



Without concern: Predicting personal-moral transgressions from psychopathy and gender



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ABSTRACT

Characterized by a tendency to guiltlessly exploit and manipulate others (Hare, 2003), psychopathy has been labeled a disorder of moral faculties (Maibom, 2014). The association between psychopathy and moral transgressions has often been viewed as a consequence of lacking empathetic concern for others (Blair, 2007). The current study further explored the association between psychopathy and morality by isolating the factors and facets most salient to the prediction of moral transgressions. Additionally, the current study examined whether this association was moderated by gender. A sample of 557 undergraduates completed a measure of psychopathy and responded to a series of personal-moral dilemmas. Results indicated that personal-harm endorsement was most strongly associated with the interpersonal manipulative traits of psychopathy. This association was not moderated by gender. The results of this study inform the understanding of factors that may lead individuals higher in psychopathy to engage in immoral behavior.

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1. Introduction

Characterized by a tendency to guiltlessly exploit and manipulate others (Hare, 2003), often through violent means (e.g., Leistico, Salekin, DeCoster, & Rogers, 2008), psychopathy has been labeled a disorder of moral faculties (Maibom, 2014). Research suggests that individuals higher in psychopathy are more likely than individuals lower in psychopathy to endorse immoral behavior involving harm (physical or emotional; Blair, 2007). While this utilitarian bias is often attributed to emotional dysfunction (e.g., Blair, 2007; Glenn, Raine, & Schug, 2009), the characteristics of psychopathy most salient to harm endorsement have yet to be identified. To better understand this association, it is essential to consider the influence of specific psychopathic traits rather than psychopathy in general.

1.1. Moral reasoning

Numerous theories have been developed in an attempt to explain the process in which harmful behaviors are judged as right (moral) or wrong (immoral). Traditionally, moral decisions were attributed to conscious reasoning and age-related changes in moral development (Kohlberg, 1984; Piaget, 1932; Turiel, 1983). Theorists have since

emphasized the role of emotion (Greene & Haidt, 2002; Greene, Sommerville, Nystrom, Darley, & Cohen, 2001). According to the dual-process theory, moral dilemmas can be classified as personal or impersonal (Greene et al., 2001). Personal-moral dilemmas involve deciding whether it is appropriate to cause serious harm to a person without deflecting a pre-existing threat. For example, this may involve deciding whether it is appropriate to save five workmen from a runaway trolley by pushing a stranger off a footbridge. Conversely, impersonal-moral dilemmas involve deciding whether it is appropriate to cause serious harm by deflecting a pre-existing threat. Thus, this may involve deciding whether it is appropriate to pull a lever that diverts the trolley onto a sidetrack, killing one person instead of five. Neurobiological studies provide evidence that distinct processes are utilized during personal- and impersonal-moral reasoning, where emotions are believed to influence personal-moral decisions and cognitive reasoning is believed to influence impersonal-moral decisions (e.g., Greene & Haidt, 2002; Greene et al., 2001). Thus, it is possible that the affective response elicited during personal-moral reasoning may discourage some people from endorsing immoral behaviors.

1.1.1. Gender differences

Although ample research has conceptualized the process of moral reasoning, there is a surprising absence of literature exploring gender differences. According to Gilligan (1982), men tend to take a justice-oriented approach (i.e., rationally respecting the law) whereas women tend to take a care-oriented approach (i.e., emotion). While this distinction is evident in the literature examining gender differences in criminal

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behavior (e.g., Archer, 2004; Sabol, Couture, & Harrison, 2007), the evidence supporting gender differences in moral reasoning has been mixed. Specifically, while some researchers have provided evidence that men are more likely to endorse utilitarian responses to personal moral dilemmas than women (e.g., Fumagalli et al., 2010; Milanowicz & Bokus, 2013), others have suggested that men and women are equally likely to approach moral decisions from a justice-oriented perspective (Clapton & Sorrell, 1993; Galotti, 1989). Notably, no studies have identified higher rates of utilitarian endorsement among females than males. One characteristic that has consistently been associated with utilitarianism however, is psychopathy.

1.2. Characteristics of psychopathy

Psychopathy is a collection of maladaptive personality traits characterized by interpersonal (e.g., manipulative), affective (e.g., shallow emotions), behavioral (e.g., impulsive), and antisocial features (e.g., diverse criminal behavior; Hare, 2003). The absence of conscience among individuals higher in psychopathy allows them to engage in behaviors most others would be inhibited from acting upon (Hare, 2006). While these behaviors are often violent in nature (Hare, 2006), psychopathy has also been identified as a characteristic of more general criminal behavior (e.g., Leistico et al., 2008). A recent meta-analysis by Blais, Solodukhin, and Forth (2014) suggests psychopathy is equally related to instrumental (e.g., committing assault for the purpose of stealing a purse) and reactive violence (e.g., committing assault as an impulsive response to provocation).

