

## Are we virtuously caring or just anxious?

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**Abstract:** According to Grossmann, the high levels of cooperation seen in humans are the result of a “virtuous caring cycle” on which the increased care that more fearful children receive brings increased cooperative tendencies in those children. But this proposal overlooks an equally well supported alternative on which children’s anxiety—not a virtuous caring cycle—explains the cooperative tendencies of humans.

Grossmann’s paper posits a novel “virtuous caring cycle” on which the increased care that is received by more fearful children begets increased cooperative tendencies in those children (p. 3). While this proposal is insightful in many ways, it may overlook an alternative, and potentially complementary, explanation of the unique level of cooperativeness that we find in humans. More specifically, for all that’s been said, *anxiety* remains an equally plausible driver of the ontogenetic changes that Grossmann’s proposal aims to explain.

The starting place for an anxiety-focused alternative is the observation that human social life is structured by norms whose complexity and vagueness often leave individuals uncertain about how they ought to behave (Kitcher 2011; Sterelny 2013). Anxiety, as an emotion triggered by problematic uncertainty of this sort, would then be a predictable and prudent response (Hookway 1998; Kurth 2015). More specifically, we should expect that though the course of human history, there was a tendency for some individuals to experience increased anxiety as they struggled to navigate these complex and uncertain social norms (Kurth 2016). Moreover, this anxiety would have brought the emotion’s characteristic response: increased risk assessment and risk minimization behaviors (Davis et al. 2010; Kurth 2018; Öhman 2008). In the context of alloparenting, when these anxiety-driven behaviors were experienced by children, they would likely have manifested as (e.g.) cautious approach, reassurance seeking, and greater deference toward authority figures—behaviors, that is, that could have worked to enhance the cooperative tendencies of children, especially in the more anxious ones. But, contra Grossmann’s picture, these enhanced cooperative tendencies would not be the upshot of a virtuous caring cycle. Rather, they would be the upshot of anxiety.

To draw out the plausibility of this alternative explanation, we can move in two steps. First, notice that there’s an important ambiguity in Grossmann’s rendering of the “fear” that he takes to underwrite the virtuous caring cycle. In particular, his distinction between *general fear* and the distinct *fearfulness of social animals* (p. 8) mirrors the standard ways that fear and anxiety are often distinguished in emotion science: fear engages a fight/flight/freeze response in the face of imminent dangers, while anxiety prompts cautious approach in the face of uncertain threats (e.g., Davis et al. 2010;

Kurth 2016, 2018; Öhman 2008). But while this common understanding of anxiety is functionally similar to Grossmann's notion of the fearfulness of social animals, the two responses are underwritten by distinct motivations: risk assessment/minimization motives in the case anxiety, care/affiliation seeking for Grossmann's fearfulness. Recognizing this suggests that two different mechanisms may underlie the enhanced cooperation seen in "fearful" children.

Second, much of the evidence that Grossmann marshals in defense of his virtuous caring cycle is compatible with an anxiety-focused alternative, thus frustrating our ability to determine which of these two mechanisms (or both) underlies humans' distinctive tendency toward cooperation. Three examples will help draw this out.

(1) The paper makes extensive appeal to research using emotional facial expressions, and it does this both as a way of measuring relative "fearfulness" levels and as a way of inducing "fear" so that the resulting neuro/chemical changes and behaviors (e.g., cooperativeness) can be assessed. But using emotional facial expressions in these ways is highly controversial (e.g., Barrett 2006). Moreover, even if we set these general worries aside, a deeper problem remains: in Grossmann's use of this research, what counts as a "fearful" facial expression is understood so broadly that we cannot say which emotion is actually in play. For instance, in some of Grossmann's appeals to the facial expression research, "fear" is understood expansively so as to include general distress displays (p. 16).

Moreover, where a more narrow rendering is sought by way of contrasting "fearful" faces with other negative emotion facial expressions, the work typically just compares "fear" and "anger" faces (e.g., Grossmann & Jessen 2017; Krol et al. 2015). Thus, we do not have evidence that allows us to tease apart our competing fear- and anxiety-based hypotheses. In fact, to the extent that the experiments that Grossmann's argument builds from make use of just still images (thus leaving test participants without contextual cues about what the emotional expression is a response to), they're arguably more likely to cue anxiety (a sensitivity to *uncertain* threats) than fear (a sensitivity to imminent dangers).

