towards out-groups (In-group/Loyalty); (4) respecting authority within hierarchical relationships (Authority); and (5) practising purity or sanctity of body, mind, and soul (Purity/Sanctity). Research suggests that healthy adults organize their moral intuitions in this manner across cultural settings (Graham *et al.*, 2011).

According to the Moral Foundations Model, moral intuitions arise automatically before moral judgements are made, and people subsequently justify their intuitions by way of moral reasoning. As such, humans are theoretically predisposed to affectively experience moral intuitions, which can later be modified by internal (e.g., personality traits) and external (e.g., cultural) factors (Haidt & Joseph, 2004). From this standpoint, people first make moral decisions based on their initial gut reactions (emotion/affect) and subsequently justify these reactions through a process of reasoning (cognition).

Research using forensic (Aharoni, Antonenko, & Kiehl, 2011) and community (Glenn, Iyer, Graham, Koleva, & Haidt, 2009) samples has found that individuals higher in psychopathy were less likely to endorse a desire to prevent harm and promote fairness than were individuals lower in psychopathy; these studies yielded no other significant differences in moral intuitions as a function of psychopathy. These moral intuitions are thought to be instrumental in guiding moral judgement (Crone & Laham, 2015; Haidt, 2001; Koleva, Selterman, Iyer, Ditto, & Graham, 2013) and ultimately behaviour. However, neither of the aforementioned studies (Aharoni *et al.*, 2011; Glenn *et al.*, 2009) explicitly assessed moral judgement, and both instead relied on moral intuitions. Although moral intuitions have been hypothesized to be directly related to explicit moral judgement (Haidt, 2001), little research has examined this model empirically. By acquiring a nuanced understanding of moral intuitions in relation to psychopathic traits and moral judgement, researchers can better understand the pathological components of moral decision-making in individuals with elevated psychopathy scores.

### **Current studies**

The purpose of the two studies reported here was to examine the relations between psychopathy and both moral intuitions and moral judgement. As observed earlier, research regarding psychopathy's role in moral judgement has been largely inconclusive. This lack of clarity is problematic, particularly in the legal arena, as moral deficits may influence individuals' legal responsibility for their actions (Morse, 2008; see also Litton, 2007). Of the 46 US states that currently employ the insanity defence, 40 allow for consideration of both moral and legal wrongfulness (Packer, 2009). To that end, we proposed and tested two hypotheses.

First, consistent with prior research, we hypothesized that the moral intuitions to prevent harm to others and preserve fairness would be significantly lower in participants with elevated psychopathy scores. As psychopathy is marked largely by callousness and manipulateness (Berg, Hecht, Litzman, & Lilienfeld, 2015; Hare & Neumann, 2008), these traits should relate to moral intuitions (see Aharoni *et al.*, 2011; Glenn *et al.*, 2009; Haidt, 2012). Second, we hypothesized that psychopathy would not be directly related to moral judgement deficits<sup>1</sup> but would be indirectly related to moral judgement deficits by way of moral intuitions.

Regarding this first possibility, we tested the idea that although individuals with high levels of psychopathic traits organize their sense of ‘morality’ in terms of moral intuitions (e.g., decreased concern of preventing harm to others or preserving fairness in society), they would be able to distinguish moral from immoral decisions. This viewpoint is consistent with research (Aharoni *et al.*, 2012; Cima *et al.*, 2010), including a recent meta-analysis (Marshall *et al.*, 2016), as well as Haidt’s hypothesis that individuals with high levels of psychopathy reason ‘quite well’, but, due to their ‘lack of moral emotions’, learn what to do and say to fulfil their desired outcomes (Haidt, 2013, p. 73). In addition, based on research (Aharoni *et al.*, 2011; Glenn *et al.*, 2009), we hypothesized that intuitions to prevent harm to others and preserve fairness would mediate the relationship between psychopathic traits and moral judgement. Recent research (Crone & Laham, 2015; Koleva *et al.*, 2013) suggests that moral intuitions predict moral judgements. However, extant research has not examined these relationships in the context of psychopathy. To test this alternative hypothesis, we conducted a series of Preacher and Hayes’ (2004) mediation models with psychopathy as the predictor variable, the moral intuitions of Harm and Fairness as mediators, and moral judgement as the outcome variable.