Traditionally, discussions of psychopathy have revolved around a two-factor model (e.g., Hare, 1991), where Factor 1 represents the interpersonal and affective features, and Factor 2 represents the lifestyle and antisocial features. These factors have since been divided into four facets, where Factor 1 has been subdivided into the (1) interpersonal and (2) affective facets, and Factor 2 has been subdivided into the (3) lifestyle and (4) antisocial facets (Hare, 2003). This model has been replicated across a variety of populations and measures (e.g., community, offender; Kosson et al., 2013; Neumann, Kosson, & Salekin, 2007).

1.2.1. Gender differences

It has been suggested that the prevalence rate of psychopathy differs across gender. A recent systematic review by Beryl, Chou, and Vollm (2014) provides evidence that psychopathy is less prevalent among women offenders than men offenders. Similar results have been identified among non-institutionalized samples, where women tend to receive lower psychopathy scores than men (e.g., Borroni, Somma, Andershed, Maffei, & Fossati, 2014).

1.3. Psychopathy and moral reasoning

Given the association between psychopathy and criminal behavior, it is not surprising that psychopathy has been labeled a disorder of moral faculties (e.g., Maibom, 2014). Across clinical and subclinical samples, individuals higher in psychopathy tend to endorse personal-moral harm more often than individuals lower in psychopathy (e.g., Arvan, 2013; Bartel & Pizarro, 2011; Glenn, Iyer, Graham, Koleva, & Haidt, 2009; Levenston, Patrick, Bradley, & Lang, 2000; Patil, 2015). Cleckley (1941) was the first to refer to individuals higher in psychopathy as 'moral imbeciles', speculating that their willingness to harm others reflected a lack of moral understanding. Contrary to Cleckley's (1941) hypothesis, recent research suggests that individuals higher in psychopathy are able to distinguish between moral and immoral behavior (Aharoni, Sinnott-Armstrong, & Kiehl, 2014; Cima, Tonnaer, & Hauser, 2010). With evidence of moral understanding, Cima et al. (2010) propose that individuals higher in psychopathy tend to endorse immoral behavior because they do not care how their actions impact others. Although limited, research has yet to identify gender differences in

moral understanding among individuals higher in psychopathy. Specifically, with a sample of offenders, Aharoni et al. (2014) found no interaction between gender and psychopathy when predicting moral understanding (Aharoni et al., 2014).

Researchers have recently begun exploring the characteristics of psychopathy associated with immoral behavior (e.g., Glenn et al., 2009; Patil, 2015). Patil (2015) provides evidence that the association between psychopathy and utilitarianism may be driven by the traits comprising Factor 1 (e.g., manipulative, callous). Researchers have also suggested that individuals higher in psychopathy tend to engage in harmful behavior because they lack elements of empathy (i.e., concern for others; Glenn et al., 2009). For example, when exposed to emotionally provocative stimuli (e.g., distress cues), individuals higher in psychopathy show reduced brain activity in regions associated with empathy (e.g., amygdala; Levenston et al., 2000). Recently, Glenn et al. (2009) identified an association between high scores on the IM facet (e.g., superficiality, deceitfulness) and reduced activity in brain regions referred to as the moral neural circuit (e.g., medial prefrontal cortex, posterior cingulate, and angular gyrus); an association that was not found with the remaining facets. Not only does this suggest that reductions in emotional responsivity impair moral decision-making, but that the interpersonal manipulative characteristics of psychopathy may drive this association (Glenn et al., 2009). Thus, disregarding the impact of their actions on others may lead individuals higher in psychopathy to make immoral decisions and endorse harmful behavior. Although evidence suggests that the association between psychopathy and moral reasoning may be trait specific (Glenn et al., 2009; Patil, 2015), the characteristics of psychopathy most salient to the endorsement of immoral behavior have yet to be identified.

1.4. Objective, rationale, and hypotheses

The current study sought to identify the factors and facets of psychopathy most salient to the prediction of harm endorsement during personal-moral decision-making and whether or not this association is moderated by gender. Although evidence suggests that psychopathy and immoral behavior are related (e.g., Arvan, 2013), this research has almost exclusively focused on psychopathy as a dichotomous construct (i.e., psychopathic versus non-psychopathic), overlooking any trait specific explanations. Further, although potential gender differences have been identified in moral reasoning (e.g., Fumagalli et al., 2010) and psychopathic behavior (e.g., Borroni, Somma, Andershed, Maffei, & Fossati, 2014), the influence of gender on the association between psychopathy and moral reasoning has been largely neglected. Based on the literature discussed, it was hypothesized that men would be more willing to endorse personal-moral harm than women, and individuals higher in psychopathy would be more willing to endorse personal-moral harm than individuals lower in psychopathy. As research has yet to identify gender differences in moral reasoning among individuals higher in psychopathy (Aharoni et al., 2014), the current study hypothesized that men and women higher in psychopathy would not differ in their endorsement of personal-harm. Finally, considering Glenn et al. (2009) and Patil (2015), it was hypothesized that Factor 1 and the interpersonal facet would be most salient to the prediction of personal-harm endorsement.