(2) The article points to imaging work indicating that neural structures like the amygdala and striatum are engaged in "fear" responses. But since these structures have also been shown to be engaged as part of anxiety responses (e.g., Davis et al. 2010; Kurth 2018; Lago et al. 2017), we do not have findings that provide unique support for Grossmann's fearfulness model. Similarly, the paper cites the longitudinal study of Tuulari et al. 2020 in support of the amygdala's role in the development of fear biases. But it's unclear how much support this work provides for favoring a fear-based mechanism since the Tuulari study did not test for activity in "anxiety" brain regions like the base nucleus of the stria terminalis (BNST).

(3) The research Grossmann cites in support of a connection between fear detection and increased cooperation also fails to be dispositive (p. 17ff): much of this work implicates not just fear and its neural correlates (e.g., the amygdala), but also anxiety and its neural correlates (e.g., the BNST) (Marsh 2015; Bosch 2011; Insel 1990).

In sum, Grossmann is correct to focus on the role that affective traits might play in fostering cooperation; and in looking beyond the usual suspects like empathy, his work advances our

understanding of the complex mechanisms that are likely to underlie these ontogenetic changes. That said, it appears that he has not (yet) succeeded in identifying a virtuous cycle of caring as the central driver of the enhanced cooperation that we see in “fearful” children.

## References

- Barrett, L. (2006). Are emotions natural kinds? *Perspectives on Psychological Science*, 1, 28–58.
- Bosch, O. J. (2011). Maternal nurturing is dependent on her innate anxiety. *Hormones and Behavior*, 59, 202–212.
- Davis, M., Walker, D. L., Miles, L., & Grillon, C. (2010). Phasic vs sustained fear in rats and humans: Role of the extended amygdala in fear vs anxiety. *Neuropsychopharmacology*, 35, 105–135.
- Grossmann, T., & Jessen, S. (2017). When in infancy does the ‘fear bias’ develop? *Journal of Experimental Child Psychology*, 153, 149–154.
- Hookway, C. (1998). Doubt: Affective states and the regulation of inquiry. *Canadian Journal of Philosophy*, 24 (supp.), 203–225.
- Insel, T.R. (1990). Regional changes in brain oxytocin receptors post-partum. *Journal of Neuroendocrinology*, 2, 539–545.
- Kitcher, P. (2011). *The ethical project*. Cambridge, MA: Harvard University Press.
- Krol, K. M., Monakhov, M., Lai, P. S., Ebstein, R., & Grossmann, T. (2015). Genetic variation in CD38 and breastfeeding experience interact to impact infants’ attention to social eye cues. *Proceedings of National Academy of Sciences*, 112, E5434–5442.
- Kurth, C. (2018). *The anxious mind*. Cambridge, MA: MIT Press.
- Kurth, C. (2016). Anxiety, normative uncertainty, and social regulation. *Biology & Philosophy*, 31, 1–21.
- Kurth, C. (2015). Moral anxiety and moral agency. In M. Timmons (Ed.), *Oxford Studies in Normative Ethics* (Vol. 5, pp. 171–195). Oxford: Oxford University Press.
- Marsh, A. A. (2015). Neural, cognitive, and evolutionary foundations of human altruism. *WIREs Cognitive Science*, 7, 59–71.
- Öhman, A. (2008). Fear and anxiety. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (pp. 127–156). New York: Guilford Press.
- Sterelny, K. (2013). Life in interesting times. In K. Sterelny, R. Joyce, B. Calcott, & B. Fraser (Eds.), *Cooperation and Its Evolution* (pp. 89–108). Cambridge, MA: MIT Press.
- Tuulari, J. J., Kataja, E. L., Leppänen, J. M., Lewis, J. D., Nolvi, S., Häikiö, T., . . . Karlsson, H. (2020). Newborn left amygdala volume associates with attention disengagement from fearful faces at eight months. *Developmental Cognitive Neuroscience*, 45, 100839.