Moral Judgment and Psychopathy

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Abstract

Recent interest in emotion as the basis for moral development began with work involving individuals with psychopathic tendencies, and a recent paper with this population has allowed fresh insights (Glenn, Iyer, Graham, Koleva, & Haidt, 2009). Two main conclusions suggested by this paper are: (i) that systems involved in different forms of morality can be differentiated; and (ii) that systems involved in justice reasoning likely include amygdala and/or ventromedial prefrontal cortex, even if the specifics of their functional contribution to justice development remain unidentified.

Keywords

amygdala, different forms of morality, psychopathic tendencies

The understanding of the development of morality from a cognitive/cognitive neuroscience perspective is progressing rapidly. Following the relatively long dominance of positions that morality reflected rational thought (Colby & Kohlberg, 1987), positions emerged stressing the importance of emotion, first from data from a clinical population, individuals with psychopathy (Blair, 1995), and then later data with healthy adults (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001; Haidt, 2001). More recently still there has been a push back against emotion-based positions. One critical observation was that while emotion-based systems could generate judgments of “badness,” they could not—on their own—generate judgments of “immorality” (an individual killing five people and a hurricane killing five people are both “bad” events but only the first is usually considered as immoral) (Nichols, 2002). In addition, recent data have indicated that intent information, based on Theory of Mind, can supersede emotion information in adult moral reasoning (Young, Camprodon, Hauser, Pascual-Leone, & Saxe, 2010). As such, an emotion-based account cannot provide a full explanation of adult moral reasoning. However, such an account can allow an understanding of the basis of moral development (even if it does not allow for an account of the development of all aspects of adult moral reasoning).

The goal of this brief review is to consider the implications of recent data from individuals with psychopathic tendencies for our understanding of moral development. Specifically, I will examine the data with respect to my own theoretical position: the Integrated Emotion Systems (IES) model (Blair, 2007). Core theoretical components of this model are:

(i) Emotional expressions serve as reinforcers. Actions associated with the reward of another individual’s happiness will be represented as “good.” In contrast, actions associated with the punishment of another individual’s sadness or fear will be represented as “bad.”

(ii) There are relatively independent emotion learning systems that process the reinforcement provided by specific emotional expressions; the amygdala is particularly associated with the processing of fearful, sad and happy expressions (i.e., activation of the amygdala by such expressions initiates stimulus-reinforcement learning such that representations of objects/actions associated with these expressions acquire valence), the insula is associated with disgusted expressions, and the inferior frontal cortex (particularly BA 47) with angry expressions. It is as a direct developmental consequence of these emotional learning systems that humans have developed multiple moralities: care-based (actions associated with harming/helping others), disgust-based (actions associated with the disgust of others) and conventional (actions associated with hierarchical violations leading to interpersonal anger).

(iii) Emotional learning systems feed reinforcement expectancy information to the ventromedial prefrontal cortex (vmPFC). The vmPFC represents this information allowing...
Successful decision making, including moral decision making. This is particularly important in situations when it is necessary to choose between response options. 

(iv) These neural systems are critical when deciding upon behavioral choices. They are also critical because they allow moral transgressions and prosocial actions to gain emotive force.

According to the IES model, the functioning of the amygdala and vmPFC is disrupted in psychopathy, while that of the insula and inferior frontal cortex is not. Importantly, the model predicts that individuals with psychopathy will show impairment when processing care-based transgressions— the motivation force against such transgressions is thought to rely on the amygdala’s role in the association of the representation of the transgression with the fear/sadness of the victim. Indeed, recent work has shown that the recruitment of the amygdala during care-based reasoning is disrupted in individuals with psychopathy (Glenn, Raine, & Schug, 2008). Importantly, the IES model also suggests that individuals with psychopathy will show intact processing of disgust-based transgressions (thought to be reliant on the insula) and anger-based conventional transgressions (thought to be reliant on the inferior frontal cortex). Preliminary data have suggested disrupted care-based but intact conventional transgressions processing in this population (Blair, 1995). However, up until very recently there has been no data with respect to disgust-based transgressions.

Haidt and colleagues recently conducted a very large study with healthy adults (N = 2517) relating psychopathic traits, as indexed by Levenson’s Self Report Psychopathy Scale (Levenson, Kiehl, & Fitzpatrick, 1995) to performance on the Moral Foundations Questionnaire (Glenn et al., 2009). This is a measure assessing an individual’s commitment to the domains of morality (the care-based, disgust-based and conventional domains already discussed as well as in-group domains relating to group loyalty and justice) (Glenn et al., 2009). As such, this study represented the first attempt to assess the relationship between psychopathic traits and the disgust-based, group loyalty and justice domains, as well as an attempt to replicate the deficits in care-based but not conventional reasoning found earlier. In line with previous work (Blair, 1995), the study by Glenn et al. reported that higher psychopathic tendencies were related to notably less commitment to care-based norms, but intact commitment to conventional norms. In addition, importantly, this study extended earlier work by also demonstrating: (i) that higher psychopathic tendencies were associated with notably less commitment to justice norms; (ii) little relationship between psychopathic tendencies and commitment to disgust-based and in-group norms; (iii) that psychopathic tendencies were associated with an increased willingness to violate norms of any type for money (Glenn et al., 2008).

There are several interesting points raised by this study. First, it is useful to see a replication of the differential insensitivity to care-based versus conventional norms in psychopathic traits in a sub-clinical, as opposed to a clinical, sample and with a very different assessment measure.

Second, the predictions of the IES model with respect to disgust-based norms were largely supported; in line with fMRI work that shows very little relationship between psychopathic traits and insula dysfunction (Blair, 2010), there was very little relationship between psychopathic traits and commitment to such norms.

Third, the marked relationship between psychopathic traits and commitment to justice norms is of clear interest. Currently, the neuro-cognitive underpinnings of justice reasoning remain relatively unknown. The Glenn et al. (2008) data suggest that neural systems implicated in psychopathic traits are also implicated in justice processing. Importantly, justice cannot develop similarly to care-based moral transgressions. It is difficult to see how concepts of fairness could develop from emotional reactions to another’s distress. Recent data have suggested the unjust resource allocations may be associated with an emotion-based “inequality aversion” that is mediated by insula activity (Hsu, Anen, & Quartz, 2008). These data might hint that some aspects of insula functioning are disrupted in psychopathy (although the developmental antecedents of this insula-based inequality aversion remain unknown and it may be these that are disrupted). At the very least, when a developmental model of justice emerges, these data constrain an account of its neural architecture.

Fourth, the finding that psychopathic tendencies were associated with an increased willingness to violate any form of norm for money is critical. A basic tenet of the IES model is that emotional learning systems allow norms to acquire emotive force; force which guides attitudes towards these norms. Only one of these emotional learning systems is thought to be disrupted in psychopathic traits. But all are thought to feed reinforcement expectancy information to vmPFC. The vmPFC is thought to represent this information and allow appropriate decision making, particularly in situations where there are multiple reinforcements to be evaluated. In short, the “willingness to violate” data support earlier data indicating impairment in reinforcement-based decision making in individuals with psychopathic tendencies (Blair, Colledge, & Mitchell, 2001) and critically indicate that this is present whatever the nature of the reinforcement (disgust-and anger-based as well as distress cue-based).

In conclusion, data on individuals with psychopathic tendencies consistently support the importance of emotion for basic moral development; i.e., learning that some actions have negative value. Moreover, in line with theory, data indicate dissociable emotional learning systems responsible for different forms of morality that are selectively impaired in this population.

References