## STUDY I: UNDERGRADUATE SAMPLE

### Method

#### *Inclusion criteria for study and analyses*

Inclusion criteria for the study included being age 18 or older. Inclusion criteria for the analyses included completing and adequately attending to all the administered measures. Attention was measured by including one ‘catch question’, written by one of the study’s authors, in each measure. Catch questions (e.g., ‘If you are paying attention, select *False* for this item’) were composed to match the format and response options of each survey’s questions. Catch questions were included due to the relatively high levels of inattention found in some online samples (e.g., Fleischer, Mead, & Huang, 2015). Participants who did not finish all administered measures ( $N = 9$ ) or answer all three catch questions correctly ( $N = 37$ ) were excluded from the analyses, leaving a final sample of 121 undergraduates. Excluded participants did not differ from included participants in terms of age,  $F(1, 156) = .33, p = .57$ . However, there were significant differences between included and excluded participants in terms of race,  $\chi^2(9, N = 158) = 28.30, p < .001$  and gender,  $\chi^2(2, N = 158) = 5.96, p = .05$ . This racial difference was due in part to excluding two Native American and three racially unidentified participants, as no Native American or racially unidentified participants were included in the final sample. The gender difference

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<sup>1</sup> Although a recent meta-analysis (Marshall *et al.*, 2016) found a significant relationship between psychopathic traits and moral judgement deficits, the effect sizes were small, suggesting that although these relationships may be statistically significant, they may lack practical significance (see p. 3 for further discussion).

was due to including significantly more female participants than we excluded (we included 85 female participants and excluded 20).

### **Participants**

Participants were all enrolled in a regional southeast public university in the United States. Thirty-six were male (30%) and 85 were female (70%). Of the sample, 80 participants identified as Caucasian (66%), 24 as African American (20%), six as Hispanic (5%), one as Asian (1%), and one as American Indian/Alaskan Native (1%). Nine participants identified as Multiracial (7%). The mean age of the sample was almost 20 years of age ( $M = 19.62$ ;  $SD = 2.46$ ). Participants were recruited through the Psychology Department's web-based research participation pool. They completed the study as a requirement for an undergraduate class or in exchange for extra credit. This study was approved by the university's Institutional Review Board (IRB).

### **Procedure**

Participants independently completed a series of Internet-based measures via Qualtrics software (Qualtrics, Provo, UT, USA). A web link to the survey was included through the web-based research participation pool. The order of questionnaire administration was randomized. Participants received an introduction explaining that the purpose of the study was to assess the relation between personality and decision-making.

### **Measures**

#### *Psychopathic Personality Inventory-Revised-Short Form*

Psychopathic traits were measured using the Psychopathic Personality Inventory-Revised-Short Form (PPI-R-SF; Lilienfeld & Hess, 2001). The PPI-R-SF was chosen because it has been well validated in undergraduate and community samples (Lilienfeld & Hess, 2001; Lilienfeld, Latzman, Watts, Smith, & Dutton, 2014). The PPI-R-SF is a 56-item, self-report measure of psychopathic traits and items are answered on a 4-point scale (1 = *false*, 2 = *mostly false*, 3 = *mostly true*, 4 = *true*). At least in non-clinical samples, the PPI-R-SF exhibits the same higher-order three factor structure (i.e., Fearless Dominance, Self-Centered Impulsivity, and Coldheartedness) and uses the same eight factor-analytically developed content scales from the full Psychopathic Personality Inventory-Revised. The Fearless Dominance factor is composed of the Social Influence, Fearlessness, and Stress Immunity Scales, whereas the Self-Centered Impulsivity Factor is composed of the Machiavellian Egocentricity, Rebellious Nonconformity, Blame Externalization, and Carefree Nonplanfulness scales (Lilienfeld & Widows, 2005). The Fearless Dominance factor reflects low levels of tension and anxiety and high levels of physical risk-taking and interpersonal dominance; the Self-Centered Impulsivity factor reflects high levels of impulsivity, blame externalization, and self-centredness; and the Coldheartedness factor reflects high levels of callousness and an absence of guilt (Lilienfeld & Widows, 2005). The PPI-R-SF has correlated  $r = .90$  or above with the full form in several undergraduate samples (Lilienfeld & Hess, 2001). The internal consistency of the PPI-R-SF total score in our undergraduate sample was .86. The internal consistencies of the three PPI factor scores ranged from .67 (Coldheartedness Factor) to .84 (Self-Centered Impulsivity).

The overall levels of psychopathy found in our undergraduate sample were comparable to those from the normative data extracted from the shorter version of the PPI-R normative sample, which used a combined undergraduate/community sample (Lilienfeld & Widows, 2005). Nevertheless, as the PPI-R was designed to assess psychopathy dimensionally (see Marcus, John, & Edens, 2004; for evidence that PPI-assessed psychopathy is dimensional rather than taxonic), it does not provide recommended cut-off scores to distinguish ‘psychopaths’ from ‘non-psychopaths’. The practice of treating psychopathy dimensionally and not categorically is consistent with the prevalent view and existing literature on the PPI, Psychopathy-Checklist-Revised, and other well-validated psychopathy measures (e.g., Edens, Lilienfeld, Marcus, & Poythress, 2006; Marcus *et al.*, 2004; Skeem, Polaschek, Patrick, & Lilienfeld, 2011) that psychopathy is a continuous (dimensional) and non-taxonic entity. As such, we examined psychopathy scores using continuous scores.<sup>2</sup>

