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# Psychopathy, intelligence, and impulsivity in German violent offenders



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#### ABSTRACT

Previous studies have reported numerous correlations between psychopathy and various personality traits, behavioural tendencies or clinical characteristics. The present study examined in greater depth the relationships between the components of psychopathy as measured by the Psychopathy Checklist—Revised (PCL-R) and intelligence as well as impulsivity. A total of ninety male violent offenders were recruited from a prison and a forensic—psychiatric hospital in Germany. All of the subjects were assessed using the PCL-R, the Barratt Impulsiveness Scale (BIS-11), and a short version of the German Wechsler Adult Intelligence Scale (WIP). As expected, a canonical correlation analysis showed a negative association between spatial intelligence and the Factor 2 subtotal on the PCL-R (reckless lifestyle/antisociality). In addition, our results agreed with the assumption of an association between impulsivity and the subtotal for PCL-R Factor 2. The positive relationship between verbal intelligence and the subtotal for Factor 1 of the PCL-R (insincere, manipulative conduct/affective deficits) vanished after controlling for educational level. The results indicate that there is a relationship between the spatial components of intelligence and the concept of psychopathy as described by Hare. This result supports the spatial impairment aetiological model of antisocial behaviour.

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#### 1. Introduction

### 1.1. Psychopathy

Psychopathy is a trait that partially overlaps with dissocial personality disorder (World Health Organization, 2004) and antisocial personality disorder (American Psychiatric Association, 2000). More specifically, psychopathy may represent an extreme form of antisocial personality disorder (Coid & Ullrich, 2010). The distinctive features of psychopaths are egocentricity, deceitfulness, shallow emotions, lack of empathy, stimulation seeking, impulsivity, and a tendency to ignore or violate social conventions and rules (Hare, 2003). In comparison with antisocial or dissocial personality disorder, psychopathy focuses more on interpersonal and affective characteristics in a manner consistent with impulsive, antisocial tendencies (Hare, 2003; Hare & Neumann, 2008). The most common assessment instrument for psychopathy is the Psychopathy Checklist-Revised (PCL-R) by Hare (2003). The PCL-R can be divided into four dimensions: Interpersonal, Affective, Lifestyle, and Antisocial (Hare, 2003; Hare & Neumann, 2008). These four dimensions reflect two factors conceptualised by Hare (2003). Factor 1 is described as a set of characteristics, such as manipulative behaviour, egocentricity, lack of remorse and callousness; this factor integrates the Interpersonal and Affective dimension. Factor 2 identifies chronically unstable and

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antisocial lifestyles, which are correlated with antisocial personality traits, criminal behaviour, and substance abuse (Hare, Hart, & Harpur, 1991).

## 1.2. Psychopathy and intelligence

Given the negative correlation between general intelligence and criminality (Hirschi & Hindelang, 1977; Wilson & Herrnstein, 1985; Woodward, 1955), it was expected that violent criminals with psychopathic traits would also have lower intelligence. This assumption was challenged by Cleckley (1941/1976), who regarded high intelligence as a typical feature of psychopathic individuals. More specifically, Cleckley included "Superficial Charm and Good Intelligence" on the list of sixteen criteria that he regarded as characteristic of psychopathy. The notion of the intelligent psychopath is also reflected in media portrayals (DeLisi, Vaughn, Beaver, & Wright, 2010).

On the other hand, there are plausible aetiological reasons to suspect that psychopaths have lower intelligence, at least related to the spatial component of intelligence. Spatial intelligence is one aspect of performance intelligence that includes visual abstract processing, problem solving, nonverbal abstract problem solving, inductive reasoning and spatial reasoning (Wechsler, 2008). Raine, Yaralian, Reynolds, Venables, and Mednick (2002) suggested that spatial impairments play a decisive role in the emergence of antisocial behavioural patterns, which are measured by PCL-R Factor 2. The model suggested by Raine and his colleagues posits that the functionality of the right cerebral hemisphere is compromised with respect to nonverbal orientation, attention, facial expressions, and recognition. In early childhood, these deficits would represent a burden for caregivers, thus increasing the risk of negative

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**Table 1**Literature on the association between psychopathy and intelligence in forensic samples.

