



Brief Report

Psychopathy and aggression: Examining the role
of psychopathy factors in predicting
laboratory aggression under hostile and
instrumental conditions

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Abstract

Psychopathy is a problematic configuration of traits and behaviors that is consistently correlated with aggressive, criminal behavior. Studies have suggested that psychopathy is composed of related but distinct factors that manifest divergent relations with a host of constructs including aggression. In the current study, we used a sample of 126 men to examine whether these psychopathy factors are differentially related to aggression manifested in two conditions (instrumental and hostile/reactive aggression) of a laboratory aggression paradigm. Traits related to an antagonistic interpersonal style and emotional detachment (i.e., Factor 1) were related to aggression in both conditions whereas traits related to negative emotionality, impulsivity, and an antagonistic style (i.e., Factor 2) were related to aggression only in the hostile/reactive condition. Potential explanations for these findings are put forth.

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1. Introduction

Psychopathy is a personality disorder characterized by traits such as callousness, manipulativeness, egocentricity, impulsivity, and a need for stimulation (e.g., Cleckley, 1941; Hare, 1991), as well as a history of early, pervasive antisocial behavior. It is related to criminality and aggression (Gretton, Hare, & Catchpole, 2004; Skeem & Mulvey, 2001) and is a significant predictor of general and violent recidivism (Hemphill, Hare, & Wong, 1998).

The Psychopathy Checklist (PCL) and its revision (PCL-R) have long been considered the gold standard in the assessment of psychopathy among incarcerated offenders. Until recently (see Cooke & Michie, 2001), “psychopathy,” as assessed by the PCL(R), was thought to be composed of two inter-related factors ($r \approx .50$; Hare, 1991). Factor 1 (F1) is thought to be related to the interpersonal and affective components of psychopathy (e.g., grandiosity, lying, lack of remorse or guilt), whereas factor 2 (F2) is comprised of traits and behaviors thought to be indicative of “social deviance” (e.g., early behavior problems, juvenile delinquency, impulsivity; Hare, 1991). The divergent nature of these two factors is well-established. F1 is negatively associated with psychological distress (Harpur, Hare, & Hakstian, 1989; Verona, Patrick, & Joiner, 2001) and positively associated with narcissism (Harpur et al., 1989), as well as physiological signs of emotional detachment (Patrick, Bradley, & Lang, 1993), while F2 is positively associated with aggression and antisocial personality disorder (Hare, 1991; Skeem & Mulvey, 2001), recidivism (Hemphill et al., 1998), and distress (e.g., Verona et al., 2001).

Another area of potential divergence is in relation to various forms of aggression, namely instrumental and reactive aggression.¹ Instrumental aggression (IA) is viewed as goal-driven behavior motivated by attainment of an external reward (Bandura, 1983). Hostile/reactive aggression (H/RA) has been described as an emotion-driven, impulsive, defensive response to a perceived threat (Berkowitz, 1989). Studies have documented a general relation between psychopathy and IA (Miller & Lynam, 2003; Williamson, Hare, & Wong, 1987). Despite this relation, few studies have examined whether these relations differ depending on which component of psychopathy is examined. Woodworth and Porter (2002) found significant positive relations between both PCL-R factors and IA. However, partial correlations suggested a significant unique relation only for the affective/interpersonal (F1) aspects of psychopathy. In a juvenile offender sample, Vitacco, Neumann, Caldwell, Leistico, and Van Rybroek (2006) found that a psychopathy factor comprising of the interpersonal items (e.g., pathological lying, conning) was significantly, positively correlated with IA, whereas a factor comprising the antisocial behaviors (e.g., poor anger control, serious criminal behavior) was significantly, negatively related. Finally, Cornell et al. (1996) found that criminal offenders with a history of IA were more psychopathic than offenders with only a history of H/RA. However, the IA group was higher in F2 scores but not F1. In a second study, Cornell et al. (1996) found that those with a lifetime history of IA were higher on both factors than a H/RA only group.

¹ Bushman and Anderson (2001) have put forth a thoughtful critique of the “hostile versus instrumental” dichotomy arguing that the distinction is problematic because it fails to take into account aggressive acts in which mixed motives are present and makes assumptions, that often are not met, regarding the level of automaticity versus control that is present in the two forms of aggression.

