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# WHAT AUTISM CAN TELL US ABOUT THE LINK BETWEEN EMPATHY AND MORAL REASONING?<sup>1</sup>

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## abstract

*I will discuss the relationship between empathy and moral reasoning among people with autism. I will discuss the deficit that people with autism show in empathy, that affects mostly perspective taking, and the studies conducted by Blair (1996) and Moran et al. (2011), which suggest that people with autism are not significantly impaired in moral reasoning. I will argue that perspective taking might play an important role in moral reasoning. As Moran et al. found, unlike typically developed, people with autism do not judge accidental and attempted harms differently. I will suggest that their deficit in perspective taking might explain this difference. However, I will conclude, studies on autism do not help to assess the influence of the affective components of empathy on moral reasoning.*

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## keywords

*empathy, moral reasoning, autism, perspective taking*

**Introduction** One of the hottest topics of discussion in philosophy of mind, psychology, neuroscience, and related disciplines is the link between empathy and morality. On the one hand, authors such as Hoffmann (2000) assign a key role to empathy in morality, appealing mostly to the role that empathy plays in motivating prosocial behavior. On the other hand, Prinz (2011) argues that empathy is not necessary for any aspect of morality, and in particular, that it is not necessary neither for moral development, nor for moral judgment, nor for motivating moral conduct. However, although Prinz might be right in claiming that empathy is not *necessary* for morality, certainly there is a sense in which empathy *does* influence morality. Thus, the real interesting question is *how and to what extent empathy influences morality*, and the answer to this question partly depends on how empathy is conceived.

In Prinz (2011: 212)'s usage of the term, "empathy is a kind of vicarious emotion: it is feeling what one takes another person to be feeling. And the 'taking' here can a matter of automatic contagion or the result of a complicate exercise of the imagination." By contrast, a number of empirical studies are designed in line with Davis's (1980, 1994) characterization of empathy, according to which empathy is a multidimensional construct with cognitive and affective components that are to be measured separately. Following Davis, the affective components of empathy are *empathic concern* (EC), which refers to the dispositional tendency to experience feelings of sympathy, concern, and compassion for unfortunate others, and *personal distress* (PD), which refers to the feeling of personal discomfort, uneasiness, and distress when exposed to the distress of others. While the cognitive component of empathy is *perspective taking* (PT), which refers to the dispositional tendency to entertain the psychological point of view of others.

The distinction between affective and cognitive components of empathy becomes particularly relevant for those studies in which a deficit in empathy and its effects on human behavior are concerned, for it permits to characterize with greater accuracy the nature of the deficit. Much can be learned about the relationship between empathy and morality by focusing

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the attention on those people who show a deficit in empathy. Indeed, studies conducted on people with autism – often characterized as an empathy disorder – highlighted important aspects of the relationship between empathy and moral reasoning. In this paper, I will discuss two studies respectively conducted by Blair (1996) and Moran *et al.* (2011) to investigate moral reasoning among people with autism, and the conclusions that might be drawn about the relationship between empathy and moral reasoning upon the consideration of their findings.

I will proceed as follows. Firstly, I will discuss the issue of empathy among people with autism and the nature of the deficit that people with autism show in empathy, which, as many studies suggest, mostly affects the cognitive component of empathy. I will proceed, then, by discussing the studies conducted by Blair (1996) and Moran *et al.* (2011) and their respective findings. Both studies suggest that, despite their deficit in the cognitive component of empathy, people with autism are not significantly impaired in moral reasoning. However, as the findings of Moran *et al.* show, in judging the moral status of an action people with autism, unlike normally developed, appear to consider the outcome of the action more than the intention of the agent, consequently not judging accidental and attempted harms differently. I will suggest that the deficit that people with autism show in perspective taking might be the key to explain this difference, thus supporting the hypothesis that one component of empathy, perspective taking, influences moral reasoning in an important way. However, I will conclude, since the deficit that people with autism show in empathy appears to affect mostly the cognitive component of empathy, studies on this population might not be helpful to assess the influence of the affective component of empathy on moral reasoning.

Autism is a pervasive developmental disorder characterized by impairments in social behavior, a varying degree of impairments in communication, and unusually strong, narrow interests and repetitive behaviors (Baron-Cohen 2009). In the literature of philosophy and psychology, autism has often been characterized as an empathy disorder (e.g., Gillberg 1992, Kennett 2002, and Baron-Cohen 2009), and there are at least three arguments used in support of this characterization.

