RUNNING HEAD: No Absolutism Here

No Absolutism Here: Harm Predicts Moral Judgment 30x Better than Disgust—Commentary on Scott, Inbar & Rozin (2015)

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Abstract

Moral absolutism is the idea that people's moral judgments are insensitive to considerations of harm. Scott et al (2015) claim that most moral opponents to GMOs are absolutely opposed, motivated by disgust and not harm. Yet there is no evidence for moral absolutism in their data. Perceived risk/harm is the most significant predictor of moral judgments for "absolutists," accounting for 30x more variance than disgust. Re-analyses suggest that disgust is not even a significant predictor of the moral judgments of "absolutists" once accounting for perceived harm and anger. Instead of revealing actual moral absolutism, Scott et al. find only "empty absolutism:" hypothetical, forecasted, self-reported moral absolutism. Strikingly, the moral judgments of so-called "absolutists" are somewhat *more* sensitive to consequentialist concerns than those of non-absolutists. Mediation re-analyses reveal that moral judgments are most proximally predicted by harm and not disgust, consistent with dyadic morality.

No Absolutism Here: Harm Predicts Moral Judgment 30x Better than Disgust—

Commentary on Scott, Inbar & Rozin (2015)

"[G]enetically modified foods...increase your risk of cancer, diabetes, neurodegenerative disease, and so much more." (Bollinger, 2014)

Many Americans believe that consuming genetically modified food (or genetically modified organisms; GMOs) is immoral. These *same* people also seem to believe that consuming GMOs is harmful, causing widespread health problems and irrevocable environmental damage. Is this alignment between perceived harm and moral judgments a mere coincidence? Scott et al. (2015) suggest so, claiming that most GMO opponents are "absolutely opposed" (p. 2) to these foods, and therefore "insensitive" (p. 6) to consequences—or in other terms—considerations of harm. These claims of absolutism not only contradict empirical links between morality and harm (Royzman, Kim, & Leeman, 2015; Schein & Gray, 2015), but also their own data: the best predictor of GMO opposition and regulations endorsement is not disgust, but instead perceived harm—even for moral absolutists. As so-called absolutists are somewhat *more* sensitive to consequentialist concerns than non-absolutists, we suggest that any "absolutism" revealed by Scott et al. is empty, reflecting inaccurate self-perceptions rather than actual moral judgment.

Moral Absolutism or Perceived Harm?

Moral absolutism isn't just strong moral opposition, but instead moral opposition independent of potential harm. Consistent with this definition, Scott et al., (2015) claim that the majority (71%) of GMO opponents are "absolutely" opposed, such that they are "evidence insensitive" (p. 2) and their judgments are "upheld regardless of consequentialist considerations"

(p. 7). This harm insensitivity means that moral absolutists should be willing to say that GMOs are immoral but improve human health and the environment.

Beyond the philosophy of Kant (1780), it is difficult to find anyone who separates moral judgments from perceived harm —GMO opponents included (Clark, Chen, & Ditto, 2015; DeScioli, Gilbert, & Kurzban, 2012). Not one anti-GMO pamphlet, book or website we could find condemned GMOs while acknowledging their benefits. Instead, opponents seem to condemn GMOs *because* they appear harmful, causing cancer and destroying the environment. Scientific evidence may suggest that GMOs are harmless—at least in the short term—but this objective evidence is irrelevant, because harm is a matter of perception.

Modern moral psychology has long acknowledged that moral judgments are subjective, intuitive and subject to cultural variation (Haidt, 2001). At the same time, by asking why people moralize "harmless" wrongs, these scholars treat harm as a reasoned, culturally-independent matter of objective fact (Haidt, 2001). The paper by Scott et al. (2015) is no exception to this harm objectivist approach. The authors consider scientific evidence in favor of GMOs to settle the matter—if science says that GMOs are harmless, then other people cannot base their moral judgments on harm. But of course they can. People can base their moral judgments on *perceptions* of harm—and they do it every day.

Recent psychological research reveals that harm is a matter of perception (via mind perception; Gray, Young, & Waytz, 2012). Importantly, perceptions of harm are implicit and automatic, and occur even in "objectively harmless" scenarios such as bizarre masturbation and religious violations (Gray, Schein, & Ward, 2014). The perceptual power of harm—and its basis for morality in both liberals and conservatives—is revealed in our recent work (Gray & Schein,

2012; Schein & Gray, 2014, 2015), and in moral debates. Consider the topic of abortion, in which pro-choice individuals see abortion as a removal of mindless cells whereas pro-life individuals see abortion as the murder of a baby. These differing perceptions of harm are not coincidental but form the basis for moral judgments about abortion. As perceptions of harm are subjective and deeply intuitive they may sometimes be incorrect and insensitive to evidence, but they can still legitimately underlie (similarly subjective) moral judgments.

