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Moral emotions underlie puritanical morality

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Abstract

Fitouchi et al. illustrate the cognitive and evolutionary foundations of puritanical morality, while leave the emotional foundation unclear. We complement their theory by proposing moral emotions (e.g., guilt and shame) as characteristic emotions underlying puritanical morality. Our proposition is based on the findings that these moral emotions emerge after violations of puritanical norms and promote self-control and cooperation.

In the target article, Fitouchi et al. build a new theory that puritanical morality is developed for promoting cooperation by facilitating self-control (regardless its efficiency). Besides, they cast doubts on an influential disgust-based account of puritanical morality, which considers the function of puritanical morality as avoiding communicable diseases driven by a feeling of disgust. Although Fitouchi et al. have elucidated the cognitive and evolutionary foundations of their cooperation-based theory with sufficient evidence, they leave the emotional foundation of puritanical morality unclear after denying the role of disgust. Are there any emotions underlying puritanical morality? What are they? We would like to extend Fitouchi et al.'s theory by proposing moral emotions such as guilt and shame as characteristic emotions in puritanical morality. Our proposition is based on three reasons: (1) violations of puritanical norms induce guilt and shame; (2) guilt and shame support self-control; and (3) guilt and shame enhance cooperation.

First, it is widely reported that people feel guilty and ashamed for conducting various behaviors that condemned by puritanical morality, including binge eating, masturbation, gambling, neglecting to study, failing to excise, and so on (Baumeister, 1995; Berg et al., 2015; Mageau, Vallerand, Rousseau, Ratelle, & Provencher, 2005; Mosher, 1979; Ratelle, Vallerand, Mageau, Rousseau, & Provencher, 2004; Sharma & Sharma, 1998). Notably, behaviors manifesting lack of self-discipline (e.g., failing to excise) that are moralized by puritanical morality seem unrelated to disgust, but are related to guilt and shame (Baumeister, 1995; Harman & Burrows, 2019; Markland & Tobin, 2004). Thus, guilt and shame compared to disgust has closer associations with violations of puritanical norms.

Second, guilt and (maybe) shame are supposed to help people inhibit selfish impulses and hedonic motives (Baumeister, 1995; Baumeister & Exline, 1999). Supporting this opinion, behavioral experiments found that guilt and shame promote behaviors that need self-control, such as costly apology, help, amend, and selfpunishment (de Hooge, Zeelenberg, & Breugelmans, 2007; Ohtsubo & Yagi, 2015; Yu, Hu, Hu, & Zhou, 2014; Zhu et al., 2017). Neuroimaging experiments also provided supportive evidence that guilt compared to other emotions (e.g., sadness and shame) produces stronger activation in brain regions implicated in self-control, such as orbitofrontal cortex and lateral prefrontal cortex (Wagner, N'Diaye, Ethofer, & Vuilleumier, 2011; Zhu, Feng, Zhang, Mai, & Liu, 2019) and that shame is associated with activity in the dorsolateral prefrontal cortex related to selfcontrol (Bastin, Harrison, Davey, Moll, & Whittle, 2016). Considering Fitouchi et al. highlight that puritanical morality aims to improve self-control and prevent self-control failures, guilt and shame are conducive to achieving the aim of puritanical morality.

Third, looking at the bigger picture, the social function of guilt and shame (particularly guilt) is maintaining and repairing cooperative relationships (Chang, Smith, Dufwenberg, & Sanfey, 2011; Sznycer, 2019). As moral violations induce guilt and people are guilt averse, people usually act in a moral way that trying to minimize their anticipated guilt regarding their decisions, which promotes greater levels of cooperation (Battigalli & Dufwenberg, 2007; Bellemare, Sebald, & Suetens, 2019; Charness & Dufwenberg, 2006). Guilt avoidance is a crucial mechanism that prevents moral violations, motivates cooperative behavior, and maintains cooperative relationships (Chang et al., 2011). Guilt and (maybe) shame not only can maintain cooperative relationships, but also help to restore jeopardized relationships. After violating moral norms, people are faced with blame, punishment, and even exclusion from future cooperation (Boyd, Gintis, Bowles, & Richerson, 2003; Fehr & Gächter, 2002; Tomasello & Vaish, 2013). To cope with this problem, guilt and shame urge people to conduct behaviors (e.g., apology, compensation, and self-punishment) that require sacrificing short-term interests (e.g., body pleasure and monetary reward) and weighting long-term benefits (cooperative relationships) (Ghorbani, Liao, Çayköylü, & Chand, 2013; Nelissen, 2011; Nelissen & Zeelenberg, 2009; Watanabe & Ohtsubo, 2012; Yu et al., 2014; Zhu et al., 2017). Studies have found that guiltand/or shame-induced behaviors (e.g., apology, compensation, and self-punishment) can facilitate forgiveness from others and restore jeopardized relationships (Hechler, Wenzel, Woodyatt, & de Vel-Palumbo, 2022; McCullough, Kurzban, & Tabak, 2013; Zhu et al., 2017). Given Fitouchi et al. advocate that the ultimate function of puritanical morality is boosting cooperation, the

functions of guilt and shame and puritanical morality coincide well with each other.

It is difficult to judge whether guilt or shame plays a more important role in puritanical morality at the current stage. One problem is that some researchers construed "guilt" as a synonym for "shame" or vice versa. Another problem is that many studies measured only guilt or only shame. Still another problem is that guilt and shame tend to co-occur after moral violations (e.g., Nelissen & Zeelenberg, 2009). We note that guilt and shame have conceptual, theoretical, and neural differences (e.g., Bastin et al., 2016; Tangney & Dearing, 2003; Tangney, Miller, Flicker, & Barlow, 1996). To distinguish the influences of guilt and shame on puritanical morality, we encourage future studies to (1) measure both guilt and shame feelings (e.g., Ghorbani et al., 2013) and (2) create both guilt and shame conditions, in which guilt and shame are respectively the dominant emotion (e.g., Wagner et al., 2011; Xu et al., 2022).