First, the argument from imitation. Imitation emerges very early in infancy and plays a role in the development of communication and social behavior (Ingersoll 2008). Decety & Meltzoff (2011) proposed that it also plays a role in the development of empathy, as studies in developmental psychology and cognitive neuroscience seem to suggest. Studies in developmental psychology found that infants are able to imitate basic gestures (e.g., tongue protrusion) immediately after birth, which suggests that infants have an innate ability for recognizing an equivalence between the acts of the others and the acts of the self. In line with this, Meltzoff (2007) proposed the ‘Like-me’ developmental framework of early inter-subjectivity, according to which imitation and the mechanisms underlying it constitute a bridge that allows the infant to connect with the others, understanding their mental states through the observation of their behavior. Studies in cognitive neuroscience (e.g., Carr *et al.* 2003, and Dapretto *et al.* 2006), instead, found that the imitation and the observation of emotional facial expressions activate in great part similar brain areas<sup>2</sup>, and that greater activity is registered when the subjects are not only observing but also imitating the facial expressions. Several studies found a deficit in imitation in people with autism. Among these, Sigman & Ungerer (1984) found vocal and gestural imitation impairments in children with autism. While Hobson & Lee (1999) found that although children with autism performed

## **1. Addressing the issue of empathy among people with autism**

### **1.1. Autism as an empathy disorder**

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<sup>2</sup> E.g., inferior frontal cortex, superior temporal cortex, insula, and amygdala.

well at imitating the actions, they did not imitate the style (gentle or harsh) of the target, suggesting that the social and affective form of imitation, whose mechanisms might overlap with the ones underlying empathy, is impaired in children with autism (Iacoboni 2009). Second, and related, the argument from mirror neurons. The mirror neuron system (MNS) is thought to be involved in imitation and in social cognition, and it might mediate our understanding of other people's emotions enabling the translation of an emotional state observed into one of the self (Carr *et al.* 2003, Dapretto *et al.* 2006, Iacoboni 2009). A number of studies found abnormal activation of the MNS system in people with autism<sup>3</sup>. Among these, Dapretto (Dapretto *et al.* 2006) conducted an fMRI study on high-functioning autism and typically developing children while imitating and observing emotional facial expressions. What Dapretto found is that, despite performing well in the imitation tasks, children with autism showed an abnormal activation in the pars opercularis, whose activation has been reported during imitation, action observation, and understanding of intentions. However, as Magnee *et al.* (2007) and South & Hamilton (2008) argue, it is controversial both that the MNS is impaired in people with autism, and that the MNS plays a role in imitation and in empathy. More specifically, they argue that the primary function of the MNS is action prediction, which is not impaired in people with autism, and that these studies might have not considered reduced attention to social stimuli and differences in a general understanding of complex visual information, both reported in people with autism.

Finally, the argument from the Theory of Mind (ToM). Perspective taking relies on ToM related abilities, and people with autism show poor ToM related abilities, as it is supported for instance by the fact that, unlike typically developing, children with autism over the age of 4 normally fail to provide the correct answer in the 'Sally-Anne' false-belief task (Perner & Wimmer 1983, Baron-Cohen *et al.* 1985). In this task, the children are presented with a story involving two characters, Sally and Anne, impersonated by puppets or real people. Sally and Anne are initially in the same room. Sally puts a ball in a basket and covers it, and then she leaves the room. While Sally is outside, Anne moves the ball from the basket into a nearby box. At this point, children are asked 'Where will Sally look for the ball when she comes back to the room?' The children who say that she will look in the box fail to see the situation from Sally's perspective.

### 1.2. The nature of the deficit

Many studies addressing the issue of empathy among people with autism suggest that the deficit that autistic individuals show in empathy mostly affects the cognitive component of empathy, *i.e.*, perspective taking. Studies in which Davis's Interpersonal Reactivity Index – a questionnaire who measures separately all components of empathy – was employed reported a higher score in the PD subscale, no significant differences in the EC, and a significantly lower score in the PT subscale in people with autism compared to controls (Rogers *et al.* 2007, Dziobek *et al.* 2008, and Hirvela & Helkama 2011). While in those studies designed to measure the psychophysiological responsiveness of people with autism to emotional stimuli normal or enhanced responsiveness was found in people with autism compared to controls. Among these, Blair (1999) recorded the skin conductance activity of people with autism and controls in response to picture of distressed targets and found no significant differences between the two groups. While Magnee *et al.* (2007) recorded the facial electromyographic responses of people with autism and controls following the presentation of visual emotion stimuli (facial expressions) and audiovisual emotional pairs (faces and voices), and found that people with autism show heightened responses to happy and fearful faces, and intact responses to the audiovisual stimuli compared to controls.

