

Theories of psychopathy | overview and analysis



A lot of research has been conducted in the area of aggressive, antisocial, and criminal behaviour (Frick & Viding, 2009). Indeed, persistent antisocial behaviour results in human suffering associated with criminal offences, and high economic costs from detaining these offenders to prevent recidivism (Loeber & Farrington, 2001).

What is Psychopathy?

Previous findings demonstrated that over a third of incarcerated offenders have Antisocial Personality Disorder, characterized by pervasive antisocial and exploitative behaviour (Black, Gunter, Loveless, Allen, & Sieleni, 2010). However, offenders with psychopathy represent an even greater danger to society. Individuals with psychopathy often use instrumental aggression for personal gain. When compared to non-psychopathic offenders, they tend to commit more serious and violent crimes (e. g. premeditated homicide), are three times more likely to reoffend, and four times more likely to recidivate by a violent offence after being released from prison (Porter, Brinke, & Wilson, 2009).

Psychopathy is a developmental disorder characterized by antisocial and bold disinhibited behaviours, lack of empathy and remorse, and low anxiety (Hare & Neumann, 2008). Previous studies demonstrated that adults with psychopathy all display persistent antisocial behavior across the lifespan with first signs of psychopathy, such as behavioural disturbances and emotional deficits, being evident as early as childhood (Blair, 2013). While the diagnosis of psychopathy is generally applied to adults, some children present with antisocial behavior and core psychopathic traits (comparable

with callous-unemotional (CU) traits) such as low empathy, lack of guilt, shallow affect, and callous use of others (Frick & Viding, 2009). Although it is important not to assume that children and adolescents with psychopathic traits will exhibit psychopathy in adulthood, the assessment of psychopathic traits and antisocial behavior in youth provides considerable evidence of their persistence over time (Ermer, Cape, Nyalakanti, Calhoun, Kiehl, 2013).

Psychopathic Traits in Children and Adolescents

Children with conduct disorder and callous-unemotional traits show more instrumental aggression for personal gain, higher prevalence of Antisocial Personality Disorder among their parents, more frequent interactions with the police, and a greater number and variety of conduct problems than children with CD and no psychopathic traits (Herba, Hodgins, Blackwood, Kumari, Naudts, & Phillips, in press). While callous-unemotional traits during childhood have been often associated with severe antisocial behavior, children with callous-unemotional traits but no antisocial behaviour frequently show higher levels of other impairments such as increased hyperactivity, low prosociality, and poor interpersonal relationships (see: Frick, Cornell, Bodin, Dane, Barry, & Loney, 2003; Barker, Olivier, Viding, Salekin, & Maughan, 2011; Rowe, Maughan, Moran, Ford, Briskman, & Goodman, 2010). Callous and unemotional traits have been recently added as part of the diagnostic criteria for Conduct Disorder in the new version of the Diagnostic and Statistical Manual (DSM-V) (Decuyper, Caluwe, Clercq, & Fruyt, 2014). Moreover, due to its high predictive validity, CU traits may have independent diagnostic value, even without the diagnosis of conduct disorder (Barker, et al., 2011; Frick, et al., 2003; Viding & McCrory, 2012).

<https://assignbuster.com/theories-of-psychopathy-overview-and-analysis/>

Evidence of Emotional Dysfunction in Individuals with Psychopathic Traits

Previous findings demonstrated that callous and unemotional children show similar emotional deficits as psychopathic adults, such as poor emotion recognition and deficits in emotional empathy (Herba, et al., in press; Blair, 2003; Pardini, Lochman, & Frick, 2003). Emotional empathy represents affective reactions to emotional expressions and to verbal descriptions of the emotional states of other individuals. Empathic reactions, which can be evoked by facial expressions, voice tones, body postures, and even script, serve a communicatory function, and are processed by separate neural systems (Blair, 2013).