#### *Moral Foundations Questionnaire*

Moral intuitions were measured using the Moral Foundations Questionnaire (MFQ; Graham *et al.*, 2011), a 30-item, self-report measure of moral intuitions and items are answered on a 5-point scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*). Participants evaluate the extent to which each item is ‘relevant to their thinking’ when making moral decisions and indicated their agreement or disagreement with questions such as ‘one of the worst things a person could do is hurt a defenceless animal’. The MFQ is composed of five moral foundations (6 items per foundation): Harm (i.e., ability to feel the pain of others), Fairness (i.e., reciprocal altruism or concerns about justice, rights, and autonomy), In-group/Loyalty (i.e., patriotism and self-sacrifice for group), Authority (i.e., leadership and followership), and Purity/Sanctity (i.e., striving to live a noble life). Higher MFQ scale scores represent higher preference for the specific moral intuition assessed, and none of the scales are reversed scored. The internal consistencies of the MFQ scales have ranged from .65 to .84 in previous research (Graham *et al.*, 2011). The internal consistencies of the 5 MFQ Factor scores ranged from to .56 (Authority) to .70 (Purity/Sanctity) in our undergraduate sample.

#### *Moral Competence Test*

Moral judgement was measured using the Moral Competence Test (MCT; Lind, 1978, 2014). The MCT (formerly known as the Moral Judgement Test) is a 28-item, self-report measure that is answered on a 9-point scale (−4 = *I completely reject*, +4 = *I completely accept*). Participants read a vignette of two different moral scenarios and rate the acceptability of each proceeding moral argument (e.g., Do you accept or reject the following arguments in favour of the two workers’ behaviour? Suppose someone argued they were right because they did not cause much damage to the company). We used the *C*-index, which reflects a person’s ability to judge arguments according to their moral quality. The *C*-index is calculated based on an analysis of the total pattern of responses, yielding an overall score of one’s ‘moral competence’ (Lind, 2014). The *C*-score is

<sup>2</sup> Although a number of studies have analyzed psychopathy as a categorical variable, in some cases using median splits, this practice is inconsistent with evidence, reviewed here, that psychopathy is a non-taxonic, continuous variable. Furthermore, the dichotomization of continuous variables almost always results in decreased statistical power and is therefore inadvisable (MacCallum, Zhang, Preacher, & Rucker, 2002).

classified according to its value: low, 1–9; medium, 10–29; high, 30–49; and very high, >50 points.

The MCT has been well validated in many different cultures and languages (Lind, 2005). For example, the *C*-Index is positively associated with democratic attitudes and negatively associated with dogmatic attitudes, external locus of control, and intolerance for ambiguity (Lind, Hartmann, & Wakenhut, 1985). In addition, the *C*-Index is positively associated with other measures of moral judgement (Ishida, 2006). The internal consistency of the *C*-Index has been reported to be as high as .90 (Lerkiatbundit, Utaipan, Laohawiriyanon, & Teo, 2006). The internal consistency of the MCT *C*-Index was .71 in our undergraduate sample.<sup>3</sup> Although the overall moral competence (based on *C*-Index scores) of the participants in this study was diverse, the majority of the participants' moral competence scores fell in the low (41%) and medium (44%) ranges. Eight per cent of the participants' scores fell in the high range and seven per cent fell in the very high range.

### *Demographics*

Participants completed a demographic questionnaire concerning their gender, race, ethnicity, religion, years of education, and age.

## **Results**

### ***Descriptive statistics***

None of the distributions for the analysed variables was markedly skewed. Descriptive statistics, including means and standard deviations, were calculated for each measure (PPI-R-SF; MCT; MFQ), and detailed descriptive statistics for each measure, including scales and factor scores, are reported in Table 1.

### ***Relationships among psychopathy, moral intuitions, and moral judgement***

Zero-order correlations, reported in Table 2, revealed no significant relationships between PPI-R-SF total, PPI-R-SF Fearless Dominance Factor, PPI-R-SF Self-Centered Impulsivity Factor, or PPI-R-SF Coldheartedness Factor scores, on the one hand, and the MCT *C*-Index scores on the other. With regard to moral intuitions, however, the moral intuitions of Harm, Fairness, and Purity/Sanctity were negatively correlated with the PPI-R-SF total and PPI-R-SF Coldheartedness Factor scores. The PPI-R-SF Self-Centered Impulsivity Factor was also negatively associated with Fairness and Purity/Sanctity, but not Harm. The PPI-R-SF Fearless Dominance factor was positively associated with the moral intuition of In-group/Loyalty. No other significant associations were found between the PPI-R-SF total or factor scores and moral intuitions.