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<sup>3</sup> *E.g.*, Oberman *et al.* (2005) and Bernier *et al.* (2007).

In line with these results, Smith (2009) proposed what he called ‘The Empathy Imbalance Hypothesis of Autism’ (EIH), according to which people with autism have an enhanced affective empathy and a deficit concerning the cognitive component of empathy. This hypothesis explains, according to Smith, characteristic behavioral traits of autism, such as avoidance, tendency to become over stimulated, and difficulties in making eye contact. Indeed, in accordance with the EIH, people with autism would be excessively sensitive to the emotions of others and vulnerable to empathic overarousal. Empathic overarousal is defined by Hoffmann (2000: 198) as “an involuntary process that occurs when an observer’s empathic distress becomes so painful and intolerable that it is transformed into an intense feeling of personal distress, which may move the person out of the empathic mode entirely.” In addition, the EIH would also be in line, as Smith notes, with Markram *et al.* (2007)’s “intense world” hypothesis of autism, according to which a hyper-responsiveness of the amygdala – reported in people with autism, *e.g.*, by Dalton *et al.* (2005) – would make people with autism excessively responsive to socio-emotional stimuli.

Studies investigating moral reasoning among people with autism lead to some important results. In this section, I will discuss two studies, respectively conducted by Blair (1996) and by Moran *et al.* (2011).

Blair (1996) investigated the capacity of children with autism to distinguish between moral and conventional transgressions, a distinction that is typically made by the age of 39 months. Moral transgressions (MTs) and conventional transgressions (CTs) are distinguished on the basis of the following criteria. MTs are defined by their consequences for the welfare of others, while CTs are defined by their consequences for the social order. MTs are regarded as more serious and do not depend on the rule condition (*i.e.*, if the rules change, they are still regarded as impermissible), while CTs are not regarded as transgressions if no rule is violated. Finally, MTs involve a victim, whereas CTs do not. The participants in the experiment were a group of controls and two groups of children with autism: one who passed two simple false-belief tasks (ToM group), thus showing an acquired ability to mentalize, and the other group who failed in both the false-belief tasks (no-ToM group). The ability to distinguish between MTs and CTs was tested by presenting the subjects with four MTs and four CTs stories told by using Playmobil characters. Three kinds of questions were asked in order to assess the subject’s ability to evaluate, in turn, the permissibility of the action, the seriousness of the transgression, and the authority’s jurisdiction<sup>4</sup>. The findings of Blair’s study showed that, unlike psychopaths – who appear to show a deficit in the affective but not in the cognitive components of empathy (Blair 1995, 1997) – people with autism clearly distinguish between MTs and CTs. This might suggest that the affective components of empathy might rather be involved in the making of this distinction, although this issue should be investigated separately. Furthermore, the ability in the false-belief tasks was not associated with the ability to make the MTs/CTs distinction, as it is supported by the fact that also the no-ToM group made it. In line with this, Blair suggested that people with autism are sensitive to the distress of others (in this case, of the victim involved in the MTs) and that the ability to mentalize is not a pre-requisite for making the moral/conventional transgressions distinction.

Moran *et al.* (2011) investigated, instead, whether adults with autism would make atypical moral judgments when they needed to take into consideration the intention of an agent (which requires ToM related abilities) and the outcome of her action (which does not require ToM related abilities). The participants, a group of adults with autism and one of typically

## **2. Autism, Empathy, and Moral Reasoning**

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4 Questions were, *e.g.*, ‘would it be OK for [the character] to do [the action] if [the authority] said she can?’

developed, were subjected to a simple false-belief task and to a moral judgment task. In the moral judgment task, subjects were presented with vignettes in which a character, either intentionally or accidentally, caused a harm (killed someone) or a neutral outcome, and were asked to evaluate the moral status of the character's action. Four possible situations were illustrated in the vignettes: (i) neutral action (neutral intention, neutral outcome), (ii) attempted harm (negative intention, neutral outcome), (iii) accidental harm (neutral intention, negative outcome), and (iv) intended harm (negative intention, negative outcome). The agent's negative intention was based on the belief that her action was going to kill someone, and *vice versa* the neutral intention was based on the belief that her action was not going to cause any harm. The results showed no difference in the false-belief task performance between participants with autism and controls, thus indicating that the participants with autism had acquired a basic ability to mentalize. Concerning the moral judgment task, a selective difference was found between participants with autism and controls in the judgment of accidental harms. Indeed, unlike typically developed, participants with autism appear to do not judge accidental harms as less morally wrong than attempted harms. Furthermore, in making their judgments, participants with autism appeared to take into account the outcome of the action more than the agents' beliefs and intention. This indicates, according to Moran and colleagues, that people with autism show an impairment in integrating mental state information when making moral judgments.