1. Emotion Recognition Findings

Youths and adults with psychopathic tendencies display a significant selective impairment in emotional empathy. While they normally recognize and differentiate between expressions of disgust and anger, their processing of distress cues (expressions of sadness, pain, and fear) is significantly different from healthy youths and adults without psychopathic tendencies (Blair, 2013). Studies demonstrated that distress cues inhibit antisocial behaviour in humans as well as primates by eliciting empathy in observers (Marsh & Blair, 2007). Meta-analytic review of the literature shows that while having a normal processing of anger and disgust, individuals with psychopathic traits and persistent antisocial behaviour display poor recognition of certain emotional expressions, particularly fear, as well as reduced recognition of expressions of happiness and sadness, though to a lesser extent (Marsh & Blair, 2007; Dawel, O'Kearney, McKone, & Palermo,

2012). Blair, Colledge, Murray, and Mitchell (2001) conducted a study looking at emotion recognition in boys with and without psychopathic tendencies (measured by a Psychopathy Screening Device). Children were shown a standardized set of six emotions (sadness, happiness, anger, disgust, fear, and surprise) morphed into different intensity levels and shown in 20 successive frames from neutral to full expression. Results demonstrated that children with psychopathic tendencies made more mistakes in recognizing expressions of fear even when they were presented at full intensity. Moreover, these children also needed more stages to be able to recognize expressions of sadness (Blair, et al. 2001). Similar impaired recognition of sad and fearful expressions is also observed using vocal tones and body poses (Stevens, Charman, Blair, 2001; Blair, Budhani, Colledge, & Scott, 2005; Munoz, 2009).

2. Psychophysiological findings

A number of studies that looked at psychophysiological responsiveness of individuals with psychopathic traits provided additional evidence towards the idea that these individuals have impaired processing of expressions of distress in others. Children and adolescents with high callous-unemotional traits and psychopathic adults show reduced autonomic responses including heart rate, facial electromyographic responses, and electrodermal responses to fearful and sad expressions and distress cues in others (Blair, 1999; de Wied, van Boxtel, Matthys, & Meeus, 2012; Blair, Jones, Clark, & Smith, 1997). In addition, youths and adults with psychopathic tendencies also display atypical electroencephalography responses to pain in others (Blair, 2013).

3. Functional neuroimaging findings

A new study by Motzkin, Phillippi, Wolf, Baskaya, and Koenigs (2015) provided tentative evidence that the ventromedial prefrontal cortex (vmPFC) might play a significant role in regulating amygdala activity in humans. This is not surprising given the substantial amount of evidence, containing lesion studies, demonstrating that the ventromedial prefrontal cortex and amygdala play a critical role in empathic response and emotion regulation (Blair, 2008; Blair, 2013). Studies of youths with high callous-unemotional traits and conduct disorder, as well as studies of psychopathic adults, showed decreased activation of the rostral vmPFC in response to images of other individuals in pain. (Marsh, et al. 2013; Blair, 2008).

Previous fMRI studies also repeatedly demonstrated reduced amygdala activation in individuals (children, youth and adults) with psychopathic traits when they are presented with images of faces expressing fear, or images of others individuals in pain (Blair, 2008; Jones, Laurens, Herba, Barker, & Viding, 2009; Marsh, et al., 2007; Munoz, 2009). Moreover, studies consistently reported that lower activity in the amygdala, vmPFC, as well as the anterior insula in response to distress cues are associated with higher severity of psychopathic traits, particularly in children and adolescents (Marsh, et al., 2008; Sebastian, et al., 2012; Marsh, et al., 2013)

4. Structural neuroimaging findings

Given the amount of evidence demonstrating reduced activity in vmPFC and amygdala in youths with psychopathic traits and psychopathic adults in response to distress cues, it is worth considering whether structural

abnormalities are also observed within these neural regions. A large neuroimaging study conducted by Ermer and colleagues (2013) looked at the structural brain volume in over 200 incarcerated adolescents in a maximum security facility. Their findings demonstrated volume reductions within a large brain structure that centered on the vmPFC and included the amygdala, which is associated with the emotion dysfunction component of psychopathy. Another structural neuroimaging study demonstrated an inverse relationship between the structural volume of amygdala and the severity of psychopathic traits in a large sample (N= 296) of incarcerated adults (Ermer, Cope, Nyalakanti, Calhoun, & Kiehl, 2012).

Summary of existing findings

In summary, the aforementioned findings demonstrated that individuals with psychopathy show poor recognition of, and reduced autonomic response to distress cues in others across the lifespan. Functional neuroimaging studies identified various neural structures involved in the processing of distress cues, with the most consistent evidence pointing towards the amygdala and ventromedial prefrontal cortex. fMRI studies repeatedly demonstrated reduced activity in these brain regions in children and adolescents with callous and unemotional traits, and psychopathic adults in response to facial expressions of fear and sadness. Structural neuroimaging studies provided additional evidence towards the importance of the amygdala and the vmPFC in processing of distress cues, demonstrating volume reductions in these areas in incarcerated adolescents with psychopathic traits, and a significant inverse relationship between the structural volume of the amygdala and the severity of psychopathic traits in incarcerated adult.