Authors	Sample	Psychopathy measure	Intelligence measure	Results
Beggs and Grace (2008)	216 adult male inmates	PCL-R	WASI & WAIS-R (FIQ)	Significant negative correlation between PCL-R scores and FIQ
Harpur, Hare, and Hakstian (1989)	102 adult male inmates	PCL (Factors 1 & 2)	WAIS-R (FIQ)	No relation between PCL Factor 1 & FIQ Tendency towards a negative association between PCL Factor 2 & FIQ
Lösel and Schmucker (2004)	49 adult male inmates	PCL-R (Factors 1 & 2)	WIP (FIQ)	No significant correlations
Johansson and Kerr (2005)	370 violent adult male inmates	PCL-R	SRB	No differences between psychopaths and non-psychopaths in intelligence
Hart et al. (1990)	167 adult male inmates	PCL-R (High = >30 points; moderate = 20-30 points; low = <20 points)	WAIS-R (FIQ, PIQ, VIQ)	No significant differences between PCL-R subgroups in FIQ, PIQ or VIQ.
Heinzen et al. (2011)	313 adult male inmates	PCL: SV (Factors 1 & 2)	CFT 20-R (FIQ)	Significant neg. correlation between Factor 2 and FIQ
Neumann and Hare (2008)	196 males, community sample	PCL-SV (interpersonal, affective, lifestyle, antisocial)	WAIS-R	Significant negative correlations of FIQ with Antisocial, Lifestyle and Affective Factors
Nijman, Merckelbach, and Cima (2009)	133 adult male inmates	PCL-R or PCL-SV	WAIS-R & WAIS-III (FIQ, VIQ, PIQ; PIQ-VIQ discrepancy)	Significant pos. correlation between PCL-R and PIQ, PIQ-VIQ Significant pos. correlation between Factor 1 and FIQ, PIQ, PIQ-VIQ
Raine et al. (2003)	15 adult male antisocial psychopaths, 25 community volunteers	PCL-R	WAIS-R (FIQ, VIQ, PIQ)	Psychopaths showed significant impairments in PIQ but not VIQ and FIQ.
Salekin et al. (2004)	122 youth in a detention facility (11–18 years old)	PCL-YV	K-BIT (VIQ, PIQ) STAT (FIQ)	Significant pos. correlation between arrogant/ deceitful interpersonal style and VIQ/FIQ Significant pos. correlation between impulsive/ irresponsible interpersonal style and FIQ
Weizmann-Henelius, Viemerö, and Eronen (2004)	58 adult female inmates	PCL-R (Factors 1 & 2)	WAIS-R (FIQ, VIQ, PIQ)	Significant negative correlation between VIQ and total PCL-R and Factor 2
Smith et al. (1992) Vitacco et al. (2008)	69 adult male inmates 100 adult male inmates	PCL-R PCL: SV (interpersonal, affective, lifestyle, antisocial)	WAIS-R (FIQ & PIQ) WASI (FIQ, VIQ, PIQ)	Psychopaths showed impairments in PIQ. Interpersonal and Antisocial Factors were positively related to FIQ; Lifestyle and Affective Factors were negatively related to FIQ

Note: PCL = Psychopathy Checklist (Hare, 1980); PCL-R = Psychopathy Checklist-Revised (Hare, 2003); PCL-SV = Psychopathy Checklist Short Version (Hill, Neumann, & Rogers, 2004); PCL-YV = The Psychopathy Checklist: Youth Version (Hart, Cox, & Hare, 1995); WAIS-R = Wechsler Adult Intelligence Scale - Revised (Wechsler, 1981); WASI = Wechsler Abbreviated Scale of Intelligence (Wechsler, 1999); WAIS-III = Wechsler Adult Intelligence Scale - III (Wechsler, 1997); WIP = Reduzierter Wechsler Intelligencest für psychiatrisch Kranke (Dahl, 1968); CFT-20-R = the Culture Fair Test Revised (Weiss & Weiss, 2006); K-BIT = Kaufman Brief Intelligence Test (Kaufman & Kaufman, 1990); STAT = Sternberg Triarchic Abilities Test (Sternberg, 1993); SRB = Synonyms, Reasoning, and Block (Dureman, Kebbon, & Oesterberg, 1971). FIQ = Full Intelligence Quotient, VIQ = Verbal Intelligence Quotient; PIQ = Performance Intelligence Quotient.

parenting, which would adversely affect the bond between the mother and the infant. The lack of a secure bond would then predispose the child towards callous–unemotional behaviour resembling psychopathic conduct. Smith, Arnett, and Newman (1992) and Raine et al. (2003) found significant impairment in spatial intelligence in adult psychopaths. Similar findings in children with callous–unemotional traits were interpreted as an indication of the early starter/spatial impairment model of antisocial behaviour (Raine et al., 2002).

Several empirical studies of German, British, European-American and African-American samples failed to show significant correlations between intelligence and psychopathy (Hart, Forth, & Hare, 1990; Huchzermeier, Bruß, Godt, & Aldenhoff, 2006; Johansson & Kerr, 2005; Walsh, Swogger, Walsh, & Kosson, 2004). Vitacco, Neumann, and Wodushek (2008) outlined the limitations of some of these studies and of related studies. First, considering the continuous trait of psychopathy as a dichotomous variable (i.e., high and low) leads to information loss and diminishes statistical power. Second, previous studies have relied on various assessment instruments for measuring intelligence. Thus, the results should be compared cautiously (Johansson & Kerr, 2005). A wide range of measures (e.g., total PCL scores, PCL factor subtotals, general intelligence and sub-factors of intelligence) has been collected, and the correlations between them have been examined. Table 1 shows an overview of the literature described above and additional studies with the keywords "PCL" and "Intelligence" from the PubMed (Medline) and Psyndex databases.

### 1.3. Psychopathy and impulsivity

Impulsivity (Cooke, Michie, Hart, & Clark, 2005; Hare, 2003) is a defining feature of psychopathy (Cleckley, 1941/1976; Neumann, Schmitt, Carter, Embley, & Hare, 2012). Several studies have confirmed that the lack of impulse control is important in psychopathy (e.g., Blackburn & Coid, 1998; Gray & Hutchison, 1964; Vitacco & Rogers, 2001). Impulsivity entails rapid, spontaneous, ill-planned, excessive and potentially maladaptive behaviour (Enticott & Ogloff, 2011) and has been related to various offences (Patton, Stanford, & Barratt, 1995) and aggression (Halperin & Newcorn, 1998). Using self-report scales, Kosson, Smith, and Newman (1990) found significant correlations between impulsivity and the total PCL-R score. Hare (2003) and Snowden and Gray (2011) reported that impulsiveness is more strongly correlated with Factor 2 than with Factor 1. A number of studies have shown empirical evidence that greater impulsiveness is related to lower cognitive functioning and intelligence (cf. Schilling et al., 2013). Concerning psychopathy, the notion of short-tempered behaviour by individuals who are considered intelligent seems contradictory. Therefore, impulsivity was considered in addition to intelligence in the present study.

## 2. Hypotheses

Given the mixed findings concerning intelligence and psychopathy (as measured with the PCL-R), we sought to test the relationship

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