### ***The relation between both psychopathy and moral intuitions on moral judgement***

To examine the potential distinctive contributions of psychopathy dimensions above and beyond each other for statistically predicting moral judgement, a simultaneous

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<sup>3</sup> Lind (2014) cautioned against examining the internal consistency of the *C*-Index because the MCT regards consistent response patterns as a sign of a person's moral judgement competence and not as an inherent attribute of the test.



**Table 1.** Descriptive statistics and alpha reliability coefficients for administered measures

Measure	<i>M (SD)</i>		$\alpha$	
	Study 1	Study 2	Study 1	Study 2
PPI total	116.79 (17.61)	109.33 (17.38)	.86	.86
PPI-1	48.74 (9.77)	46.02 (9.76)	.82	.84
PPI-2	55.07 (10.69)	46.65 (11.01)	.84	.86
PPI-3	12.98 (3.43)	13.66 (3.98)	.67	.78
Machiavellian Egocentricity	13.64 (4.04)	11.89 (3.88)	.77	.79
Social Influence	17.17 (4.44)	15.47 (4.51)	.81	.82
Fearlessness	15.87 (5.32)	12.79 (5.09)	.82	.86
Rebellious Nonconformity	13.51 (3.87)	12.16 (4.02)	.74	.78
Blame Externalization	16.02 (4.73)	14.21 (5.46)	.79	.89
Carefree Nonplanfulness	11.89 (3.10)	11.39 (2.91)	.67	.64
Stress Immunity	15.69 (4.80)	17.76 (4.98)	.83	.86
Moral Competence	17.38 (17.74)	15.13 (15.83)	.71	.67
Test C-Index				
Harm	4.59 (0.73)	4.69 (0.79)	.58	.68
Fairness	4.58 (0.66)	4.65 (0.76)	.61	.63
In-group	4.01 (0.80)	3.35 (0.98)	.60	.76
Authority	4.19 (0.73)	3.78 (0.99)	.56	.73
Purity	3.84 (0.93)	3.43 (1.36)	.70	.87

Note. PPI-1 = Fearless Dominance Factor; PPI-2 = Self-Centered Impulsivity Factor; PPI-3 = Coldheartedness Factor.

**Table 2.** Study 1 (undergraduate sample) zero-order correlations among study variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. PPI total	–	–	–	–	–	–	–	–	–
2. PPI-1	.78***	–	–	–	–	–	–	–	–
3. PPI-2	.81***	.30***	–	–	–	–	–	–	–
4. PPI-3	.40***	.18*	.18*	–	–	–	–	–	–
5. C-Index	–.08	–.02	–.11	–.03	–	–	–	–	–
6. Harm	–.29***	–.16	–.16	–.56**	.03	–	–	–	–
7. Fairness	–.31***	.17	–.24**	–.37***	.12	.53***	–	–	–
8. In-group	.08	.18*	–.04	.01	.02	.19*	–.01	–	–
9. Authority	–.04	.02	–.04	–.12	–.02	.19*	.10	.63***	–
10. Purity	–.19*	–.07	–.18*	–.22**	.05	.25**	.15	.49***	.54***

Notes. PPI-1 = Fearless Dominance Factor; PPI-2 = Self-Centered Impulsivity Factor; PPI-3 = Coldheartedness Factor.

\* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ .

multiple regression was conducted. These analyses were exploratory, as little research has examined the differential contributions of psychopathy factors in the context of moral intuitions or moral judgement. Specifically, the three PPI-R-SF factors were entered simultaneously to ascertain whether psychopathic traits in aggregate predict MCT C-Index scores. The model was not supported,  $R^2 = .01$ ,  $F(3, 117) = .47$ ,

$p = .70$ , suggesting that psychopathic traits did not predict actual moral judgements.<sup>4</sup> Next, to examine the distinctive contributions of moral intuitions for statistically predicting moral judgement, a simultaneous multiple regression was conducted. Specifically, the five MFQ scales were entered simultaneously to ascertain if moral intuitions statistically predict MCT C-Index scores. The model was again not supported,  $R^2 = .02$ ,  $F(5, 115) = .56$ ,  $p = .73$ , suggesting moral intuitions did not predict actual moral judgements.

### **Mediation analyses**

To test the proposed mediation model, a series of Preacher and Hayes' (2004) mediation analyses were performed with PPI-R-SF total as the predictor variable, each individual MFQ scale as the posited mediator variable, and MCT C-Index score as the outcome variable. Bias-corrected bootstrapping procedures were used ( $N = 5,000$ ) to generate 95% confidence intervals (Preacher & Hayes, 2004). This analysis was chosen because neither the predictor and mediator nor the mediator and outcome variables is required to be significantly related to one another to conduct the analysis. Overall, none of the proposed mediation models was supported, as no significant direct or indirect effects were found (see Table 3).

