

# The Hannibal Lecter Myth: Psychopathy and Verbal Intelligence in the MacArthur Violence Risk Assessment Study

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**Abstract** Due to the intriguing nature of the psychopathy construct, it is not surprising that psychopathic characters would appear in popular culture. At times, media portrayals of psychopathic personality are consistent with scholarly research, others times they are not. In the case of Hannibal Lecter, the psychopathic killer was framed as an individual with superior intelligence—an omnibus intelligence that enhanced his ability to manipulative and victimize others. Contrary to this popular conception and based on data from 840 cases selected from the MacArthur Violence Risk Assessment Study, ordinary least squares and ordered logistic regression models showed inverse relationships between verbal intelligence and psychopathy for eight of twelve items of the disorder in this exploratory study. Due to the uniqueness of the MacArthur sample and concern

about generalizeability, further research on verbal intelligence and psychopathy is recommended.

**Keywords** Psychopathy · Intelligence · Personality · Psychopathic personality · Antisocial

## Introduction

In the film *The Silence of the Lambs*, the Hannibal Lecter role portrayed by actor Anthony Hopkins was one of the most memorable characters in American film. A medical doctor trained in psychiatry, Lecter was also a cannibalistic serial killer who through his supreme intelligence and guile was able to manipulate agents from the Federal Bureau of Investigation that tried to utilize Lecter to solve crimes. The Hannibal Lecter character embodied psychopathic personality evidenced by his superficial charm, manipulateness, and lack of remorse or empathy for the victims who he murdered and often cannibalized, and the character has even been invoked in scholarly studies of psychopathy (Black and Larson 1999, p. 9; Blair et al. 2005, p. 1; Frick 1998, p. 1).

Another memorable feature of Lecter's presumed psychopathy was the notion that he was able to outsmart criminal justice authorities because of his superior intelligence. The popular idea that psychopathic offenders have higher levels of intelligence is somewhat inconsistent with scholarly research that has produced mixed results on their interrelationship. For instance, in their study of the links between psychopathy and the five-factor model of personality, Harpur et al. (2002) observed:

Psychopaths, as a group, display a puzzling set of abnormalities in several basic cognitive functions

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involved in attention, impulse control, and the processing of affect and language. These may represent critical additional risk factors for the development of the disorder in addition to, or in combination with, the underlying personality structure (p. 320).

Given the differing academic and even popular conceptualizations of the link between psychopathy and intelligence, the current study evaluated the putative association between verbal intelligence and psychopathic personality.

### Psychopathy and Intelligence

Clinical opinion about the intelligence of psychopaths has varied. In his seminal work, Cleckley (1941) described the psychopath as being more clever than average and possessing superior general intelligence, these traits facilitated their superficial, glib interpersonal style and ability to manipulative others. This manipulation extended to the criminal justice system. According to Cleckley (1941):

He is also distinguished by his ability to escape ordinary legal punishments and restraints. Though he regularly makes trouble for society, as well as for himself, and frequently is handled by the police, his characteristic behavior does not usually include committing felonies which would bring about permanent or adequate restrictions of his activities. He is often arrested, perhaps one hundred time or more. But he nearly always regains his freedom and returns to his old patterns of maladjustment (p. 19).

Although his own conceptualization of psychopathy was influenced by Cleckley, Hare's approach represents a disjuncture from Cleckley on the intelligence issue. It is possible that Cleckley's use of intelligence was affected by his clinical sample which included disproportionately well-educated, middle- and upper-middle class persons. It is maintained that relationships between intelligence measures and the Psychopathy Checklist Revised (PCL-R: Hare 1991, 2003) are generally weak, and there is little reason to believe that psychopathic individuals possess superior intelligence (Hare and Neumann 2008, pp. 226–227). Indeed, Salekin et al. (2004) concluded that "Despite widespread adoption of the connection between psychopathy and intelligence during Cleckley's era, today's notion of psychopathy is no longer explicitly linked to good intelligence" (p. 740).