Questioning Self-Reports of Absolutism

The one piece of evidence arguing for moral absolutism is that 71% of GMO opponents in Scott et al. (2015) agreed to the statement "This should be prohibited no matter how great the benefits and minor the risks from allowing it." Taken at face-value, this agreement suggest that most GMO opponents are insensitive to considerations of harm, and therefore moral absolutists. But we shouldn't take responses to this particular statement at face-value.

Decades of research suggests that people are poor at understanding the basis of their judgments, moral or otherwise (Nisbett & Wilson, 1977; Haidt, 2001). They are also bad at forecasting their responses to hypothetical future situations which differ systematically from the present (Wilson & Gilbert, 2005). Unfortunately, this is exactly what Scott et al. (2015) ask participants to do—to consider whether they oppose GMOs *if, in some hypothetical future world* there were great benefits. Why is this "some hypothetical future world?" Because those who agreed to this question also simultaneously see GMOs as harmful and lacking in benefits. Given the tenacity of perceived harm, these GMO opponents also reject the idea that such a hypothetical future world of "good GMOs" is *even possible*—a fact revealed by the authors' own supplementary data.

For illustration, we would like you to consider this parallel question: "Should child prostitution be prohibited no matter how great the benefits?" Chances are that you not only say "yes!" but also find it impossible to imagine a world where child prostitution leads to benefits. By the standards of Scott et al. (2015), your moral opposition would be insensitive to harm, but of course, perceived harm to children is the very basis for your moral opposition.

A Closer Look at the Data

Whether self-described hypothetical absolutists are actually absolutists is an empirical question, one addressed by the data of Scott et al. (2015). If they are correct, then the moral opposition of "absolutists" should be insensitive to considerations of harm. By the definition of moral absolutism, moral judgments of absolutists should be uncorrelated with perceptions of harm. We recognize that this definitional standard is perhaps too high, and therefore also consider a weaker hypothesis. Compared with non-absolutists, moral absolutists should be relatively less sensitive to consequentialist concerns, and so should have at least a *smaller* correlation between harm and moral judgments. [1]

Across all participants, the perceived risk of the GMOs—a measure of perceived harm—was the strongest predictor of endorsements of regulations ($b = .49$, $t = 17.27$, $p < .001$), even with disgust and anger (which was not significant in this or the next model) entered into the model. In contrast, feelings of disgust—advocated by the authors as an important determinant of moral judgment—was a much poorer predictor ($b = .09$, $t = 1.63$, $p = .10$). In other words, harm accounted for 24% of anti-GMO variance, 24x the 1% of variance accounted for by disgust.

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[1] We thank Scott et al. for providing us with the original data.

Even more striking are analyses within participants categorized as absolutists. Despite claims of harm insensitivity, perceived risk was the strongest predictor of endorsement of regulations, ($b = .56$, $t = 11.77$, $p < .001$), and felt disgust was not even significant, ($b = .08$, $t = 1.20$, $p = .23$). See Figure 1. For moral "absolutists," perceived harm accounted for over 30x the variance than did feelings of disgust. Importantly, perceptions of harm ($b = .56$) predicted the moral judgments of "absolutists" even more than those of non-absolutists ($b = .41$), arguing against even a weaker form of absolutism. These re-analyses make clear that those categorized by Scott et al. (2015) as "moral absolutists" were not actually absolutists—disconfirming the central claim of their paper.

Disgust

Disgust has been claimed to be specially linked to moral judgments concerning purity (Rozin, Lowery, Imada, & Haidt, 1999) and Scott et al. (2015) repeat these claims for GMOs: "[D]isgust-based proscription may be especially likely for GM" (p. 6). However, a recent review of all papers examining morality and emotion fails to uphold this special link (Cameron, Lindquist, & Gray, 2015). Consistent with this review, additional re-analyses of Scott et al's data reveal no evidence for a special link between disgust and moral judgments of GMOs (see also Landy & Goodwin, 2015).

Following their analyses protocol, we ran two binary logistic regressions with standardized risk, anger, and disgust (state or trait) predicting moral opposition to GMOs ("I do not oppose this"). For state level disgust, disgust predicted endorsements of opposition ($b = .54$, Wald $\chi 2 = 6.03$, $p = 0.01$), but less than perceptions of risk/harm ($b = .744$, Wald $\chi 2 = 50.30$, $p < 0.00$), and anger ($b = .80$, Wald $\chi 2 = 83.496$, $p < 001$). Analyses of trait disgust sensitivity

revealed a similar pattern with disgust predicting endorsements of opposition ($b = .30$, Wald $\chi2 = 8.95$, $p = 0.003$), but less than risk/harm ($b = .74$, Wald $\chi2 = 47.83$, $p < 0.001$) and anger ($b = 1.22$, Wald $\chi2 = 104.23$, $p < 0.001$). Both these sets of analyses reveal that disgust—although predictive of opposition—does not specially or best predict opposition.