## **Study 1 Discussion**

These results suggest that psychopathy is not significantly associated with deficits in moral judgement in an undergraduate sample; in addition, we detected no significant indirect effects, as moral intuitions did not mediate the relationship between psychopathy and moral judgement. However, consistent with prior research (e.g., Aharoni *et al.*, 2011; Glenn *et al.*, 2009), psychopathy was negatively related to the moral intuitions of Harm, Fairness, and Purity. These findings suggest that, although individuals with high levels of psychopathy may exhibit decreased concerns about harm prevention and societal fairness, they are largely capable, at least in principle, of adequate moral decision-making. To examine a greater range of psychopathic traits in a more diverse and larger sample, we aimed to conceptually replicate our findings using a community sample.<sup>5</sup>

## **STUDY 2: COMMUNITY SAMPLE**

### **Method**

#### ***Inclusion criteria for study and analyses***

The inclusion criteria for this study were identical to those of Study 1. Participants who did not finish all administered measures ( $N = 23$ ) and answer all three catch questions correctly ( $N = 37$ ) were excluded from the analyses. Excluded ( $M = 31.57$ ;  $SD = 2.35$ ) participants in this sample were significantly younger than included participants ( $M = 41.82$ ;  $SD = 1.00$ ;  $F(1, 240) = 16.16$ ,  $p < .001$ ); this difference was very large in

<sup>4</sup>In a subsidiary analysis, we conducted a multiple analysis of variance (MANOVA) with Lind's proposed C-Index moral competence categorizations (low, medium, high, very high) as the independent variable and psychopathy factor scores as the outcome variables. Moral competence categorizations were again not significantly associated with psychopathy scores.

<sup>5</sup>A series of independent samples t-test analyses revealed that the undergraduate sample obtained significantly higher psychopathy scores than the community sample across psychopathy factors with the exception of Coldheartedness, which did not differ significantly between groups.

**Table 3.** Study 1 – Moral intuitions as mediator between psychopathic traits and moral judgment

Moral intuition	$\beta$	95% Confidence interval (lower limit)	95% Confidence interval (higher limit)	Z	Significance test
Harm	-.00	-0.06	0.05	-0.10	.92
Fairness	-.03	-0.10	0.03	-1.02	.31
In-group	.00	-0.02	0.02	0.21	.83
Authority	.00	-0.02	0.02	0.10	.92
Purity	-.01	-0.05	0.03	-0.30	.76

Note. 5,000 Bootstrap samples were utilized.

magnitude (Cohen's  $d = 5.48$ ). Additionally, there was a significant racial difference between chosen and excluded participants,  $\chi^2(8, N = 244) = 43.85, p < .001$ . This racial difference was due in part to including significantly more African American (excluded 5 and included 14), Caucasian (excluded 19 and included 172), Asian (excluded 4 and included 8), and Multiracial (excluded 1 and included 8) participants than excluded. No significant gender differences emerged between included and excluded participants,  $\chi^2(2, N = 242) = 3.14, p = .21$ .

### Participants

Participants were recruited from Amazon Mechanical Turk (MTurk) and paid 55 cents after answering the catch questions correctly and completing all measures. The final sample consisted of 205 community residents from across the United States. Of these, 76 were male (37%) and 128 were female (62%); one participant identified as transgender. One hundred and seventy-two participants identified as Caucasian (85%), 14 as African American (7%), eight as Asian (4%), one as American Indian/Alaskan Native, and one as Hispanic. Eight participants identified as Multiracial (4%) and one participant declined to respond. The mean age was almost 42 years of age ( $M = 41.82; SD = 14.97$ ).

### Procedure

A brief description regarding the questionnaire, including its length and incentive value, was posted on the MTurk website, and MTurk workers signed up voluntarily to complete the survey at the time and location of their choosing. Participants then received an introduction, which informed them that the purpose of the study was to examine the relationship between personality and decision-making. The order of questionnaire administration was again randomized. The same measures included in Study 1 were included in Study 2 (see Study 1 Measures section). The internal consistency of the PPI-R-SF total score in the community sample was again .86. The internal consistencies of the three PPI Factor scores ranged from .78 (Coldheartedness) to .86 (Self-Centered Impulsivity) in our community sample. The internal consistencies of the 5 MFQ factor scores ranged from .63 (Fairness) to .87 (Purity/Sanctity). The internal consistency of the MCT C-Index was .67. As in Study 1, participants' overall moral competence scores were diverse; the majority of the participants' moral competence scores fell in the low (46%) and medium (41%) ranges. Eight per cent of the participants' scores fell in the high range and 5% fell in the very high range. The participants' overall level of moral competence did not differ significantly between Studies 1 and 2,  $\chi^2(3, N = 326) = 1.66, p = .64$ .