Empirical research has produced conflicting findings on the interrelationships between the different facets of psychopathy (e.g., interpersonal, affective, behavioral, and lifestyle) and types of intelligence and cognitive maturity

(Mullin-Nelson et al. 2006; Salekin et al. 2002). Based on data from 40 patients living in a psychiatric hospital, O'Kane et al. (1996) reported a significant correlation between Total PCL-R score and IQ ( $r=-.42, p=.005$ ) and Factor 1 PCL-R and IQ ( $r=-.49, p=.005$ ) which encompasses the interpersonal and affective dimensions of the disorder. There was not a significant relationship between Factor 2 PCL-R score and IQ ( $r=-.05, p = ns$ ) which spans the lifestyle and behavioral aspects of psychopathy. Based on data from a sample of 122 youths housed in a juvenile detention facility, Salekin et al. (2004) used the Psychopathy Checklist-Youth Version (PCL-YV: Forth et al. 2003), Kaufman's Brief Intelligence Test (K-BIT: Kaufman and Kaufman 1990), and Sternberg's Triarchic Abilities Test (STAT—High School Level: Sternberg, Unpublished) to investigate the linkages between psychopathy and intelligence. They found that youths who scored high on the arrogant and deceitful interpersonal scale had greater verbal abilities and overall intelligence than other delinquents. Moreover, the combination of creative, practical, and analytical intelligence was higher in psychopathic delinquents ( $r=.22, p<.05$ ). These results suggested that the interpersonal and behavioral aspects of psychopathy were related to better intellectual functioning which likely enhances an arrogant/deceitful interpersonal style. On the other hand, Salekin et al. (2004) found a negative association between affective traits and intelligence.

Loney et al. (1998) used data from 117 clinic-referred children to examine the interrelationships between intelligence, callous-unemotional traits, and antisocial behavior. Psychopathic children had lower verbal, performance, and full-scale IQs than a clinic control group, but higher IQs than non-psychopathic children with conduct problems. In a sample of 840 adult psychiatric patients selected from the MacArthur Violence Risk Assessment Study, Vitacco et al. (2005) found a positive relationship between verbal IQ and the interpersonal facet of psychopathy but negative associations between verbal IQ and the affective and lifestyle dimensions based on the 3-factor formulation of the construct (Cooke and Michie 2001). Based on data from a sample of 100 male inmates selected from a county jail, Vitacco et al. (2008) reported significant relationships between psychopathy and intelligence which were contingent on the facet of the disorder. Using the Psychopathy Checklist Screening Version (PCL: SV; Hart et al. 1995) and the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler 1999), Vitacco et al. (2008) found that the interpersonal and antisocial facets of psychopathy were positively related to intellectual functioning, but the affective and lifestyle facets were negatively associated with IQ.

There is mounting evidence that the relationship between intelligence and psychopathy is variable and depends on

which facet of the disorder is considered. There is also evidence that different subsamples of criminal offenders present different portraits of a link between IQ and psychopathy. For instance, Johansson and Kerr (2005) studied 370 violent male prisoners and found that higher verbal intelligence served as a protective factor for criminals which resulted in delayed onset of offending. However, among psychopathic males with high intelligence scores, the onset of offending was earlier. In a sample of 216 male child molesters, Beggs and Grace (2008) reported an overall correlation between IQ and psychopathy as measured by the PCL-R of ( $r=0.20$ ,  $p<.01$ ). Recidivism rates for sexual, violent, and general offending also varied by psychopathy score and intelligence. Among non-psychopathic offenders with low intelligence: 4.3% of the offenders recidivated with a sexual offense, 2.1% for a violent offense, and 0% for other/general offenses. Among psychopathic offenders with low intelligence, the rates were 18%, 18%, and 24.6%, respectively. Among non-psychopathic offenders with high intelligence: 3.3% of offenders recidivated with a sexual offense, 3.3% for a violent offense, and 9.8% for other/general offenses. Among psychopathic offenders with high intelligence, the rates were 4.3%, 8.5%, and 10.6%, respectively. There was also significant interaction between psychopathy and intelligence. Offenders with relatively low intelligence and high psychopathy scores were more than four times likely than other offenders to sexually recidivate.

## Current Focus

In sum, investigations have produced mixed findings about the relationship between psychopathy and various aspects of intelligence. Across measurement strategies and analytical techniques, the balance of research suggests variable relationships between psychopathy and intelligence. Most research to date has utilized relatively small offender samples. The current exploratory study utilizes data from the MacArthur Violence Risk Assessment Study and extends prior research that used these same data (Vitacco et al. 2005) by employing two regression-based techniques and an expanded list of control variables.