2. Methods

2.1. Participants

The sample included 557 undergraduate students. Twenty-one participants did not provide consent and were excluded from subsequent analyses. Upon visual inspection of boxplots and scatter plots, and inspection of z-scores, two outliers (where $z > 3.29$; Tabachnick & Fidell, 2013) were identified on the Self-Report Psychopathy Scale Short Form (SRP-SF; Paulhus, Neumann, & Hare, 2016). Leverage and

Table 1
Descriptive statistics and internal consistencies of key variables across gender.

Scale	Overall		Men		Women	
	M (SD)	α	M (SD)	α	M (SD)	α
SRP-SF	52.93 (15.68)	.93	59.83 (16.38)	.91	50.90 (14.90)	.93
Factor 1	26.95 (9.39)	.90	31.31 (9.67)	.89	25.65 (8.92)	.90
Factor 2	26.17 (8.68)	.84	28.79 (7.88)	.81	25.42 (7.07)	.84
IM Facet	13.62 (5.37)	.87	15.47 (5.76)	.86	13.07 (5.12)	.86
CA Facet	13.32 (4.61)	.78	15.84 (4.61)	.73	12.58 (4.35)	.78
ELS Facet	14.87 (4.68)	.79	16.60 (4.92)	.78	14.37 (4.49)	.79
ASB Facet	11.48 (3.99)	.75	12.38 (4.40)	.71	11.22 (3.83)	.77
MDQ	5.30 (4.64)	.87	7.38 (5.07)	.88	4.67 (4.31)	.86

Note. SRP-SF = Self-Report Psychopathy Scale Short Form Total Score; Factor 1 = Factor 1 psychopathy; Factor 2 = Factor 2 psychopathy; IM = interpersonal manipulation psychopathy facet; CA = callous affect psychopathy facet; ELS = erratic lifestyle psychopathy facet; ASB = antisocial behavior psychopathy facet; MDQ = Moral Dilemma Questionnaire.

discrepancy values suggested that these two cases deviated from the mean leverage of the sample and the predicted and observed values of the SRP-SF, respectively. Global and local influence was then examined to determine whether these cases impacted the omnibus results and regression coefficients. With a large global and local impact, these two cases were deemed to be multivariate outliers (i.e., having an unusual combination of scores on key variables; Tabachnick & Fidell, 2013) and were removed from further analyses. The final sample ($N = 534$) consisted of 120 men and 413 women (three participants did not disclose gender), ranging in age from 17 to 53 years old ($M = 20.3$, $SD = 4.3$; 25 participants did not disclose age). While most participants were Caucasian (72.8%), the sample also included Asian (9.9%), other (7.8%), Black (6.0%), Indian (1.7%), and Aboriginal (1.3%) participants.

2.2. Materials

2.2.1. Moral reasoning

Participants completed a modified version of the Moral Dilemma Questionnaire (MDQ; Greene et al., 2001) to assess their ability to make socially acceptable decisions when faced with a series of personal-moral dilemmas. After reading each dilemma, participants were asked to indicate whether it would be appropriate to engage in certain behaviors, where zero indicated *not engaging* in the behavior and one indicated *engaging* in the behavior. For example, after reading a scenario where you strongly believe that “*your wife no longer appreciates you*”, participants would be asked whether or not it would be appropriate to “*hire a man to rape your wife so that she will appreciate you as you comfort her*”. Although the original version of the MDQ contained 20 non-moral, 19 moral, and 25 personal-moral dilemmas, only the personal-moral dilemmas were used in the current study. Total scores are computed by summing the total number of yes and no responses, where higher scores indicated a greater willingness to engage in personal-moral transgressions.

2.2.2. Psychopathy

Psychopathy was assessed with the SRP-SF (Paulhus et al., press), a 29-item version of the SRP-III (Paulhus et al., 2016). In accordance with the PCL-R factor structure (Hare, 2003) and the SRP-III (Paulhus et al., 2016), the SRP-SF consists of four facets; (a) interpersonal manipulation (IM), (b) callous affect (CA), (c) erratic lifestyle (ELS), and (d) antisocial behavior (ASB). These facets can be combined to create Factor 1 (IM and CA) and Factor 2 (ELS and ASB) scores. Each item is scored on a Likert scale, where one indicated *strongly disagreeing* with the statement and five indicated *strongly agreeing* with the statement. Total psychopathy scores are computed by summing responses to all 29-items, where higher scores denote more psychopathic characteristics. The SRP-III has acceptable internal consistency across samples, (Cronbach's $\alpha = .86$ to $.92$; Neal & Sellbom, 2012; Riopka, Coupland, & Olver, 2015; Williams, Paulhus, & Hare, 2007).

