



Emotional information processing in violent patients with schizophrenia: Association with psychopathy and symptomatology

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Abstract

Schizophrenia and psychopathy have been independently shown to be associated with deficits in the recognition of facial expressions. These disorders are highly co-morbid in forensic settings, and both are associated with aggressive behaviour. This study examines the relative contribution of psychopathic traits and psychotic symptoms to reported deficits in facial affect recognition in forensic patients with schizophrenia. Fifty-four male patients with schizophrenia were recruited from medium and high security hospitals. Participants were categorised into groups with high (HP), medium (MP) and low (LP) scores on the Psychopathy Checklist: Screening Version and based on symptomatology assessed using the Positive and Negative Syndrome Scale. Participants completed an animated facial affect recognition task assessing accuracy across the six basic emotions over high and low intensities. The HP group was found to have impaired recognition of sadness at low intensity compared with the LP group. In the overall sample, facial affect recognition for negatively valenced emotions was not related to positive or negative symptom scores. However, recognition accuracy for disgust was found to be negatively related to the severity of cognitive symptoms. Patients with high psychopathy scores and schizophrenia showed similar deficits in emotional information processing to those reported in the literature in non-psychotic psychopathic samples.

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1. Introduction

There is significant co-morbidity between schizophrenia and psychopathy in forensic populations (Blackburn et al., 2003; Tengström et al., 2004). Both disorders are associated with deficits in the processing of emotional stimuli (Hare, 1998; Kohler et al., 2000). Studies examining perception of facial affect demonstrate consistent deficits in patients with schizophrenia

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compared with healthy or psychiatric controls (Muzekari and Bates, 1977; Walker et al., 1980; Cutting, 1981; Mandal and Palchoudhury, 1985; Mandal and Rai, 1987; Feinberg et al., 1986; Habel et al., 2000). Some studies suggest schizophrenia may be associated with a particular deficit in the ability to recognise negative facial expressions such as sadness and fear (Walker et al., 1984; Schneider et al., 1995; Bryson et al., 1997). Others (e.g. Wölwer et al., 1996), however, found no evidence of a selective deficit in the perception of negative facial expressions.

Despite extensive research, there is still considerable controversy as to whether the affect recognition deficit seen in schizophrenia is due to a generalised deficit in face processing (Novic et al., 1984; Feinberg et al., 1986; Gessler et al., 1989; Salem et al., 1996; Johnston et al., 2001) or a specific deficit of emotional processing (Walker et al., 1984; Murphy and Cutting, 1990; Borod et al., 1993). Furthermore, there is also evidence to suggest that affect recognition difficulties may be related to the general cognitive dysfunction seen in schizophrenia (Chapman and Chapman, 1978; Addington and Addington, 1998; Kee et al., 1998; Kohler et al., 2000; Sachs et al., 2004). Although the specific aspects of cognitive dysfunction that are associated with facial affect recognition deficits remain unclear, Bozikas et al. (2004) recently reported an association between facial affect recognition and executive functioning, memory, and visual scanning/psychomotor speed in patients with schizophrenia.

Studies suggest that facial affect recognition deficits cannot be accounted for by medication or age effects (Kline et al., 1992; Salem et al., 1996; Mueser et al., 1997; Poole et al., 2000), although gender may be a confound (e.g. Kohler et al., 2000). The relationship between facial affect recognition accuracy and the stability or chronicity of the illness is inconsistent with some (e.g. Mueser et al., 1996, 1997; Salem et al., 1996) but not all studies (e.g. Addington and Addington, 1998; Wölwer et al., 1996) reporting illness-related variation in performance.

Inconsistent findings have also been reported on the relationship between facial affect recognition and symptomatology, with some studies reporting inverse relationships with either positive or negative symptoms (Schneider et al., 1995; Mandal et al., 1999; Kohler et al., 2000, 2003), while others report no specific association between facial affect recognition

accuracy and either positive or negative symptomatology (e.g. Lewis and Garver, 1995; Silver and Shlomo, 2001; Bozikas et al., 2004). The inconsistent findings, to date, may reflect the heterogeneity of samples tested, variations in the facial affect tasks, and variability in measures of psychopathology (see Edwards et al., 2002, for review).

Although schizophrenia and psychopathy are disorders that result in significant impairment in social functioning, and facial affect recognition is known to be important in socialisation, there have been remarkably few studies examining the relationship between these disorders in relation to social behaviour, particularly violent behaviour. Available studies (e.g. Mueser et al., 1996; Penn et al., 1996; Hooker and Park, 2002; Kee et al., 2003) suggest an association between facial affect recognition and reduced social competence in patients with schizophrenia. However, there has been little systematic investigation of the association between facial affect recognition deficits in schizophrenia and violence/aggression.

There is an independent and growing literature suggesting that psychopathy is associated with deficits in emotional information processing and facial affect recognition similar to those seen in schizophrenia. First described by Cleckley (1976), and later operationalised by Hare (1991), psychopathy is characterised by a superficial and charming interpersonal style, lack of empathy and remorse, and adolescent and adult impulsive, irresponsible antisocial behaviour. Kosson et al. (2002) reported a specific deficit in the recognition of disgust in adult psychopaths, while both Blair and Coles (2000), and Stevens et al. (2001) found a selective deficit in naming sad and fearful faces in children with psychopathic tendencies. Blair et al. (2004) later replicated the latter findings in adult psychopaths. Blair (2001) argued that sad facial expressions act as a human submission response and therefore the ability to correctly perceive them is important in the inhibition of aggression. He named the latter model the Violence Inhibition Mechanism (VIM).

Despite reports that schizophrenia and psychopathy may be associated with an elevated risk of aggressive and violent behaviour (Hart, 1998; Walsh et al., 2002), there have been no studies specifically examining the relationship between aggressive behaviour and facial affect recognition deficits in either schizophrenia or psychopathy.

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