## Method

### Participants and Procedures

This research was conducted using data from the MacArthur Violence Risk Assessment Study (see Monahan et al. 2001) on an analytical sample of ( $n=840$ ). The overall sampling frame for the MacArthur Violence Risk Assess-

ment Study was comprised of participants from inpatient psychiatric units recruited from three cities (Pittsburgh, Pennsylvania, Kansas City, Missouri and Worcester, Massachusetts). Participants were included if they were between the ages of 18 and 40, spoke English as a primary language, had been hospitalized for less than 21 days, and carried a medical chart diagnosis of schizophrenia, schizophreniform disorder, schizoaffective disorder, major depression, dysthymia, bipolar disorder, brief reactive psychosis, delusional disorder, alcohol or other drug abuse or dependence, or a personality disorder. A total of 1,695 patients met the inclusion criteria and were recruited, 1,136 (71%) of whom agreed to participate.

In terms of their psychiatric diagnosis, evaluated using the DSM-III-R checklist (Hudziak et al. 1993), participants varied with 40% diagnosed with a depressive disorder, 24% with a substance abuse/dependence disorder, 17% with schizophrenia, 13% with bipolar disorder, 4% with a psychotic disorder other than schizophrenia, and 2% with a personality disorder only. The majority of study participants (71%) had at least one prior psychiatric hospitalization and 42% were hospitalized involuntarily at the time of study recruitment. Study participants were assessed at baseline using the measures outlined above to gather information regarding psychiatric diagnosis, socioeconomic status, demographics, and criminal history. During subsequent follow-up periods, the PCL: SV was administered to assess levels of psychopathy. Of the 1,136 individuals who received a baseline assessment, 840 were available for follow-up where study measures were administered. The analytic sample had a mean age of 29.85 ( $SD=11.8$ ), and was comprised largely of Caucasians (70%) and males (57.5%). Several publications have resulted from these data (e.g., Skeem and Mulvey 2001; Skeem et al. 2005; Steadman et al. 1998).

### Measures

#### Dependent Variable

**Psychopathy** Psychopathy was assessed using the Psychopathy Checklist-Screening Version (PCL: SV; Hart et al. 1995), by interviewers trained in its administration. The PCL: SV was designed to be used in non-criminal settings and has shown to be strongly correlated with the parent instrument, PCL-R (Hart et al. 1995; Hare and Neumann 2008). The PCL: SV consists of 12 items rated on a 3-point ordinal scale (0 = does not apply at all, 1 = applies in some respects, 2 = is consistent with the individual's behavior) that assess interpersonal manipulativeness and narcissism, behavioral and emotional control, and social deviance ( $M=8.48$ ,  $SD=5.53$ ). Items are summed to provide an overall psychopathy rating with higher scores reflecting greater

levels of psychopathy. Previous research has shown the PCL: SV to be a predictor of future violent behavior in this sample (Skeem and Mulvey 2001). Internal consistency reliability in the present study sample was adequate ( $\alpha=.84$ ). Prior research (e.g., Vitacco et al. 2005) found structural invariance for the PCL: SV on the basis of ethnicity thus it is useful for both African-Americans and Caucasians. There is considerable debate about the structure of the psychopathy construct and whether it is best constituted by two, three, or four factors (Cooke and Michie 2001; Hare and Neumann 2008; Vitacco et al. 2005); however evaluating this empirical question is not our current focus.

### Independent Variables

*Verbal IQ* Verbal IQ skills ( $M=34.67$ ,  $SD=16.56$ ) were assessed using the Wechsler Adult Intelligence Scale—Revised (WAIS-R; Wechsler 1999) vocabulary subtest, which is comprised of 35 items ( $\alpha=.93$ ) that correlates strongly with the Full IQ score. The WAIS-R was normed on a representative sample of 1,800 American adults, is strongly correlated with other IQ tests (e.g., Stanford-Binet), and has demonstrated excellent psychometric properties (Reynolds et al. 1983; Wechsler 1999). It is important to point out that the performance IQ component was unavailable.

*Impulsivity* Impulsivity is an important theoretical construct that is central to general theories of antisocial behavior (e.g., Gottfredson and Hirschi 1990; Moffitt 1993b) and was included as a statistical control. Impulsivity was assessed using the Barratt Impulsivity Scale (BIS) (Barratt 1965, 1994), one of the most widely used self-administered measures of impulsivity. The BIS conceptualizes impulsivity as consisting of three main domains: motor ( $M=18.05$ ,  $SD=7.7$ ), cognitive ( $M=15.48$ ,  $SD=5.65$ ), and non-planning ( $M=23.91$ ,  $SD=7.51$ ). The BIS consists of 30 items to which the study participant responds “rarely/never, occasionally, often or almost always/always.” Patton et al. (1995) reported internal consistency coefficients for the BIS total score ranging from ( $\alpha=0.79$  to  $0.83$ ) across samples of undergraduates, substance-abusing patients, general psychiatric patients, and prison inmates. For the purposes of this study we used each of the three domain scores and not the total score.