2.2.3. Procedure

Undergraduate students were recruited to participate online via an electronic research bulletin and provided with course credit for their participation. Upon registering in the study, participants were redirected to a consent form and made aware that they could leave the study at any time without being penalized. Those who provided consent were directed to a demographic questionnaire and asked to complete the SRP-SF, MDQ, Interpersonal Reactivity Index (Davis, 1980), Antisocial Behavior Scale (Forth & Brown, 1993), Hostile Attribution Inventory (Epps & Kendall, 1995), Protective Factors Questionnaire (Forth & Armstrong, 2006), respectively. Only responses associated with the SRP-SF and MDQ were examined for the purpose of the current study. Once complete, participants were presented with a debriefing form and the data was stripped of any identifying information.

3. Results

3.1. Descriptive statistics

Descriptive statistics and internal consistencies for the MDQ as well as psychopathy total, factor, and facet scores were calculated for the overall sample and separately for men and women (see Table 1). All measures used in the current study had acceptable to excellent internal consistency overall and across gender.

3.2. AUC

Area Under the Receiver Operating Characteristic Curve (AUC) analysis was conducted to examine the association between gender and personal-moral transgressions, as AUCs are recommended over correlational analyses when one variable is dichotomous (Babchishin & Helmus, 2015). The 95% confidence interval calculated with each AUC is interpreted as significant when .50 is not included, as .50 is indicative of chance. Results suggest that men are more likely than women to endorse personal-harm as a means of achieving certain beneficial outcomes ($AUC = .66$, $SE = 0.03$, 95% CI [0.60, 0.72], $p < .01$).

3.3. Correlations

To examine the association between psychopathy and personal-moral transgressions a series of bivariate correlations were conducted (see Table 2). Moderate positive correlations were identified between moral transgressions and total psychopathy scores ($r = .36$, 95% CI [0.28, 0.44], $p < .01$). Consistently, Factor 1 and Factor 2 psychopathy scores were moderately positively associated with endorsement of personal-moral transgressions ($r_{F1} = .37$, 95% CI [0.29, 0.45], $p < .01$; $r_{F2} = .29$, 95% CI [0.20, 0.37], $p < .01$, respectively). Finally, small to moderate positive correlations were identified between the psychopathy

Table 2
Bivariate correlations between psychopathy scores and personal-moral transgressions.

	1. MDQ	2. SRP-SF	3. Factor 1	4. Factor 2	5. IM	6. CA	7. ELS	8. ASB
1	–							
2	.36**	–						
3	.37**	.95**	–					
4	.29**	.92**	.76**	–				
5	.35**	.89**	.95**	.69**	–			
6	.34**	.90**	.93**	.74**	.76**	–		
7	.25**	.85**	.73**	.89**	.68**	.70**	–	
8	.22**	.74**	.59**	.84**	.52**	.58**	.50**	–

Note. MDQ = Moral Dilemma Questionnaire; SRP-SF = Self-Report Psychopathy Scale Short Form Total Score; Factor 1 = Factor 1 psychopathy; Factor 2 = Factor 2 psychopathy; IM = interpersonal manipulation psychopathy facet; CA = callous affect psychopathy facet; ELS = erratic lifestyle psychopathy facet; ASB = antisocial behavior psychopathy facet.

** $p < .01$.

Table 3
Hierarchical multiple linear regression predicting transgressions from the SRP-SF total, gender, and the SRP-SF by gender interaction.

Predictor	Model 1			Model 2		
	B(SE)	t	95% CI	B(SE)	t	95% CI
Gender	1.77(.51)**	3.50	[0.78, 2.77]	1.79(.53)**	3.39	[0.75, 2.82]
SRP-SF	0.10(.01)**	7.02	[0.07, 0.12]	0.10(.02)**	6.01	[0.07, 0.13]
SRP-SF × Gen				−0.00(.03)	−0.11	[−0.06, 0.06]
R ²		.16			0.16	
ΔR ²		.10			0.00	

Note. Psychopathy was mean centered; SRP-SF = Self-Report Psychopathy Scale Short Form Total Score; SRP-SF × Gen = interaction between the SRP-SF and gender; ΔR² = change in R²; SE = standard error; 95% CI = 95% confidence interval.

** $p < .01$.

facets (i.e., IM, CA, ELS, and ASB) and moral transgressions ($r_{IM} = .35$, 95% CI [0.27, 0.43], $p < .01$; $r_{CA} = .34$, 95% CI [0.25, 0.42], $p < .01$; $r_{ELS} = .25$, 95% CI [0.15, 0.33], $p < .01$; $r_{ASB} = .22$, 95% CI [0.13, 0.31], $p < .01$, respectively). Overall, the results suggest that individuals who score higher on psychopathy are more likely to endorse personal-moral transgressions.

3.4. Logistic regression analysis

A series of hierarchical multiple linear regressions were conducted to determine whether endorsement of personal-harm could be predicted from gender, psychopathy (i.e., total, factor, and facet scores), and the accompanying gender by psychopathy interactions. All assumptions underlying linear regression were satisfied (e.g., normally distributed errors, linearity, independence of errors, multicollinearity; Fields, 2012).