Additionally, we keep an open mind about whether other moral emotions are involved in puritanical morality. For instance, several studies have demonstrated a link between gratitude and self-control (Desteno, Li, Dickens, & Lerner, 2014; Dickens & DeSteno, 2016). Thorough explorations on the associations between various moral emotions and puritanical morality are needed in the future.

Moral emotions are vital elements of moral apparatus linking moral norms and moral behaviors (Tangney, Stuewig, & Mashek, 2007). A moral theory without any concern about emotion is probably incomplete. We propose that moral emotions such as guilt and shame are characteristic emotions underlying puritanical morality, especially within the theoretical framework constructed by Fitouchi et al. We clarify the close associations among moral emotions, puritanical morality, self-control, and cooperation. Our extension contributes to filling in the missing part of Fitouchi et al.'s theory (i.e., the emotional foundation of puritanical morality) and setting a new direction for future research.

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Competing interest. None.

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Authors' Response

The puritanical moral contract: Purity, cooperation, and the architecture of the moral mind

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Abstract

Commentators raise fundamental questions about the notion of purity (sect. R1), the architecture of moral cognition (sect. R2), the functional relationship between morality and cooperation (sect. R3), the role of folk-theories of self-control in moral judgment (sect. R4), and the cultural variation of morality (sect. R5). In our response, we address all these issues by clarifying our theory of puritanism, responding to counter-arguments, and incorporating welcome corrections and extensions.

We are immensely grateful to all commentators for their interest, thought-provoking arguments, and the fascinating discussion they open up on the nature of morality. We are thrilled that most theories of morality are represented in the commentaries, including moral foundations theory (**Graham, Atari, Dehghani, & Haidt [Graham et al.**]), dyadic morality (**DiMaggio, Gray, & Kachanoff [DiMaggio et al.**]), morality as cooperation (**Curry & Sznycer**), as well as the side-taking hypothesis and related accounts (**DeScioli & Kurzban; Moon; Tybur & Lieberman**).

The purity controversy has structured moral psychology for decades, and for good reason (Gray, DiMaggio, Schein, & Kachanoff, 2022). Purity is at the junction of two heated debates between the aforementioned theories of morality:

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- (1) The monism-pluralism debate. Are all moral judgments, despite the diversity of their content (e.g., purity, fairness, authority), produced by a single computational device? Yes, according to monist theories and purity is no exception (DiMaggio et al.; DeScioli & Kurzban, 2009; target article). Pluralists disagree: Purity, in their view, reveals the inability of monist models to explain the diversity and complexity of moral judgments (Curry & Sznycer; Graham et al.; Weinstein & Baldwin).
- (2) The cooperation debate. Did moral cognition evolve exclusively for cooperation? We and others claim so (Curry & Sznycer; Kurdoglu; Murray, Amaya, & Jiménez-Leal [Murray et al.]). But many disagree: Purity moralizations, they argue, reveal that other adaptive challenges, such as pathogen avoidance (Graham et al.), coordination for side-taking in disputes (DeScioli & Kurzban), and self-serving use of moral principles (Moon; Tybur & Lieberman), have shaped the moral mind in our evolutionary history.

In this context, our target article aimed to show that moralizations of purity, often taken as a critical argument against both monist (Graham et al., 2013) and cooperation-based theories (Smith & Kurzban, 2019), pose a problem for neither types of theories.

Expectedly, both claims proved controversial. Pluralists think we are too reductionist. Positing more moral cognitive systems, they argue, allows better explaining morality in general and puritanism in particular. Opponents of cooperation-centric views, meanwhile, think we're too naive. Puritanism is not about cooperation, they argue, but about oppressive coercions, manipulative condemnations, and cruel punishments. As if sorting out these issues weren't difficult enough, the task is further complicated by the general confusion about what we're supposed to explain when we talk about "purity" (DiMaggio et al.; Kollareth & Russell).

We thus begin by clarifying our explanatory target – puritanical morality – by distinguishing it from other purity-related moralizations (sect. R1). This sets the stage for addressing the monism–pluralism debate (sect. R2) and the cooperation debate (sect. R3). We finally discuss the role of folk-theories of self-control in puritanical moral judgments (sect. R4), as well as cultural variations in puritanical values (sect. R5).

R1. Puritanism and purity: Clarifying explanatory targets

In evaluating our model, many commentators discussed purity violations such as incest (Tybur & Lieberman), atheism, blasphemy (DeScioli & Kurzban), food taboos (DiMaggio et al.; Giner-Sorolla & Myers), premarital sex (Weinstein & Baldwin), homosexuality (Giner-Sorolla & Myers; Tybur & Lieberman; DeScioli & Kurzban), rolling in urine (DiMaggio et al.), eating the family's dead pet dog (Murray et al.), or defecating on someone's grave (Murray et al.).

Most of these behaviors, however, were not clearly included in our definition of puritanical morality (target article, sect. 1). This confusion is natural given that purity is a fuzzy concept and that puritanism is a subset of purity. Before turning to more substantial debates (sects. R2 and R3), let us try to bring some order to this conceptual mess. We do so by distinguishing puritanical morality from purity (sect. R1.2), sexual morality (sect. R1.3), and the morality of the historical Puritans (sect. R1.4).