Target Article: Grossmann (2022)

We aren’t especially fearful apes, and fearful apes aren’t especially prosocial.

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Abstract

Grossmann (2022) posits that heightened fearfulness in humans evolved to facilitate cooperative caregiving. We argue that three of his claims - that children express more fear than other apes, that they are uniquely responsive to fearful expressions, and that expression and perception of fear are linked with prosocial behaviors - are inconsistent with existing literature or require additional supporting evidence.

Are we really fearful apes, and are fearful apes more prosocial?

Grossmann (2022) proposes that humans are both more likely to express fear than other ape species and particularly sensitive to conspecifics' fear. This heightened fearfulness and fear detection, then, serves to elicit approach from caregivers, and increases one's own tendency to approach needy conspecifics. These tendencies ultimately ensure that humans receive, and deliver, the nurturance that uniquely characterize our species. In what follows, we argue that these claims, though interesting and provocative, are currently unsupported by the broader literature in at least three ways. First, the assertion that humans are particularly fearful requires further evidence. Second, infants' sensitivity to fear ('fear bias') may not actually reflect responsiveness to fear specifically, but rather to a broad range of distress signals. Finally, associations between both the expression and perception of fear and children's own prosocial behaviors are empirically tenuous. We detail our concerns below, ultimately concluding that the 'fearful ape' may not be a useful description of the human species.

One aspect of Grossmann's (2022) hypothesis is that humans experience and express higher levels of fear than do other non-human primates. Support for this assertion comes from a single study (Herrmann et al., 2011) in which human infants demonstrated relatively more avoidance toward novel objects and people than did non-human ape species. These findings, however, suffer from some important confounds. First, there were significant age differences between the human (2.5 years) and non-human (6.4, 6.5, and 6.8 years) primate participants, a difference exacerbated by the faster rate of maturation in non-humans. These age differences resulted in significant body size differences between participants and experimenters across species. That is, compared with 6.5-year-old non-human apes, 2.5-year-old children are much smaller than an adult experimenter, and might have displayed more fear due to the vulnerabilities this size difference entailed. Indeed, although this condition was not without interpretive difficulties, a control condition in which the experimenter was absent from the scene revealed no increased avoidance in humans. Thus, claiming that heightened fearfulness is an essential feature of the human species may be premature.

Another facet of Grossmann's (2022) hypothesis posits that infants are particularly sensitive to others' fear. We propose, instead, that the literature is more consistent with a general sensitivity to distress (Decety, et al., 2016; de Waal & Preston, 2017). While human infants do demonstrate sensitivity to fear (Leppänen & Nelson, 2012), they are also highly receptive to distress signals, including pain and sadness (Addabbo et al., 2020; Davidov et al., 2021; Dondi et al., 1999). The fear bias literature typically compares infants' responses to fear solely with anger and happiness (Grossmann et al., 2018; Peltola et al., 2009; Xie et al., 2019); these comparisons do not distinguish the 'fearful ape' from the 'distressed ape'. Indeed, some studies have shown that infants respond comparably and/or inconsistently to any arousing and/or threatening emotions (fear, anger, pain) relative to happy/neutral stimuli (Cheng et al., 2012; Hunnius et al., 2011; Vanderwert et al., 2015). Thus, more evidence is required to show that infants are uniquely sensitive to fear.

Further, Grossmann (2022) suggests that the enhanced experience and privileged perception of fear make humans more caring and cooperative, To support the link between heightened fearfulness and prosociality, he draws from evidence suggestive that heightened fearfulness enhances children's guilt proneness, which in turn reduces rule violation (Kochanska et al., 2002). He also cites research showing that heightened fearfulness in children is associated with enhanced theory-of-mind skills (Wellman et al., 2011), thought to be important for cooperation (Tomasello et al., 2005). Although guilt proneness and social-cognitive competencies are clearly relevant to prosociality, they are at best indirect measures. Further, direct evidence seems to contradict Grossmann's claims. For example, shyness is a core dimension of fearfulness traits (Henderson, 2010; Poole et al., 2018); Many studies have shown that higher levels of shyness is associated with reduced, rather than enhanced, prosocial behavior (Beier et al., 2017; Eisenberg et al., 1996; Karasewich et al., 2018; Tan et al., 2021; Young et al., 1999), presumably because prosocial behavior requires social interaction with unfamiliar others. In addition, exhibiting fearfulness and inhibited responses early in life has consistently been associated with less adaptive social functioning (e.g., fewer close friends, higher loneliness, less prosocial behavior) and greater risk for developing social anxiety later in life (Clauss & Blackford, 2012; Eisenberg et al., 2019; Liew et al., 2011; Sandstrom et al., 2020; Tang et al., 2020). Thus, rather than promoting prosociality, enhanced fearfulness appears to have a negative impact on prosocial behavior specifically and social functioning broadly.

To support the assertion that sensitivity to fear facilitates children's prosociality, Grossmann (2022) offers limited evidence that children who exhibit a fear bias are more helpful and generous (Grossmann et al., 2018; Rajhans et al., 2016). However, different means of measuring fear bias across these studies (e.g., latency to fixate, duration of first look) makes this argument less convincing. Further, it seems that responsiveness to distress signals generally, not fear specifically, elicits caring behaviour (Davidov et al., 2013; Decety, 2016). For instance, individual differences in three- to ten-month-olds' empathic concern for peers and adults feigning injury (i.e., pained, not fearful) predicts caring responses at 12- to 18-months (Davidov et al., 2021; Roth-Hanania et al., 2011), suggesting a role for processing others' pain in facilitating prosocial responses. Even past work from Grossmann's own lab suggests that viewing painful (versus angry) expressions activates approach mechanisms during infancy (i.e., left hemisphere activation; Missana et al., 2014). Thus, evidence supporting a unique relationship between responsiveness to fear and caring behaviors appears tenuous at best.

Although Grossmann's (2022) hypothesis is intriguing, it contradicts existing work or requires further evidence to support three of its major claims: That humans are particularly fearful, highly receptive to fear, and that these tendencies promote prosociality. Instead, it is more likely that human caregiving and prosocial behavior result from the expression of, and sensitivity to, a broad range of distress cues.

Conflict of interest

None.

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