The first multiple regression examined whether gender, total psychopathy (centered), and the gender by psychopathy interaction were predictive of personal-moral transgressions (see Table 3). As the interaction between total psychopathy scores and gender was not significant ($B = -0.00$, $p = .92$), the individual predictors included in model one will be the focus of interpretation. According to the Omnibus test, the predictors included in model one significantly explained 16% of the variance in personal-moral harm endorsement ($F(2, 416) = 38.51$, $p < .01$). After controlling for psychopathy, gender was identified as a significant predictor of personal-moral harm endorsement ($B = 1.77$, $p < .01$) and uniquely accounted for 17% of the variance in moral transgressions. Consistent with the AUC analysis, this result suggests that men are more likely than women to endorse personal-moral harm. After controlling for gender, total psychopathy was also a significant predictor of personal-moral harm endorsement, ($B = 0.10$, $p < .01$) and uniquely accounted for 33% of the variance in moral transgressions. Thus, people higher on psychopathy are more likely to endorse personal-harm than people lower on psychopathy. Notably, the non-significant interaction between gender and psychopathy ($p = .92$) suggests that the likelihood of men higher in psychopathy endorsing personal-moral transgressions was similar to the likelihood of women higher in psychopathy.

The second multiple linear regression analysis explored whether Factor 1 and Factor 2 psychopathy (centered), gender, and the gender by Factor interactions predicted personal-moral harm (see Table 4). Again, as the interactions between psychopathy Factor scores and gender were not significant in model two ($B_{F1 \times Gender} = 0.02$, $p = .87$; $B_{F2 \times Gender} = -0.02$, $p = .85$, respectively), model one will be the focus of interpretation. The results of the Omnibus test suggest that gender and the psychopathy Factor scores significantly accounted for 17% of the variance in moral transgressions ($F(3, 415) = 28.53$, $p < .01$). After controlling for Factor 1 and Factor 2 psychopathy, gender was identified as a significant predictor of personal-moral harm endorsement ($B = 1.67$, $p < .01$), uniquely accounting for 16% of the variance in moral transgressions. Again, this suggests that men are more likely than women to endorse personal-moral harm. After controlling for gender and Factor 2 psychopathy, uniquely accounting for 25% of the variance in moral transgressions, Factor 1 psychopathy was identified as a significant predictor of personal-moral harm endorsement ($B = 0.18$, $p < .01$) after controlling for gender and Factor 2 psychopathy. This suggests that people higher on Factor 1 psychopathy are more likely to endorse personal-moral harm. Interestingly, after controlling for gender and Factor 1 psychopathy, Factor 2 psychopathy did not significantly predict personal-moral transgressions ($B = -0.01$, $p = .74$).

The final multiple linear regression analysis explored whether the facets of psychopathy (centered), gender, and the gender by facet interactions predicted personal-harm endorsement (see Table 5). Again, as the two-way interactions entered in model two were non-significant, model one will be the focus of interpretation ($B_{IM \times Gender} = 0.08$, $p = .58$; $B_{CA \times Gender} = -0.10$, $p = .62$; $B_{ELS \times Gender} = 0.00$, $p = .98$; $B_{ASB \times Gender} = -0.01$, $p = .96$, respectively). The Omnibus test suggests that gender and the psychopathy facets significantly predict personal-harm endorsement ($F(5, 413) = 17.33$, $p < .01$), accounting for 17% of the variance in moral transgressions. After controlling for the psychopathy facets, gender was a significant predictor of personal-harm endorsement ($B = 1.78$, $p < .01$) and uniquely accounted for 17% of the variance in moral transgressions. Among the psychopathy facets, only the IM facet was a significant predictor of personal-harm endorsement after controlling for gender and the remaining facets ($B = .23$, $p < .01$), accounting for 18% of the variance in moral transgressions.

Table 4
Hierarchical multiple linear regression predicting transgressions from Factor 1 and Factor 2, gender, and the Factor 1 by gender and Factor 2 by gender interactions.

Predictor	Model 1			Model 2		
	B(SE)	t	95% CI	B(SE)	t	95% CI
Gender	1.67(.50)**	3.30	[0.68, 2.66]	1.66(.53)**	3.16	[0.63, 2.69]
Factor 1	0.18(.40)**	5.25	[0.12, 0.25]	0.18(.04)**	4.49	[0.10, 0.26]
Factor 2	−0.02(.04)	−0.34	[−0.10, 0.07]	−0.01(.05)	−0.20	[−0.11, 0.09]
F1 × Gender				0.01(.08)	0.17	[−0.15, 0.18]
F2 × Gender				−0.02(.10)	−0.19	[−0.21, 0.18]
R ²		.17			.17	
ΔR ²		.12			.00	

Note. Factor 1 and Factor 2 psychopathy were mean centered; F1 × Gender = interaction between Factor 1 psychopathy and gender; F2 × Gender = interaction between Factor 2 psychopathy and gender; ΔR² = change in R²; SE = standard error; 95% CI = 95% confidence interval.