## Results

### **Descriptive statistics**

None of the distributions for the analysed variables was markedly skewed. Descriptive statistics for these measures, including means, standard deviations, and ranges are reported in Table 1.

### **Relationships among psychopathy, moral intuitions, and moral judgement**

Zero-order correlations, displayed in Table 4, again revealed no significant relationships between PPI-R-SF total, PPI-R-SF Fearless Dominance Factor, PPI-R-SF Self-Centered Impulsivity Factor, or PPI-R-SF Coldheartedness Factor scores, on the one hand, and MCT C-Index scores, on the other.<sup>6</sup> With regard to moral intuitions, Harm and Fairness were negatively associated with the PPI-R-SF total, PPI-R-SF Fearless Dominance Factor, and PPI-R-SF Coldheartedness Factor scores. Similarly, Harm was negatively associated with PPI-R-SF Self-Centered Impulsivity Factor scores. Purity/Sanctity was also negatively associated with PPI-R-SF total and PPI-R-SF Self-Centered Impulsivity Factor scores. Authority was negatively associated with PPI-R-SF total and PPI-R-SF Self-Centered Impulsivity Factor scores. No other significant associations emerged between PPI-R-SF total and factor scores and other moral intuitions.

### **The relation between both psychopathy and moral intuitions and moral judgement**

To examine the distinctive contributions of psychopathy dimensions above and beyond each other for statistically predicting moral judgement, we again performed a simultaneous multiple regression. These analyses were again exploratory, as little research has examined psychopathy factors in the context of moral judgement. Specifically, the three PPI-R-SF factors were simultaneously entered to assess whether psychopathic traits predict MCT C-Index scores. The model was again not supported,  $R^2 = .03$ ,  $F(3, 202) = 1.86$ ,  $p = .14$ , indicating that psychopathic traits did not predict moral judgements.<sup>7</sup> Next, to examine the distinctive contributions of moral intuitions for statistically predicting moral judgement, a simultaneous multiple regression was conducted. Specifically, the five MFQ scales were entered simultaneously to ascertain whether moral intuitions predict MCT C-Index scores. In contrast to the findings of Study 1, the model was supported,  $R^2 = .06$ ,  $F(5, 200) = 2.34$ ,  $p = .04$ . However, none of the MFQ scales was a significant predictor in the overall model.

### **Mediation analyses**

To test the proposed mediation model, a series of Preacher and Hayes' (2004) mediation analyses were performed with PPI-R-SF total as the predictor variable, each individual MFQ scale as the mediator variable, and MCT C-Index as the outcome variable. Bias-

<sup>6</sup> As in Study 1, there was a small but significant negative correlation between the PPI-R-SF Carefree Nonplanfulness subscale and MCT C-Index scores,  $r(204) = -.19$ ,  $p = .01$ . There were no significant relations between the other PPI-R-SF subscales and MCT C-Index scores.

<sup>7</sup> A MANOVA was again performed with Lind's proposed MCT C-Index moral competence categorizations (low, medium, high, very high) as the independent variable and psychopathy factor scores as the outcome variables. Moral competence categorizations were again not significantly associated with psychopathy scores.

**Table 4.** Study 2 (community sample) zero-order correlations among study variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. PPI total	–	–	–	–	–	–	–	–	–
2. PPI-1	.71***	–	–	–	–	–	–	–	–
3. PPI-2	.77***	.16*	–	–	–	–	–	–	–
4. PPI-3	.49***	.23***	.20**	–	–	–	–	–	–
5. C-Index	–.03	.09	–.12	–.01	–	–	–	–	–
6. Harm	–.36***	–.22***	–.18**	–.54***	.08	–	–	–	–
7. Fairness	–.26***	–.22***	–.07	–.43***	.15*	.63***	–	–	–
8. In-group	–.01	–.02	.03	–.10	–.16*	.09	–.00	–	–
9. Authority	–.14*	–.05	–.14*	–.08	–.11	.07	–.05	.68***	–
10. Purity	–.14*	–.06	–.14*	–.11	–.14*	.00	–.05	.53***	.72***

Notes. PPI-1 = Fearless Dominance Factor; PPI-2 = Self-Centered Impulsivity Factor; PPI-3 = Coldheartedness Factor.

\* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ .

corrected bootstrapping procedures were used ( $N = 5,000$ ) to generate 95% confidence intervals (Preacher & Hayes, 2004). As in Study 1, none of the proposed mediation models was supported, as no significant direct or indirect effects were found (see Table 5).