*Demographics* Age, ethnicity, gender, race and socioeconomic status were included as controls. Socioeconomic status was coded using Hollingshead and Redlich’s (1958) Socioeconomic status index ( $M=64.56$ ,  $SD=11.8$ ). This index has been widely used in the psychiatric and sociological literature to assess socioeconomic status and adjusts for education and occupation prior to hospitalization

to formulate a composite socioeconomic status rating with higher ratings reflecting higher socioeconomic levels.

### Statistical Analyses

The analytic plan proceeds in several steps that use the PCL: SV total score and items as dependent variables. First, we conduct ordinary least squares regression predicting total PCL: SV score with verbal IQ, demographic factors and measures of impulsivity. Next, we extend previous work (Salekin et al. 2004; Vitacco et al. 2005) by evaluating the effect of verbal IQ on each psychopathy facet (i.e., individual item) by employing a series of twelve ordered logistic regressions (PCL: SV item one thru item twelve) while controlling for demographic factors (i.e., age, SES, gender, race) and specific components of impulsivity previously described. Ordered logistic regression is necessary given the response format of each individual PCL: SV item (0–2) with higher scores reflecting the presence of the trait to a greater degree. Ordered logistic regression is a maximum likelihood technique that provides probability estimates across an ordinal scale. Ordered logistic regressions were executed using the computer software package Stata 10SE. Any missing cases were assumed to be missing at random and were imputed using an expectation maximization algorithm. See Appendix for correlation matrix.

## Results

### Prediction of PCL: SV Total Score

The first set of analyses regressed the PCL: SV total score on verbal IQ while controlling for demographic factors (age, gender, race, and SES) and BIS motor, non-planning and cognitive impulsivity domains. As revealed in Table 1 the overall model ( $F [8, 831]=26.48$ ,  $p<.0001$ ) accounted for 18.4% of the variance in PCL: SV scores. Importantly, however, verbal IQ was inversely and significantly related to the overall score ( $\beta=-.14$ ,  $p<.001$ , 95% CI $=-.072, -.023$ ). Thus, for every one unit increase in PCL: SV total scores there is a corresponding decrease in verbal IQ. Male gender ( $\beta=.17$ ,  $p<.001$ , 95% CI $=1.20, 2.59$ ), socioeconomic status ( $\beta=.13$ ,  $p<.001$ , 95% CI $=.029, .089$ ), BIS motor impulsivity ( $\beta=.13$ ,  $p<.01$ , 95% CI $=.037, .152$ ), and BIS non-planning impulsivity ( $\beta=.20$ ,  $p<.001$ , 95% CI $=.088, .202$ ) were also significant predictors of PCL: SV total scores.

### Prediction of PCL: SV Items

After establishing the inverse relationship between verbal IQ and the PCL: SV total score, each item of PCL: SV

**Table 1** Results from OLS regression predicting PCL: SV total score (N=840)

PCL: SV total score	<i>b</i>	<i>beta</i>	<i>SE</i>	95% <i>CI</i>
Age	-.01	-.01	.03	-.057, .051
Male gender	1.92	.17***	.35	1.20, 2.59
Socioeconomic status	.06	.13***	.01	.029, .089
Race	.71	.07	.41	-.093, 1.504
BIS motor	.10	.13**	.03	.037, .152
BIS non-planning	.14	.20***	.03	.088, .202
BIS cognitive	-.04	-.04	.04	-.112, .038
IQ verbal	-.05	-.14***	.01	-.072, -.023
Model <i>F</i> (8, 831)=26.48, <i>p</i> <.0001				
Model <i>R</i> <sup>2</sup> =0.184				

Confidence intervals and are specific to each unstandardized coefficient

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

psychopathy was examined in a series of ordered logistic regression models. Percentage decreases or increases in the predictor variables were specific to a one unit change in the response variable (i.e., dependent variable). Table 2 displays regression coefficients for superficial charm, grandiosity, manipulative, and irresponsibility. Although in the hypothesized direction, verbal IQ was not significantly associated with superficiality, grandiosity, or manipulative items. Decreased verbal IQ was predictive of irresponsibility (OR=.989, *p*<.05, 95% CI=.979, .998).