In the current study, we examined the relations between psychopathy factors, as assessed by Levenson's self-report psychopathy scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995), and aggression using a laboratory aggression paradigm with two conditions designed to elicit either form of aggression.² Given research linking F1 and F2 to IA (Cornell et al., 1996; Woodworth & Porter, 2002), it was hypothesized that both LSRP factors would be correlated with IA manifested in a laboratory paradigm. However, following Woodworth and Porter (2002), we expected that the unique relations would be stronger for F1. In the H/RA condition, we again expected both factors to be significantly related but expected stronger unique relations for F2.

2. Method

2.1. Participants and experimental design

Participants were 135 undergraduate males self-selected from a larger pool. Their mean age was 19.61 years ($SD = 1.80$) and 86% were Caucasian. Participants were randomly assigned to either an IA condition ($n = 64$) or a H/RA condition ($n = 71$). Participants were told that they would be competing with a male peer in a series of reaction time trials. Participants assigned to the IA condition were told that they would earn \$1 for each trial they won and lose \$1 for each trial lost, ostensibly giving them an opportunity to win a maximum of \$24. The outcome of each trial was predetermined so that participants won and lost an equal amount. To reinforce the instrumental nature of the task, participants were told that they could punish their opponent via shocks after each trial, which could interfere with their opponent's performance, thus helping the participant win money. Participants in the H/RA condition believed they were competing in a reaction time task but knew that there was no performance incentive.

2.2. Materials

Demographic form. Participants completed a brief form assessing age, race, and education level to confirm that groups were equivalent on these variables.

LSRP (Levenson et al., 1995). The LSRP is a 26-item self-report measure of psychopathy designed for use in noninstitutionalized settings. Coefficient alphas for the LSRP total score (26 items), F1 (16 items) and F2 (9 items) were .80, .81, and .52, respectively.³ Sample items for F1 include "For me, what's right is whatever I can get away with" and "I enjoy manipulating other people's feelings." Sample items for F2 include "When I get frustrated, I often "let off steam" by blowing my top" and "I don't plan anything very far in advance."

² Levenson et al. (1995) titled the two LSRP factors "primary" and "secondary" psychopathy because they believed that this factor structure, derived from the PCL-R, fits Karpman's (1948) distinction between "primary" and "secondary" psychopaths. However, there is no clear consensus regarding the existence of these "subtypes" or their congruence with the various psychopathy factors identified through empirical study. As such, we have opted to avoid this debate, which we feel is outside the purview of the current study, by referring to the LSRP factors as "factor 1" and "factor 2."

³ Following Lynam, Whiteside, and Jones (1999), we scored the LSRP factor 2 with 9 items rather than 10 as item 26 demonstrated substantial dual loadings in their study.

Response choice aggression paradigm (RCAP; Zeichner, Frey, Parrott, & Butryn, 1999). Under the guise of a 24-trial competition, participants used an apparatus consisting of a metal box mounted with electrical switches and LEDs. Ten push-button switches labeled “1” through “10” are provided for the ostensible administration of shocks by the participant. A reaction time key is located on the console. Shocks are administered via electrodes attached to the participant’s non-dominant hand. The RCAP results in seven inter-related indices of aggression (e.g., shock intensity, duration, and proportion of highest shock; see Zeichner et al., 1999). The median inter-correlation for these indices was .54; we report only a composite score (i.e., RCAP score) that was the sum of the standardized values for the seven indices.

2.3. Procedure

Participants were told that they would be competing in a reaction time task against an opponent who was in the adjacent chamber, and that they would have the opportunity to punish him following each trial through the administration of an electric shock. Participants were told that their opponent could also punish them with shocks and that the shocks might interfere with performance on subsequent reaction time trials. Following each trial, the participants were informed whether they won or lost and were given an opportunity to administer a shock, regardless of the trial outcome. To do so, participants pressed 1 of 10 shock buttons that, ostensibly, increased the shock intensity. Participants were able to refrain entirely from administering shocks. LEDs provided feedback as to the level of shock participants received from the “opponent.” No shocks were administered above a participant’s predetermined pain threshold. Each participant “won” 12 trials and, accompanied by shocks, “lost” 12 trials in a single randomized order (standardized across conditions).