## Study 2 Discussion

As in Study 1, the results suggest that psychopathy is not significantly associated with global deficits in moral judgement. In addition, no significant indirect effects emerged, as moral intuitions did not significantly mediate the relation between psychopathy and moral judgement. Consistent with Study 1 and prior research (e.g., Aharoni *et al.*, 2011; Glenn *et al.*, 2009), psychopathy was negatively related to the moral intuitions of Harm, Fairness, and Purity. In contrast to Study 1, psychopathy was negatively related to the Authority moral intuition, suggesting that individuals with high psychopathy scores tend to believe that people should not respect and follow traditional authority figures. Counter to Study 1's findings, moral intuitions were predictive of moral judgement outcomes in the community sample. However, no specific individual moral intuition was a predictor in the overall model, suggesting that this result was attributable to their shared rather than their unique variance.

## GENERAL DISCUSSION

This study is among the first to examine the relations among psychopathy, moral intuition, and moral judgement (see also Aharoni *et al.*, 2011; Glenn *et al.*, 2009). In considering the relation between psychopathy and moral judgement, there have traditionally been two competing viewpoints, the first primarily cognitive and the second primarily motivational. According to the first perspective, individuals with marked features of psychopathy lack both the basic capacity to understand right from wrong and the ability to perceive the immorality of their actions. The second perspective holds that psychopathic individuals can distinguish right from wrong, but nonetheless choose to engage in immoral behaviour because of the rewards it brings. The results of this study are a modest but useful step forward in disentangling the conflicting results from previous research.

**Table 5.** Study 2 – Moral intuitions as mediator between psychopathic traits and moral judgment

Moral intuition	$\beta$	95% Confidence interval (lower limit)	95% Confidence interval (higher limit)	Z	Significance test
Harm	-.03	-0.07	0.02	-0.98	.33
Fairness	-.04	-0.08	0.00	-1.82	.07
In-group	.00	-0.02	0.02	0.16	.87
Authority	.01	-0.01	0.04	1.16	.25
Purity	.02	-0.01	0.05	1.40	.16

Note. 5,000 Bootstrap samples were utilized.

### ***The relationship between psychopathy and moral intuitions***

Consistent with prior research (Aharoni *et al.*, 2011; Glenn *et al.*, 2009), we found a negative relationship between psychopathy and the moral intuitions to prevent harm to others and promote fairness in society across both samples. In other words, as levels of psychopathic traits increase, concerns about preventing harm and promoting justice in society decreases. However, this pattern did not hold across all psychopathy subdimensions. For example, Self-Centered Impulsivity was not significantly related to Fairness concerns across both samples and, in the undergraduate sample, Fearless Dominance was not related to the moral intuitions of Harm and Fairness. Overall, these results suggest individuals with higher psychopathy scores do not value societal fairness and harm prevention. These findings are broadly consistent with theoretical and empirical work suggesting individuals higher in psychopathy manifest deficiencies in their concerns about the welfare of others (Blair, 2007), perhaps stemming from a decreased ability to empathize with others (Jonason & Kroll, 2015; Khvatskaya & Lenzenweger, 2016). With respect to psychopathy and moral intuitions, psychopathy was negatively related to the moral intuition to practice purity or sanctity of body, mind, and soul. Given their tendency to make insincere commitments to personal goals, interpersonal relationships, and societal principles, it is perhaps not surprising that individuals higher in psychopathy exhibited decreased concerns about purity (Hare & Neumann, 2008; Riopka, Coupland, & Olver, 2015).

We also examined the relations between the three major PPI factors of psychopathy (i.e., Fearless Dominance, Self-Centered Impulsivity, and Coldheartedness), on the one hand, and moral intuitions, on the other. Although we advanced no predictions regarding the correlates of specific psychopathy factors, such analyses shed potentially useful light on the fine-grained predictors of thinking about moral problems. Overall, Fearless Dominance was negatively associated with concerns regarding the prevention of harm to others and the promotion of fairness in our community sample, with a similar, albeit non-significant trend in our undergraduate sample. Similarly, we found that the Self-Centered Impulsivity factor was negatively related to harm prevention, fairness concerns, purity concerns, and respect for authority in both samples. This finding is understandable given that Self-Centered Impulsivity is characterized by blame externalization and self-centredness in addition to impulsivity. People who are impulsive and excessively preoccupied with fulfilling their own wants, needs, and desires are unlikely to hold egalitarian values, concern themselves with societal justice, or seek to honour authority figures. Lastly, we found the Coldheartedness factor was negatively related to harm prevention, fairness concerns, and purity in both samples. Again, these findings are

understandable given that Coldheartedness is characterized by a lack of guilt, tender social emotions, and regard for other's feelings. As such, individuals who have little regard for the well-being of others, combined with a lack of guilt about their lack of concern, would have scant regard for the concerns of others, let alone broader social justice concerns. Nevertheless, these linkages are provisional and warrant replication in independent samples, especially those characterized by more extreme levels of psychopathy.