** $p < .01$.

Table 5

Multiple linear regression predicting moral transgressions from SRP-SF facet scores, gender, and the interactions between SRP-SF facets and gender.

Predictor	Model 1			Model 2		
	B(SE)	t	95% CI	B	t	95% CI
Gender	1.78(0.52)**	3.45	[0.76, 2.79]	1.84(.55)**	0.55	[0.76, 2.93]
IM	0.23(0.06)**	3.78	[0.11, 0.36]	0.21(.07)**	0.07	[0.06, 0.36]
CA	0.12(.08)	1.47	[−0.04, 0.28]	0.15(.10)	0.10	[−0.04, 0.33]
ELS	−0.04(.07)	−0.62	[−0.17, 0.09]	−0.04(.07)	0.07	[−0.18, 0.11]
ASB	0.03(.07)	0.40	[−0.11, 0.16]	0.03(.08)	0.08	[−0.13, 0.19]
IM × Gender				0.08(.14)	0.14	[−0.19, 0.34]
CA × Gender				−0.10(.19)	0.19	[−0.47, 0.28]
ELS × Gender				0.00(.16)	0.16	[−0.31, 0.32]
ASB × Gender				−0.01(.15)	0.15	[−0.30, 0.29]
R ²		.17			.17	
ΔR ²		.12			.00	

Note. IM, CA, ELS, and ASB were mean centered; IM × Gender = interaction between the IM facet and gender; CA × Gender = interaction between the CA facet and gender; ELS × Gender = interaction between the ELS facet and gender; ASB × Gender = interaction between the ASB facet and gender; ΔR² = change in R²; SE = standard error; 95% CI = 95% confidence interval.

** $p < .01$.

This suggests that people higher on the IM facet of psychopathy are more likely to endorse personal-harm.

4. Discussion

The purpose of the current study was to identify the factors and facets of psychopathy most salient to the prediction of harm endorsement during personal-moral decision-making and to identify whether gender moderated this association. Consistent with previous research (e.g., Fumagalli et al., 2010), analyses indicated higher rates of personal-harm endorsement among men than women. This finding offers a potential explanation for why men tend to be more aggressive than women (e.g., Sabol et al., 2007). Analyses also indicated that individuals higher on psychopathy were more likely to endorse personal-harm. This is not surprising given the consistent association between psychopathy and immoral behavior identified in the literature (e.g., Arvan, 2013; Patil, 2015). While gender and psychopathy individually predicted moral transgressions, the interaction between gender and psychopathy was not significant. This is consistent with the results of Aharoni et al. (2014), and provides further evidence that individuals higher in psychopathy are more likely to endorse personal-harm, regardless of gender.

To identify the traits that best predict personal-harm endorsement, a series of hierarchical multiple linear regressions were conducted with the psychopathy factors and facets. Although bivariate correlations indicated that both factors were associated with transgressions, regression analysis revealed Factor 1 as the sole predictor of personal-harm endorsement after controlling for gender and Factor 2. Consistent with Patil (2015), individuals higher on Factor 1 (interpersonal and affective features) were more likely to endorse personal-harm than individuals lower on Factor 1. Upon further breaking down this association, the IM facet of psychopathy was identified as the sole predictor of personal-harm endorsement after controlling for gender and the remaining three facets. Consistent with Glenn et al. (2009), this suggests that the interpersonal manipulative characteristics of psychopathy drive involvement in immoral behavior. This is not surprising as the IM facet is most strongly associated with instrumental violence (e.g., Walsh, Swogger, & Kosson, 2009). Thus, individuals higher in psychopathy may be more willing to engage in personal-harm as they do not care about the impact of their actions on others and focus exclusively on personal gain.

As the current study utilized a convenience sample of university students to assess subclinical psychopathy, the results may not be generalizable to clinical populations. It is possible that a stronger effect exists in a clinical sample as extreme psychopathic traits and experience with immoral behavior is more prevalent. Although the association identified in the current study is consistent with research utilizing both subclinical

and clinical samples (e.g., Arvan, 2013; Patil, 2015), future research should replicate these results with other samples. Finally, the use of self-report measures to assess psychopathy (i.e., SRP-SF; Paulhus et al., 2016) and moral reasoning (i.e., MDQ; Greene et al., 2001) was concerning as socially desirable responding may have biased the results. While social desirability does not appear to affect the results of psychopathy research with student samples (Lilienfeld & Hess, 2001), future research may benefit from the inclusion of a social desirability measure and alternative measurement techniques beyond self-report (e.g., interviews).