Table 3 displays regression output for lacks remorse, lacks empathy, doesn't accept responsibility, and adolescent antisocial behavior. With respect to the affective facets which constitute the core mien of psychopathy, as lack of remorse increased there was a likelihood of decreased percentage in verbal IQ scores (OR=.989, *p*<.05, 95% CI=.979, .998) and as lacks empathy increased there was also an inverse significant reduction in verbal IQ scores (OR=.986, *p*<.01, 95% CI=.976, .996). The item doesn't accept responsibility (OR=.989, *p*<.05, 95% CI=.979,

.998) was also associated with decreases in verbal IQ. Verbal IQ was not associated with adolescent antisocial behavior.

As shown in Table 4, psychopathy facets associated with deficits in executive governance also demonstrated increases as verbal IQ decreased. For example, impulsive behavior (OR=.986, *p*<.01, 95% CI=.976, .995) and poor behavior controls (OR=.989, *p*<.05, 95% CI=.979, .998), and lacks goals (OR=.976, *p*<.001, 95% CI=.966, .985) were statistically significant. Finally, verbal IQ was inversely predictive of adult antisocial behavior (OR=.986, *p*<.01, 95% CI=.976, .996). Unsurprisingly, male gender and BIS non-planning were consistent predictors of psychopathy facets.

To summarize, verbal IQ was negatively associated with the PCL: SV total score. Participants who were more psychopathic had lower verbal IQs. Exploration of the sub-items revealed that verbal IQ was inversely significantly associated with eight of the twelve PCL: SV items. Participants with lower verbal IQs were more irresponsible, were more likely to lack remorse and empathy, failed to accept responsibility, were impulsive, had poor behavioral controls, lacked realistic goals, and demonstrated more adult antisocial behavior. Verbal intelligence was not significantly related to superficial charm, grandiosity, manipulative, and adolescent antisocial behavior.

**Discussion**

The fictional Hannibal Lecter figure characterizes the popular and occasional academic viewpoint that psychopathic persons possess superior intelligence which enhances some of their core personality traits. Building on prior research using data from the MacArthur Violence Risk Assessment Study (Salekin et al. 2004; Skeem and Mulvey 2001; Skeem et al. 2005; Steadman et al. 1998; Vitacco et al. 2005), the current study examined the relationship between verbal intelligence and 12 items of psychopathy as measured by the PCL: SV. In ordered logistic regression

**Table 2** Results from ordered logistic regressions predicting superficial charm, grandiosity, manipulative, and irresponsibility (N=840)

Variable	Superficial charm		Grandiosity		Manipulative		Irresponsibility	
	OR	SE	OR	SE	OR	SE	OR	SE
Socioeconomic status	.993	.007	.996	.007	1.01	.006	1.02**	.006
Age	.995	.012	.991	.012	.986	.011	1.01	.011
Gender (male)	1.69**	.260	1.90***	.304	1.24	.174	1.47**	.202
Race	1.25	.185	1.31	.208	1.49**	.208	.979	.153
BIS motor	1.02	.012	1.03*	.013	1.01	.011	1.03**	.010
BIS non-planning	1.02	.012	1.02	.012	1.02	.011	1.07***	.012
BIS cognitive	.971	.016	.943***	.016	.999	.015	.986	.014
Verbal IQ	.991	.005	1.00	.005	.994	.005	.980***	.004

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

**Table 3** Results from ordered logistic regressions predicting lacks remorse, lacks empathy, doesn't accept responsibility, and adolescent antisocial behavior ( $N=840$ )

Variable	Lacks remorse		Lacks empathy		Doesn't accept responsibility		Adolescent antisocial behavior	
	OR	SE	OR	SE	OR	SE	OR	SE
Socioeconomic status	1.02**	.007	1.02**	.007	1.01	.006	1.02*	.006
Age	.984	.010	.987	.011	1.00	.010	.967**	.010
Gender (male)	1.66**	.243	1.69***	.249	1.62***	.221	1.76***	.250
Race	1.21	.171	1.13	.164	1.24	.176	1.09	.159
BIS motor	1.03*	.012	1.01	.011	1.02*	.010	1.02*	.010
BIS non-planning	1.01	.011	1.01	.011	1.02*	.011	1.04**	.011
BIS cognitive	.981	.016	.980	.015	1.00	.014	1.01	.014
Verbal IQ	.989*	.005	.986**	.005	.984**	.004	.992	.005

