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# Heartless and cunning? Intelligence in adolescents with antisocial behavior and psychopathic traits



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## ABSTRACT

Clinical theory predicts that individuals high in psychopathic traits possess average or above average intelligence; however findings in adult and child samples have been mixed. The present study aimed to investigate (1) the relationship between verbal and nonverbal intelligence and the three dimensions of psychopathy (callous-unemotional (CU) traits, narcissism, impulsivity); and (2) whether these dimensions moderate the association between verbal and nonverbal intelligence and the severity of antisocial behavior. Participants were 361 adolescents aged 9–18 years (68% boys) and their parents, drawn from four samples with different levels of risk for antisocial behavior. Families were disadvantaged and 25% were from an ethnic minority. Verbal intelligence was unrelated to parent-reported CU traits, narcissism or impulsivity after controlling for gender, sociodemographic disadvantage, sample, antisocial behavior and hyperactivity. Narcissism, but not CU traits or impulsivity, was significantly related to lower nonverbal IQ. None of the three psychopathic trait dimensions moderated the relationship between verbal or nonverbal IQ and antisocial behavior. CU traits, narcissism, hyperactivity and inclusion in the very high or high risk samples were significantly related to more severe antisocial behavior. Results contradict the widely held view that psychopathic traits are associated with better than average verbal or nonverbal intelligence.

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## 1. Introduction

Psychopathy is a multifaceted construct characterized by low empathy, guilt and emotionality (affective dimension), egocentricity, superficial charm and a propensity towards manipulating others (interpersonal dimension), and irresponsibility, impulsivity and poor planning (behavioral dimension). In early conceptualizations, psychopaths were viewed as highly intelligent with good reasoning skills (Pinel, 1962; Cleckley, 1976), with Cleckley declaring that, “Very often indications of good sense and sound reasoning will emerge and one is likely to feel soon after meeting him that this normal and pleasant person is also one with high abilities. Psychometric tests also very frequently show him of superior intelligence” (p. 339). In contrast, Hare and Neumann (2008) argued that from a theoretical standpoint, ‘there is no obvious reason why the disorder described by Cleckley or other clinicians should be related to intelligence’ (p. 237), citing weak

relationships between scores on intelligence measures and the Psychopathy Checklist Revised (PCL-R; Hare, 2003), and suggesting that Cleckley’s Clinical Profile may have been influenced by an overrepresentation of well-educated, middle to upper-middle class individuals in his sample. These conflicting views are likely to reflect advances in the conceptualization and measurement of psychopathy. Contemporary measures such as the PCL-R and youth adaptations including the PCL: Youth Version (PCL-YV; Forth et al., 2003) and the Antisocial Process Screening Device (APSD; Frick and Hare, 2001) were influenced by Cleckley’s writings and are largely consistent in their description of psychopathy, however further clinical and empirical investigation has resulted in differences in their coverage of symptoms included in his Clinical Profile. Findings from adult studies have been mixed, with some linking psychopathy to average or good intelligence, and others to below average intelligence (Johansson and Kerr, 2005).

Three dimensions of psychopathy corresponding to the adult model have been identified in children (Frick et al., 2000a), encompassing callous-unemotional (CU) traits (affective dimension), narcissism (interpersonal dimension) and impulsivity (behavioral dimension). CU traits are considered to be the hallmark feature of child psychopathy and characterize a subgroup of

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antisocial children at greater risk for chronic, severe antisocial behavior (Moran et al., 2009; Frick and Moffitt, 2010). Investigations of the association between intelligence and psychopathy in children do not provide any evidence for a direct link between CU traits and better verbal or nonverbal intelligence; however findings for narcissism and impulsivity have been mixed. Fisher and Blair (1998) assessed verbal intelligence in 39 boys (9–16 years) with conduct problems using the British Picture Vocabulary Test (BPVS; Dunn et al., 1982) and found no association between verbal IQ and teacher-reported CU traits, impulsivity/conduct problems or total psychopathy scores on the APSD (Frick and Hare, 2001). Comparison of the highest ( $n=8$ ) and lowest scoring children ( $n=9$ ) on the APSD revealed no significant differences in verbal IQ. Loney et al. (1998) assessed the verbal and nonverbal IQ of 177 clinic-referred children (6–13 years) using the Wechsler Intelligence Scale for Children – Third Edition (WISC-III; Wechsler, 1991). Children considered high in CU traits based on combined parent and teacher APSD scores (upper quintile) had equivalent verbal IQ to antisocial children low in CU traits and clinic controls, with a trend towards weaker nonverbal IQ. Muñoz et al. (2008) categorized detained adolescent boys ( $N=100$ ) as high and low in each psychopathic trait dimension based on a median split on the self-report version of the APSD. There were no differences in receptive vocabulary scores for adolescents high or low in CU traits or narcissism, however high-impulsive adolescents had better scores.