Taken together, the results of the current study suggest that moral decisions can be impacted by individual differences in psychopathic traits. In particular, the interpersonal manipulative characteristics of psychopathy appear to drive the endorsement of personal-harm. Although more research is needed to generalize these results, it may be possible to reduce involvement in harmful behavior by targeting interpersonal characteristics in treatment. Not only has the manipulative interpersonal style of individuals higher in psychopathy been strongly associated with instrumental violence (Walsh et al., 2009), but research from the general correctional literature also provides evidence that reducing antisocial attitudes in treatment can effectively reduce criminal behavior (e.g., Andrews & Bonta, 2010). Further, it is important that future research examining the association between psychopathy and moral reasoning consider trait specific characteristics rather than psychopathy as a whole. With evidence that the IM facet drives the association between psychopathy and harm, research would be limited if the individual effect of psychopathic traits was not considered. Overall, the results of the current study inform the understanding of mechanisms that influence moral transgressions and traits that may drive individuals higher in psychopathy to engage in immoral behavior at a disproportionate rate.

References

- Aharoni, E., Sinnott-Armstrong, W., & Kiehl, K. A. (2014). What's wrong? Moral understanding in psychopathic offenders. *Journal of Research in Personality, 53*, 175–181. <http://dx.doi.org/10.1016/j.jrp.2014.10.002>.
- Andrews, D. A., & Bonta, J. (2010). Rehabilitating criminal justice policy and practice. *Psychology, Public Policy, and Law, 16*, 39–55. <http://dx.doi.org/10.1037/a0018362>.
- Archer, J. (2004). Sex differences in aggression in real-world settings: A meta-analytic review. *Review of General Psychology, 8*, 291–322.
- Arvan, M. (2013). Bad news for the conservatives? Moral judgments and the Dark Triad personality traits: A correlational study. *Neuroethics, 6*, 307–318. <http://dx.doi.org/10.1007/s12152-011-9140-6>.
- Babchishin, K. M., & Helmus, L. M. (2015). The influence of base rates on correlations: An evaluation of proposed alternative effect sizes with real-world data. *Behavior Research Methods*. Advanced online publication. <http://dx.doi.org/10.3758/s13428-015-0627-7>.
- Bartel, D. M., & Pizarro, D. A. (2011). The mismeasure of morals: Antisocial personality traits predict utilitarian responses to moral dilemmas. *Cognition, 121*(1), 154–161. <http://dx.doi.org/10.1016/j.cognition.2011.05.010>.