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

models, no relationships were found between verbal IQ and four psychopathic features relating to superficiality, grandiosity, manipulativeness, and adolescent antisocial behavior. On the other hand, significant inverse relationships were found between verbal intelligence and remorselessness, lacking empathy, failure to accept responsibility, impulsivity, poor behavioral controls, lacks realistic goals, irresponsibility, and adult antisocial behavior. These results withstood controls for three items of impulsivity (motor, non-planning, and cognitive), race, gender, age, and socioeconomic status. In the OLS regression model, verbal IQ was significantly inversely related to total PCL: SV score. Overall, we found that clients with psychiatric disorders who were lower verbal IQ scores were more psychopathic; patients with greater verbal intelligence were less psychopathic.

The current findings speak to the importance of evaluating the linkages between psychopathy and intelligence on a disaggregated basis to examine distinct components of the disorder. Although verbal intelligence was significantly related to most items of psychopathy, it

was not significantly related to those theorized to facilitate psychopathic personality, such as a superficial interpersonal style. In addition, verbal IQ was inconsistently related to psychopathic items that are conceptually similar. For instance, verbal IQ was negatively associated with adult antisocial behavior, but unrelated to adolescent antisocial behavior. Broadly defined, the current study is concordant with prior research showing inverse relationships between intelligence or cognitive ability and antisocial personality/behaviors (Beaver et al. 2008; Dionne et al. 2003; Hirschi and Hindelang 1977; Loney et al. 1998; Luria 1961; McGloin et al. 2004; Moffitt 1993a, b; Wilson and Herrnstein 1985) and adds psychopathic features to that list.

For future study, it is important to utilize individual items of psychopathy and other personality disorders that might serve as proxies for intelligence. For example, Ullrich et al. (2007) recently evaluated the dimensions of DSM-IV personality disorders and two measures of life success: status and wealth and successful intimate relationships. Expectedly, they found that most personality disorders were associated with impaired psychosocial

**Table 4** Results from ordered logistic regressions predicting impulsivity, poor behavioral controls, lacks realistic goals, and adult antisocial behavior ( $N=840$ )

Variable	Impulsivity		Poor behavioral controls		Lacks realistic goals		Adult antisocial behavior	
	OR	SE	OR	SE	OR	SE	OR	SE
Socioeconomic status	1.02**	.006	1.02**	.006	1.04***	.007	1.02**	.006
Age	.990	.010	.998	.010	1.03*	.011	1.03*	.011
Gender (male)	1.48**	.203	1.24	.166	1.47**	.203	2.24***	.322
Race	1.05	.159	.854	.127	1.13	.164	1.41*	.217
BIS motor	1.03**	.012	1.04**	.011	1.00	.011	1.02*	.011
BIS non-planning	1.05***	.010	1.03**	.011	1.06***	.011	1.06***	.011
BIS cognitive	.964*	.014	1.00	.014	1.00	.015	.988	.014
Verbal IQ	.986**	.004	.989*	.004	.976***	.004	.986**	.004

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

functioning and broad life failure. However, specific traits such as obsessive-compulsiveness and narcissism were positively associated with status and wealth. In this way, narcissism—a core psychopathy trait—can appear to be a source of intelligence when it results in a highly motivated/driven work style that results in higher earnings. Indeed, Paulhus and Williams (2002) reported a significant correlation between narcissism and IQ ( $r=.15, p<.05$ ) in their study of psychopathic personality. Of course, in other contexts, narcissism is importantly related to self-regulation/self-control which undergirds antisocial behavior (Gottfredson and Hirschi 1990; Vaughn et al. 2007).