Current Theories

Given this considerable amount of evidence demonstrating emotional dysfunction in individuals with psychopathic traits across the lifespan, several models have been proposed in hopes to shed more light on this impairment.

- *Violence Inhibition Mechanism*

Previous animal studies suggested that display of emotions of sadness, pain, and fear, also referred to as distress cues, serve an important evolutionary function: when displayed to a conspecific aggressor lead to the termination of the attack (Blair, 1995). Blair (1995) proposed a functionally analogous mechanism in humans referred to as violence inhibition mechanism (VIM). According to Blair, VIM represents a cognitive mechanism normally activated by non-verbal expressions of distress, which predisposes an aggressor as well as a bystander to withdraw from the situation.

According to the model, moral socialization takes place through pairing of the activation of VIM by the sad and fearful expressions (Unconditioned Stimulus) of others with representations of the acts that caused this distress (Conditioned Stimulus: moral transgressions, such as an aggressive act towards an individual). As a result, representations of these moral transgressions become triggers for the VIM through classical conditioning. Thus, a normally developing child will initially find pain of others aversive, and then through socialization would learn to dislike the thoughts of acts that cause pain to others, and as a result will be less likely to engage in violent behaviour (Blair, 1995).

According to Blair (1995), this mechanism is absent in individuals with psychopathy, which might be due to a specific physiological deficit or lack of early socialization experiences. Due to the absence of VIM, individuals with psychopathy are not negatively reinforced after any action (moral transgression) that results in the display of distress cues in others. Using VIM, one might predict that these individuals who were unable to form US-CS association would show emotional dysfunction, early-onset of violent behaviour, and lack of guilt or empathy post-violence, which all represent core features of psychopathy.

The Response Modulation Hypothesis

Another concept that has been suggested to explain the nature of emotional impairments in individuals with psychopathic traits looks at psychopathy as a disorder of attention. According to the response modulation hypothesis, individuals with psychopathy fail to recognize and process distress cues in others due to their inability to shift attention to this information when they are engaged in goal-directed behaviour.

Given the amount of evidence demonstrating severe emotional processing impairments in individuals with psychopathic traits, it has been suggested that this emotional dysfunction may underpin the deficits seen in psychopathic individuals (Blair, 1995; Frick & Viding, 2009). Indeed, previous studies demonstrated pronounced deficits in emotional learning and poor decision making in psychopathic adults as well as youths with psychopathic tendencies.

Previous studies on decision-making behaviour in psychopathic adults demonstrated significant deficits underlying aversive conditioning, reversal learning, operant extinction, and passive avoidance learning (Blair, 2013). In an fMRI Study by Birbaumer and colleagues, a sample of ten offenders with psychopathy and ten matched controls was used to investigate the activation of neural structures, skin conductance, arousal and emotional valence in an aversive delay conditioning paradigm where neutral faces were used as conditioned stimuli and painful pressure as an unconditioned stimulus (Birbaumer, Veit, Lotze, Erb, Hermann, Grodd, & Flor, 2005). Finding of this study showed inability of psychopathic individuals to learn to differentiate between conditioned stimuli, or show increased skin conductance response to the paired conditioned stimulus. Moreover, fMRI findings demonstrated reduced activity in the limbic-prefrontal circuit (combined of amygdala, orbitofrontal cortex, insula, and anterior cingulate) in psychopathic individuals when compared to the matched controls.

Another study which used a similar fear conditioning paradigm as Birbaumer and colleagues (2005) further demonstrated deficits in aversive fear conditioning in psychopathic adults (Rothermund, Ziegler, Hermann, Gruesser, Foell, Patrick, & Flor, 2012). In this study, psychopathic participants showed lack of a differential startle response and lack of skin conductance towards a paired conditioned stimulus. Moreover, these results cannot be explained by differences in detection threshold of electric shock, or levels of pain tolerance, since there was no significant differences in these measures between the two groups. This study confirms previous findings of impaired

ability to form associations between neutral and aversive events in adults with psychopathy.

Previous studies in decision-making behaviour and the propensity to learn from punishment in youths with psychopathic traits demonstrated significant impairments in the capacity to associate outcomes (reward or punishments) with stimuli.