3. Results

3.1. Bivariate relations between psychopathy and RCAP aggression⁴

IA condition. The correlations among the LSRP scores and the aggression composite are presented in Table 1. Only the LSRP total and F1 scores were significantly correlated with the aggression composite. The LSRP factors were not significantly related. The correlations between the LSRP F1 and F2 and the aggression score were significantly different, $t(55) = 2.17, p \leq .05$.

HIRA condition. All three LSRP scores were significantly correlated with aggression. In addition, the LSRP factors were significantly related. Unlike the IA findings, the correlations between the LSRP F1 and F2 and aggression were not significantly different, $t(65) = .72, ns$.

⁴ Eight participants were excluded from data analyses as a result of their answers to the post-RCAP manipulation check. No significant differences were found between the groups with regard to demographic variables or levels of psychopathy. One additional participant was excluded because his LSRP profile was deemed invalid.

Table 1

Bivariate relations between LSRP scores and aggression in IA and H/RA conditions

	Aggression (RCAP)	LSRP total score	LSRP F1	LSRP F2
<i>IA condition</i>				
Aggression (RCAP)	—			
LSRP total score	.36**	—		
LSRP F1	.38**	.91**	—	
LSRP F2	.02	.52**	.14	—
<i>H/RA condition</i>				
Aggression (RCAP)	—			
LSRP total score	.51**	—		
LSRP F1	.48**	.95**	—	
LSRP F2	.39**	.74**	.49**	—

** $p \leq .01$.

Table 2

Simultaneous regression analyses of LSRP factors across conditions

	Instrumental condition			Hostile/reactive condition		
	<i>B</i>	RCAP total		<i>B</i>	RCAP total	
		<i>SE</i>	β		<i>SE</i>	β
LSRP 1	.31	.10	.39**	.30	.10	.42**
LSRP 2	-.05	.21	-.03	.35	.21	.10
R ²	.15*			.26**		

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

Differences across conditions. We tested whether the correlations between the LSRP scores and aggression were significantly different across the conditions. There was only a significant difference in the size of the correlations for F2 ($z = -2.14$, $p \leq .05$).

3.2. Psychopathy factors and aggression: simultaneous regression analyses

IA condition. The results of simultaneous regression analyses, regressing RCAP scores on the LSRP factors, are presented in Table 2. Only F1 manifested a significant unique relation with aggression. Overall, the factors accounted for 15% of the variance in the aggression score.

H/RA condition. Again, RCAP scores were regressed on LSRP F1 and F2; only F1 manifested a significant unique relation with the RCAP score. Overall, the LSRP factors accounted for 26% of the variance in the RCAP score.

4. Discussion

This study investigated the relations between two psychopathy factors and aggression manifested in either an IA or H/RA laboratory paradigm. As noted, psychopathy manifests a consistent relation with aggression (e.g., Hemphill et al., 1998; Skeem & Mulvey, 2001). However, the nature of this relation, as it pertains to forms of aggression that might

be differentiated by the motivating goal, level of negative affectivity present, and degree of impulsivity involved, is less clear. While the distinction between these forms may be tenuous at times (e.g., [Bushman & Anderson, 2001](#)), studies have demonstrated that psychopathy is linked to IA (e.g., [Miller & Lynam, 2003](#); [Williamson et al., 1987](#)). However, few have examined whether this relation differs depending on which psychopathy “component” is used. In addition, previous research has relied on measures of aggression (IA vs. H/RA) that are based either on file reviews or self-reports. In the current study, we examined the relations between psychopathy factors and IA and H/RA in two controlled laboratory conditions. While psychopathy has previously proven itself a predictor of laboratory measures of aggression (e.g., [Miller & Lynam, 2003](#); [Parrott & Zeichner, 2006](#)), it has not been examined with relation to this distinction.