### ***The relationship between psychopathy, moral intuitions, and moral judgement***

Across both samples, psychopathy dimensions were not significantly related to impaired moral judgement. Similarly, with the exception of Carefree Nonplanfulness, PPI-R-SF subscales were not significantly related to impaired moral judgement in either sample. The replicated exception for Carefree Nonplanfulness was not predicted, but it raises the intriguing possibility that this subcomponent of psychopathy impedes moral decision-making, perhaps because it is a proxy of insouciance regarding ethical matters; further investigation of this possibility is worth pursuing.

Our findings are broadly consistent with previous literature (Aharoni *et al.*, 2012; Cima *et al.*, 2010) and suggest that, despite abnormalities in behaviour, emotion, and empathy, individuals with higher levels of psychopathic traits – with the potential exception of Carefree Nonplanfulness – display few or no marked impairments in moral judgement *per se*. Given their apparently intact moral judgement capabilities, individuals with elevated psychopathy features appear largely aware of the moral wrongfulness of their actions. However, due to their increased motivation to obtain rewards (Buckholtz *et al.*, 2010) coupled with lower empathy (Blair, Jones, Clark, & Smith, 1997), they may not care that their actions are morally impermissible.

Some influential legal scholars (e.g., Morse, 2008) have argued that individuals with high levels of psychopathy are lacking in important domains of moral knowledge. Specifically, they have contended that such individuals may recognize that their behaviours are 'wrong', but fail to appreciate the profound moral gravity of their actions. Our findings cannot speak directly to this interesting possibility. Nevertheless, they appear to be inconsistent with the view that individuals with relatively high levels of psychopathy are 'morally illiterate', that is, lacking in basic moral understanding. As such, it may be difficult to justify psychopathy as a 'mental disease or defect' or to argue that most or all individuals with elevated levels of psychopathy 'lack the ability to understand moral wrongfulness' using the insanity test used in most US jurisdictions (M'Naughten Rule, 1843; Model Penal Code § 4.01(1), 1962. Our findings are consistent with those of Aharoni *et al.* (2012), who concluded 'there is insufficient evidence to support insanity defences based simply on the inability of these individuals to understand moral wrongfulness' (p. 492) and Vitacco *et al.* (2013), who stated that 'despite the involvement of brain areas and a long history of descriptions of emotional deficits associated with psychopathy, these deficits should not parlay into a change of current insanity standards that could hold high psychopathy individuals criminally nonresponsible' (p. 424). Again, however, it will be important to conceptually replicate our findings in samples with more extreme levels of psychopathy, as it is possible that certain moral reasoning deficits emerge only when psychopathy becomes severe.

Although moral intuitions are thought to relate to a person's moral judgement, few studies have examined this assumption. We sought to remedy this omission by examining the relationship between moral intuition and moral judgement. In our community sample, we found a small but statistically significant positive relationship between the Fairness

moral intuition and moral judgement and a small but statistically significant negative relationship between the In-group/Loyalty moral intuition and moral judgement. A similar trend emerged in our undergraduate sample. These results suggest that loyalty towards in-groups relates to poorer moral judgement. This finding is interpretable in light of research that participants tend to exhibit decreased empathetic responding when they perceive a person to be part of their out-group (Cikara, Bruneau, & Saxe, 2011) and to broader literature on out-group biases as precursors to prejudice (Fiske, 2002).

### **Limitations and future directions**

Although this study is among the first to simultaneously examine the relationships among psychopathy, moral intuitions, and moral judgement, several methodological limitations are worth noting. First, neither study relied on a clinical or forensic sample. Although this limitation could also be considered a strength in some respects (e.g., it may have allowed us to better unconfound psychopathy from criminality, thereby allowing us to examine the distinctive contribution of psychopathy in non-criminal, non-pathological individuals), this approach may have precluded us from obtaining the higher ranges of psychopathy scores seen in clinical and forensic samples. Even in studies using such samples, however, it will be important to control for broader antisocial and criminal deviance to ascertain the distinctive contribution of psychopathy, if any, above and beyond such deviance. Second, future research should examine the validity of the MCT in populations with higher levels of psychopathic traits (e.g., criminal samples). Given the variety of moral judgement scales and the inconsistencies in the literature, greater standardization and operationalization would allow for a better understanding of the relation between psychopathy and specific moral judgements. This recommendation is particularly important to consider given that findings in this literature may hinge crucially on the type of moral judgement task administered (see also Palmer, 2003).

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