An intriguing set of findings emerged centering on the relationship between socioeconomic status and psychopathic personality. In these data from the MacArthur Violence Risk Assessment Study, respondents with higher socioeconomic status evinced *greater* psychopathy scores on the PCL: SV. Moreover, significant positive effects were found for socioeconomic status and eight facets of psychopathy: lacks remorse, lacks empathy, impulsivity, poor behavioral controls, lacks realistic goals, irresponsibility, and both adolescent and adult antisocial behavior. This is consistent with prior research (Benning et al. 2003; Hall and Benning 2006) which suggests that certain facets of psychopathy have adaptive properties which facilitate success in the context of socioeconomic status attainment. For example, Hall and Benning (2006) argued that successful psychopaths are persons that score highly on fearless dominance which contributes to higher socioeconomic status, academic achievement, and psychosocial resilience. The current significance between socioeconomic status and psychopathy could be tapping this adaptive part of psychopathy although the relationship between these variables could also be a function of the sample.

There are important limitations of the current study that should be considered and hopefully improved upon by future researchers that are interested in the relationship between intelligence and psychopathy. The first pertains to the current sample. Although the MacArthur Violence Risk Assessment Study (Monahan et al. 2001) is an ideal data set for exploring the linkages between psychiatric disorders and violence, it was not designed for the purpose of exploring the interrelationship between verbal IQ and psychopathic personality. Moreover, it is unknown to what degree the mental disorders or medication to treat those disorders affected participants' scores on the WAIS-R. This limits the generalizeability of the findings. Although the factor structure of psychopathy is a vibrant area of research (cf. Benning et al. 2003; Cooke and Michie 2001; Hare and Neumann 2008; Vitacco et al. 2005), the current study used the PCL: SV items to examine their relationship with intelligence, in this way the current research is more exploratory. Finally, intelligence is a multifaceted construct and

the current inquiry only focused on verbal IQ as measured by the WAIS-R. Additional aspects of intelligence or cognitive functioning should be explored (Harpur et al. 2002).

Despite these limitations, the current study extends the literature on the intelligence-psychopathy link in three ways. First, it provides additional empirical coverage of the debate between Cleckley's and Hare's conceptualization vis-à-vis psychopathy that was discussed at the beginning of this study and explored in more recent research (Salekin et al. 2004). Second, although we are not the first to study the links between psychopathic personality and intelligence, the use of a large ( $n=840$ ) sample and multivariate models with seven controls is an advancement over prior studies that utilized much smaller samples of 40 (O'Kane et al. 1996), 100 (Vitacco et al. 2008), 117 (Loney et al. 1998), or 122 (Salekin et al. 2004). Third, the current effort makes an incremental contribution to prior studies of psychopathy-verbal intelligence that similarly used these data. For instance, Vitacco et al. (2005) used structural equation models with ethnicity and gender and found that verbal IQ was negatively associated with affective and lifestyle dimensions of psychopathy but positively associated with the interpersonal facet. The current effort added socioeconomic status and three measures of impulsivity from the BIS to OLS and ordered logistic regression models and produced substantively similar findings. Taken together, this suggests that a generally inverse relationship between psychopathy and verbal intelligence in the MacArthur data can be observed across analytical techniques and with different sets of control variables.

Due to the intriguing nature of the psychopathy construct, it is not surprising that psychopathic characters would appear in popular culture. At times, media portrayals of psychopathic personality are consistent with scholarly research, others times they are not. For example, the Hannibal Lecter character was really not a prototypical psychopath evidenced by his sentimental, warm connection to Clarice Starling and his disciplined ability to delay gratification to achieve long-term goals. Moreover, that Lecter was portrayed as a psychopathic killer with superior intelligence—an omnibus intelligence that enhanced his ability to manipulate and victimize others—does not square with some research on psychopathy and verbal intelligence. Based on data from the MacArthur Violence Risk Assessment Study, the current study reported that psychopathic persons are *less* verbally intelligent than their non-psychopathic peers. These exploratory findings might be dependent on the uniqueness of the MacArthur sample (e.g., psychiatric patients) which tempers their generalizeability. In this sense, further research on verbal intelligence and psychopathy is recommended to more fully assess whether characters such as Lecter are more real or myth.

Appendix 1: Correlation Matrix of Study Variables

	1	2	3	4	5	6	7
1. Age	1.00						
2. SES	-0.01	1.00					
3. PCL: SV total	-0.04	0.24***	1.00				
4. BIS Motor	-0.19***	0.14***	0.25	1.00			
5. BIS Non-planning	0.01	0.14***	0.29***	0.44***	1.00		
6. BIS Cognitive	-0.08**	0.23***	0.16***	0.50***	0.49***	1.00	
7. Verbal IQ	0.10**	-0.41***	-0.25***	-0.21***	-0.09**	-0.19***	1.00

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

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