Consistent with previous research, psychopathy was significantly related to aggression manifested in both conditions; together, psychopathy factors accounted for 15 and 26% of the variability in laboratory aggression. We expected that both LSRP factors would be correlated with aggression in both conditions but that there would be a stronger unique relation between F1 and IA, as well as between F2 and H/RA. Contrary to previous research (e.g., [Cornell et al., 1996](#); [Woodworth & Porter, 2002](#)), only LSRP F1 was significantly related to aggression in the IA condition. Consistent with predictions, both LSRP factors were significantly related to aggression in the H/RA condition. Unexpectedly, LSRP F1 was the only unique predictor of H/RA. We had hypothesized that the role of impulsivity and negative affectivity involved in H/RA would be more strongly linked to the LSRP F2. In partial support of these hypotheses, F2 was more strongly linked to aggression in the H/RA condition; the reverse was not true in that the relation between LSRP F1 and aggression did not differ across conditions. These results indicate that regardless of whether there is external motivation, the traits associated with F1 put individuals at higher risk for aggression. Alternatively, the traits associated with F2 put individuals at risk for aggression only in situations in which those traits are activated.

One way to understand these findings is to review what is known about the two LSRP factors. [Lynam \(2002\)](#) and [Ross, Lutz, and Bailey \(2004\)](#) suggest that the LSRP factors demonstrate divergent relations with general personality traits. While both LSRP factors are significantly related to Antagonism, LSRP F2 is more strongly related to Neuroticism (positively) and Conscientiousness (negatively). This supports the contention that F1 comprises of interpersonal traits such as grandiosity, manipulativeness and decreased concern for others, while F2 comprises a variety of traits including impulsivity, negative affectivity, as well as antagonistic traits (albeit at a lower level). It may be that the prominent role of Antagonism in LSRP F1 is responsible for its relation to aggression across conditions. [Miller and Lynam \(2006\)](#) found that both IA and H/RA are characterized by strong relations with Antagonism. In addition, several studies have found that this personality dimension is among the strongest correlates of antisocial and aggressive behavior (e.g., [Skeem & Mulvey, 2001](#)). The role of Neuroticism may explain why LSRP F2 is only a significant predictor of aggression in the H/RA situation.

The current findings mirror the conclusions drawn from a meta-analysis examining the relations between personality and aggression under neutral and provoking conditions ([Bettencourt, Talley, Benjamin, & Valentine, 2006](#)). These authors conclude that “Neuroticism may be more likely to be positively associated with aggressive behavior only in response to provocation and that Antagonism may be more likely to be positively associated with a proneness to engage in aggressive behavior across a variety of situations”

(p. 770). As such, LSRP F1, which is composed primarily of Antagonism (e.g., Lynam, 2002; Ross et al., 2004), should be related to aggression regardless of experimental situation; such was the case here. Alternatively, LSRP F2, which is composed, in part, of high Neuroticism, should primarily be related to aggression only in response to provocation. Again, this is consistent with the current findings. Individuals in the H/RA condition may have viewed the shocks they received as being provocative as there was no external incentive to use this option.

Another potential explanation for the current findings may be that the LSRP factors are not ideal indicators of the “typical” psychopathy factor structure. Lilienfeld and Fowler (2005) suggest that there are problems with the LSRP F1 as it is “more highly related to measures of secondary psychopathy and antisocial behaviors than to measures of the core affective and interpersonal features of psychopathy” (p. 118). While it is not unusual to see poor congruence between the factor scores of self-report psychopathy measures and the PCL-R (e.g., Berardino, Meloy, Sherman, & Jacobs, 2005), it may be that the LSRP F1 was the primary correlate because it assesses either a combination of both factors or, as suggested by Lilienfeld and Fowler, primarily the social deviance factor. This potential limitation of the LSRP might explain why the current findings diverge from much of the extant research that suggests that the social deviance component (F2) is the stronger correlate of aggression (e.g., Gretton et al., 2004; Skeem & Mulvey, 2001). A third explanation is also methodological in nature. The reliability of the LSRP F2 was poor, which would have made it difficult to detect significant effects and the differential reliabilities of F1 and F2 would have made it difficult to find a unique contribution for F2. In addition, the LSRP factors were not significantly related in the IA condition, which is unusual. There may have been a methodological confound in the IA condition that resulted in the lack of correlation between F1 and F2 and between F2 and aggression.

The current findings represent a new avenue of research into the manner in which psychopathic traits lead to aggression. Future research would benefit from using alternative measures of psychopathy and a general measure of personality that would allow a more refined analysis of these issues. Indeed, it is important that we identify the interactive effects among personality profiles (e.g., psychopathy), traits (e.g., Neuroticism, Antagonism) and ecological determinants as risk factors for aggression and violence.

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