Salekin et al. (2004) assessed psychopathy in 122 incarcerated youth using the PCL-YV (Forth et al., 2003) and found that the affective dimension was related to weaker verbal intelligence (Kaufman's Brief Intelligence Test; Kaufman and Kaufman, 1990). In contrast, the interpersonal dimension was positively related to verbal intelligence, with the interpersonal and behavioral dimensions predicting creativity, practicality, and analytic thinking (Sternberg's Triarchic Abilities Test; Sternberg, 1993). Fontaine et al. (2008) assessed verbal intelligence (WISC-III PI; Kaplan et al., 1999) and nonverbal intelligence (Cognitive Abilities Test; Smith et al., 2001) in a large twin sample (mean age 9 years, 46% boys). Teacher-reported CU traits and impulsivity were related to low verbal and nonverbal IQ scores controlling for gender; however these relationships failed to remain significant when conduct problems and hyperactivity were accounted for. Narcissism predicted verbal and nonverbal intelligence controlling for gender, conduct problems and hyperactivity. Some support for a link between the interpersonal dimension of psychopathy and IQ, particularly verbal IQ, has also been found in adults; however the affective and behavioral dimensions appear to covary with poor intellectual functioning (e.g., Vitacco et al., 2005, 2008; Neumann and Hare, 2008). It is possible that relations may vary as a function of trait dimension and types of intelligence, with narcissistic features such as the ability to charm, deceive and manipulate others showing the strongest association with verbal intelligence.

Studies have chiefly focused on direct associations between psychopathy and intelligence; however it is possible that psychopathic traits moderate this relationship. That is, individuals with psychopathic traits who possess good intelligence may display more severe antisocial behavior given that their increased capabilities may facilitate their ability to deceive and manipulate others. Muñoz et al. (2008) tested this proposition and found that adolescent boys high or low in CU traits, narcissism or impulsivity did not differ on age of first offense or nonviolent delinquency. However, adolescents with better verbal ability and high levels of CU traits, but not narcissism or impulsivity, reported more acts of violent delinquency. Delinquency is associated with IQ deficits even when controlling for socioeconomic disadvantage (Moffitt, 1993), with high IQ, particularly verbal IQ, serving as a protective factor for delinquency in youth (e.g., Lahey et al., 2002). However, the protective influence of high IQ may be confined to antisocial youth low in psychopathic traits, with the combination of high IQ

scores and psychopathic traits, particularly CU traits and narcissism potentially linked to more severe antisocial behavior.

Due to past contradictory findings, our aim was to test the relationship between psychopathic traits and intelligence in a larger study with adolescents at different levels of risk for antisocial behavior. We included measures of verbal and nonverbal intelligence given that clinical theory and past research suggest differential links between psychopathic traits and the verbal and nonverbal domains (e.g., Neumann and Hare, 2008). We focused on adolescents given that they are more likely to possess the intelligence needed to manipulate and deceive others than younger children. We planned to control for age, gender, socioeconomic disadvantage, hyperactivity and antisocial behavior due to their known associations with intelligence (Moffitt, 1993; Frazier et al. 2004). Impulsivity increases vulnerability for psychopathology, however high levels of this trait alone are unlikely to result in an externalizing disorder in the absence of additional vulnerabilities and environmental risk (Neuhaus and Beauchaine, 2008). Trait impulsivity shows considerable overlap with externalizing symptoms, however only a third of high-impulsive children meet criteria for oppositional defiant/conduct disorder (Frick et al., 2000b). Factor analytic studies indicate that while hyperactivity and antisocial behavior are highly correlated they represent distinct constructs (Hinshaw, 1987), with antisocial behavior conferring greater risk for some long-term negative outcomes, including arrest and substance abuse (Lahey and Loeber, 1997; Taylor et al., 1996). These variables were therefore entered as separate predictors in the analyses. Based on past research we hypothesized that CU traits and impulsivity would be related to poor verbal and nonverbal intelligence; and that narcissism would predict higher verbal and nonverbal IQ scores. We also examined the interaction between psychopathic traits and intelligence in predicting the severity of antisocial behavior separately for verbal and nonverbal IQ scores. CU traits and narcissism, but not impulsivity was predicted to moderate the relationship between IQ and antisocial behavior. Specifically, we predicted that better intelligence would be related to more severe antisocial behavior in adolescents high in CU or narcissism but exert a protective effect for those low in these traits.

## 2. Methods

Families were drawn from four samples of adolescents in a similar age range (9–18 years) representing low to very high risk of antisocial behavior to ensure that a wide range of psychopathic traits and antisocial behavior was assessed. Following approval from the university ethics board, parents and adolescents provided written consent. All participants ( $N=361$ ) had to be living with a biological parent and reasonably fluent in English. Adolescents were excluded if they had recognized developmental delay. Most participants completed the assessment at their home; some adolescents in the moderate and high risk samples (see below) were assessed at school (35%) due to convenience or school exclusion. Parents were paid £20, adolescents £10. Families were disadvantaged relative to the rest of England (Table 1) based on a variety of socioeconomic indicators.

### 2.1. Participants

#### 2.1.1. Very high risk sample

Adolescents aged 10–18 years ( $n=102$ ,  $M=14.56$ ,  $S.D.=1.63$  years; 73% boys) and their parents were recruited from Youth Offending Services and additional support agencies in a Southern county of England. Caseworkers approached families and those who agreed were phoned by a researcher to screen for eligibility and provide information. Of the 473 eligible families approached, 102 (22%) agreed to participate.

#### 2.1.2. High risk sample

Adolescents aged 9–17 years ( $n=107$ ,  $M=13.25$ ,  $S.D.=1.81$  years; 72% boys) and their parents were recruited from child and adolescent mental health services in London and Sussex. Families were originally recruited as part of a treatment trial for antisocial behavior when aged 3–7 years (see Scott et al., 2001). Of the original

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