- Beryl, R., Chou, S., & Vollm, B. (2014). A systematic review of psychopathy in women within secure settings. *Personality and Individual Differences*, 71, 185–195.
- Blair, R. J. R. (2007). The amygdala and ventromedial prefrontal cortex in morality and psychopathy. *Trends in Cognitive Sciences*, 11, 387–392. <http://dx.doi.org/10.1016/j.tics.2007.07.003>.
- Blais, J., Solodukhin, E., & Forth, A. E. (2014). A meta-analysis exploring the relationship between psychopathy and instrumental versus reactive violence. *Criminal Justice and Behaviour*, 41, 1–25. <http://dx.doi.org/10.1177/0093854813519629>.
- Borroni, S., Somma, A., Andershed, H., Maffei, C., & Fossati, A. (2014). Psychopathy dimensions, Big Five traits, and dispositional aggression in adolescence: Issues of gender consistency. *Personality and Individual Differences*, 66, 199–203.
- Cima, M., Tonnaer, F., & Hauser, M. D. (2010). Psychopaths know right from wrong but don't care. *Scan*, 5, 59–67. <http://dx.doi.org/10.1093/scan/nsp051>.
- Clapton, A., & Sorrell, G. T. (1993). Gender differences in moral reasoning: Stable or situational? *Psychology of Women Quarterly*, 17, 85–101.
- Cleckley, H. (1941). *The mask of sanity*. St. Louis: Mosby.
- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, 10, 85.
- Epps, J. B., & Kendall, P. C. (1995). Hostile attributional bias in adults. *Cognitive Therapy and Research*, 19(2), 159–178.
- Fields, A. (2012). *Discovering statistics using SPSS*. Thousand Oaks, CA: Sage Publications Incorporated.
- Forth, A. E., & Armstrong, I. (2006). Protective factors questionnaire. *Unpublished manuscript*. Ottawa, Ontario: Carleton University.
- Forth, A. E., & Brown, S. E. (1993). Antisocial behaviour scale. *Unpublished manuscript*. Ottawa, Ontario: Carleton University.
- Fumagalli, M., Ferrucci, R., Mameli, F., Marceglia, S., Mrakic-Spota, S., Zago, S., ... Priori, A. (2010). Gender-related differences in moral judgments. *Cognitive Processing*, 11, 219–226. <http://dx.doi.org/10.1007/s10339-009-0335-2>.
- Galotti, K. M. (1989). Gender differences in self-reported moral reasoning: A review and new evidence. *Journal of Youth and Adolescence*, 18(5), 475–488.
- Gilligan, C. (1982). *In a different voice*. Cambridge, MA: Harvard University Press.
- Glenn, A. L., Iyer, R., Graham, J., Koleva, S., & Haidt, J. (2009a). Are all types of morality compromised in psychopathy? *Journal of Personality Disorders*, 23, 384–398. <http://dx.doi.org/10.1521/pedi.2009.23.4.384>.
- Glenn, A. L., Raine, A., & Schug, R. A. (2009b). The neural correlates of moral decision-making in psychopathy. *Molecular Psychiatry*, 14(1), 5–6. <http://dx.doi.org/10.1038/mp.2008.104>.
- Greene, J. D., & Haidt, J. (2002). How (and where) does moral judgment work? *Trends in Cognitive Sciences*, 6(12), 517–523. [http://dx.doi.org/10.1016/S1364-6613\(02\)02011-9](http://dx.doi.org/10.1016/S1364-6613(02)02011-9).
- Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral judgment. *Science*, 293, 2105–2108.
- Hare, R. D. (1991). *Manual for the revised psychopathy checklist* (1st ed.). Toronto, ON: Multi-Health Systems.
- Hare, R. D. (2003). *The Hare Psychopathy Checklist-Revised (PCL-R)* (2nd ed.). Toronto, ON: Multi-Health Systems.
- Hare, R. D. (2006). Psychopathy: A clinical and forensic overview. *Forensic Psychiatry*, 29(3), 709–724. <http://dx.doi.org/10.1016/j.psc.2006.04.007>.
- Kohlberg, L. (1984). *Philosophy of moral development: The psychology of moral development*. New York, NY: Harper & Row.
- Kosson, D. S., Neumann, C. S., Forth, A. E., Salekin, R. T., Hare, R. D., Krischer, M. K., & Sevecke, K. (2013). Factor structure of the Hare Psychopathy Checklist: Youth Version (PCL:YV) in adolescent females. *Psychological Assessment*, 25, 71–83. <http://dx.doi.org/10.1037/a0028986>.
- Leistico, A. R., Salekin, R., DeCoster, J., & Rogers, R. (2008). A large-scale meta-analysis relating the Hare measures of psychopathy to antisocial conduct. *Law and Human Behaviour*, 32, 28–45. <http://dx.doi.org/10.1007/s10979-007-9096-6>.
- Levenston, G. K., Patrick, C. J., Bradley, M. M., & Lang, P. J. (2000). The psychopath as observer: Emotion and attention in picture processing. *Journal of Abnormal Psychology*, 109(3), 373–385. <http://dx.doi.org/10.1037/0021-843X.109.3.373>.
- Lilienfeld, S. O., & Hess, T. H. (2001). Psychopathic personality traits and somatization: Sex differences and the mediating role of negative emotionality. *Journal of Psychopathology and Behavioural Assessment*, 23(1), 11–24.
- Maibom, H. L. (2014). *Empathy and morality*. New York, NY: Oxford University Press.
- Milanowicz, A., & Bokus, B. (2013). Gender and moral judgements: The role of who is speaking to whom. *Journal of Gender Studies*, 22(4), 423–443. <http://dx.doi.org/10.1080/09589236.2012.719314>.
- Neal, T. M. S., & Sellbom, M. (2012). Examining the factor structure of the Hare Self-Report Psychopathy Scale. *Journal of Personality Assessment*, 94, 244–253. <http://dx.doi.org/10.1080/00223891.2011.648294>.
- Neumann, C. S., Kosson, D. S., & Salekin, R. T. (2007). Exploratory and confirmatory factor analysis of the psychopathy construct: Methodological and conceptual issues. In C. S. Neumann, D. S. Kosson, & R. T. Salekin (Eds.), *The psychopath: theory, research, and practice* (pp. 79–104). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Patil, I. (2015). Trait psychopathy and utilitarian moral judgment: The mediating role of action aversion. *Journal of Cognitive Psychology*, 27(3), 349–366. <http://dx.doi.org/10.1080/20445911.2015.1004334>.
- Paulhus, D. L., Neumann, C. S., & Hare, R. D. (2016). *Manual for the self-report psychopathy scale*. Toronto, ON: Multi-Health Systems.
- Piaget, J. (1932). *The moral judgment of the child*. New York, NY: Free Press.
- Riopka, S. J., Coupland, R. B. A., & Olver, M. E. (2015). Self-reported psychopathy and its association with criminal cognition and antisocial behavior in a sample of undergraduate students. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement*, 47(3), 216–225.
- Sabol, W., Couture, H., & Harrison, P. M. (2007). *Prisoners in 2006*. Washington, DC: U.S. Department of Justice.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston: Pearson.
- Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge, England: Cambridge University Press.
- Walsh, Z., Swogger, M. T., & Kosson, D. S. (2009). Psychopathy and instrumental violence: Facet level relationships. *Journal of Personality Disorders*, 23(4), 416–424. <http://dx.doi.org/10.1521/pedi.2009.23.4.416>.
- Williams, K. M., Paulhus, D. L., & Hare, R. D. (2007). Capturing the four-factor structure of psychopathy in college students via self-report. *Journal of Personality Assessment*, 88(2), 205–219. <http://dx.doi.org/10.1080/00223890701268074>.