However, what the findings of Moran *et al.* show is that participants with autism, despite having acquired a basic ability to mentalize, in making moral judgments rely significantly less on information about the agent's mental states. But it is important to notice here that a considerable amount of mental states information must be taken into account; namely, the agent's beliefs and the agent's intention based on such beliefs. Thus, more complex mentalizing abilities seem to be involved in this kind of moral judgments, and such abilities might be the ones involved in perspective taking.

Indeed, the deficit that people with autism show in perspective taking might be the key to explain the difference between participants with autism and typically developed participants. This, because typically developed arguably tend to assume the agent's perspective while judging the moral status of her action, and in particular when judging accidental actions. Because of this, the agent's beliefs and intention play a relevant role in their moral judgments. By contrast, people with autism plausibly fail to take the agent's perspective. Thus, the agent's beliefs and intention play a minor role in their moral judgments and consequently the outcome of her action assumes a significantly greater relevance in their moral judgments. If this is true, then the findings of Moran and colleagues would support the hypothesis that one component of empathy, perspective taking, plays an important role in our moral reasoning. This also seems to be in line with the findings of Young & Saxe (2008a, b)'s fMRI studies, which indicate that brain areas that are typically activated in ToM related tasks are also activated during moral reasoning and suggest that a spontaneous process of mental state inference takes place during moral judgment tasks. However, further studies are needed in order to verify the correctness of this hypothesis.

**3. Conclusions** In this paper, I discussed empathy and moral reasoning among people with autism, and some aspects of the relationship between empathy and moral reasoning that studies on people with autism might help us to highlight. The following conclusions appear to emerge from the discussion. Firstly, as many studies suggest, the deficit that people with autism show in empathy mostly affects the cognitive component of empathy, *i.e.*, perspective taking. Because of this, studies on people with autism might not be adequate to assess the influence of the affective components of empathy on moral reasoning. Studies on psychopaths, who appear

instead to show a deficit specifically in the affective components of empathy (Blair 1995, 1997), might rather be helpful to investigate this matter. Secondly, as Blair's (1996) findings show, the ability to mentalize – on which perspective taking relies and that is typically impaired in people with autism – does not represent a pre-requisite for distinguishing between moral and conventional transgressions. Indeed, also the participants who failed the two simple false belief tasks appeared to make this distinction. This result is in stark contrast with findings on psychopaths (Blair 1995, 1997), which suggest that affective components of empathy might rather be necessary for the making of this distinction; however, this matter needs to be investigated separately. Moreover, the findings of Moran *et al.* (2011) also seem to suggest that people with autism are not significantly impaired in moral reasoning. This, because, in the moral judgment task employed by Moran *et al.*, the only relevant difference between typically developed and participants with autism concerned the judgment of accidental harms. However, as the findings of Moran and colleagues show, unlike typically developed, participants with autism do not judge differently accidental harms and attempted harms, suggesting that, despite having acquired a basic ability to mentalize, they show an impairment in integrating mental state information for moral judgments. I suggested that the deficit that people with autism show in perspective taking might provide an explanation for this difference. Indeed, more than basic mentalizing abilities might be required in the moral judgment task presented by Moran and colleagues. The participants needed, in fact, to consider both the agents' beliefs and the agents' intentions based on such beliefs. I proposed that the required mentalizing abilities might be the ones involved in perspective taking, which could explain the selective difference found between participants with autism and controls in the moral judgment task as follows. Arguably, in making moral judgments that require considering the agent's intentions, typically developed tend to assume the agent's perspective, thus assigning a more important role to the agent's mental state compared to her action's outcome. By contrast, participants with autism plausibly fail to take the agent's perspective. Thus, in making these kind of moral judgments, they assign a minor role to the agent's mental states and a more relevant role to the outcome of her action, and consequently they do not judge accidental and attempted harms differently. This would support the hypothesis that perspective taking plays an important role in our moral judgments, and in particular in those judgments in which mental states must to be taken into account. However, further studies are needed in order to verify the correctness of this hypothesis.

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