However, we should note that disgust does best predict who among opponents of GMOs see themselves as hypothetical moral absolutists (p. 10, Scott et al., 2015). People's self-reports of their moral cognition are a worthy topic of study, one that has enjoyed a resurgence with the moral foundations questionnaire (MFQ; Graham et al., 2011)—which asks people to report the factors relevant to their moral judgments. However, just as with the MFQ, the self-reports of participants here do not reflect the mechanisms of moral cognition (Gray & Keeney, 2015a, 2015b).

Harm versus Disgust in Mediation Analyses

Our re-analyses make clear that harm is a powerful predictor of GMO opposition, arguing against claims of moral absolutism. However, opponents of dyadic morality suggest that perceptions of harm are merely post-hoc rationalizations (Haidt, Bjorklund, & Murphy, 2000; but see Royzman et al., 2015), with disgust actually causing moral judgments. In other words, what "drives" moral judgment is "disgust and discomfort, which are later cloaked by harm-based rationalizations" (p. 212, Haidt & Hersh, 2001). We should note that these causal claims of Haidt and Hersh (2001) extend beyond their correlational data, which is problematic given that a recent meta-analysis fails to reveal a robust causal link between induced disgust and moral judgment (Landy & Goodwin, 2015). In contrast, research reveals a powerful causal link between

manipulations of harm and moral condemnation (Nail, McGregor, Drinkwater, Steele, &

Thompson, 2009; Schein & Gray, 2015).

Nevertheless, we appreciate the point that some patterns of correlational data are more

consistent with some causal claims than others. Dyadic morality suggests that harm should be the

most proximate predictor of moral judgment, with disgust acting through perceived harm.

Alternatively the "disgust drives" hypothesis suggests that disgust directly predicts moral

judgment, with only epiphenomenal perceptions of harm. In other words, within mediation

analyses of harm, disgust and morality, dyadic morality suggests that harm should come "before"

(statistically speaking) moral judgment and mediate the effect of disgust upon moral judgment.

The disgusts drives hypothesis suggests a direct link between disgust and moral judgment with

harm coming "after" (statistically speaking) moral judgment.

To provide the most generous test of "disgust drives" hypothesis, we conducted two

mediation analyses within all self-described moral absolutists, (N = 366). First, we examined the

role of state disgust with perceptions of harm (i.e., risk) and moral judgment (i.e., regulation

judgments). Consistent with dyadic morality, harm fully mediated the link between felt state

disgust and moral judgment, indirect: $b = .18$, $SE = .04$, 95% CI: [.10, .27], leaving a non-

significant direct effect of disgust, $b = .08$, $SE = .07$, $t = 1.13$, $p = .26$, 95% CI: [-.06, .22]. The

reverse mediation was not significant, $b = .02$, $SE = .02$, 95% CI: [-.01, .05].

Second, we attempted to examine the role of trait disgust sensitivity with perceptions of

harm and moral judgment. No mediation pattern was obtained because disgust sensitivity lacked

a significant total effect on moral judgment. That is, disgust sensitivity was not related to moral

judgments even without controlling for harm, $b = .01$, $SE = .08$, $t = .14$, $p = .89$, 95% CI: [-.15,

.17], arguing strongly against the "disgust drives" hypothesis. In contrast, there was a large and

significant effect of harm on moral judgments even when controlling for disgust, $b = .86$, $SE = .07$, $t = 12.28$, $p < .001$, 95% CI: [.72, .99], consistent with dyadic morality. Although correlation does not imply causation, correlation is a necessary pre-condition of causation, and only harm—not disgust sensitivity—is significantly correlated with moral judgment in this analysis.

The Irrelevance of Dead Dolphins

Our statistical analyses raise serious doubts about claims by Scott et al., that "disgust is specifically associated with GM absolutism" (p. 12), because disgust is not reliably associated with moral judgments about GMOs. However, the authors report experimental results which appear to bolster their claims: when confronted with dolphin-killing, feelings of anger appeared to predict moral opposition more than feelings of disgust, and the opposite was true for GMO opposition. Unfortunately this study is undermined by confounds and the lack of control conditions, like almost all previous studies arguing for specific emotion-morality effects (for a review see Cameron et al., 2015).

First, the severity of dolphin-killing is much higher than the severity of GMO foods (only 7% of people supported dolphin-killing, whereas 36% supported GMOs), and anger may simply be experienced for more powerful moral violations. Second, this study did not include non-moral control scenarios such as non-GMO rotting food or dolphins that died naturally. As the authors suggest, people may feel disgust more with food, but such disgust need not be specially linked to *moral judgments* about food. The thought of eating rotten tuna is gross, but does not necessarily engender moral absolutism. Third, this study ignores the substantial correlation between anger and disgust—it is difficult to argue for the relative power of disgust over anger when these

emotions are so highly correlated in the dolphin scenario($r = .74$). Altogether, these confounds argue against the specificity of disgust to GMOs and—more generally—against claims of absolutism tied to emotion specificity.

Conclusion

There is no doubt that many oppose GMOs, and we praise Scott et al., (2015) for shining the spotlight of moral psychology on this important issue. However, both substantial past work and their own data disconfirm their key claim of moral absolutism. Consistent with dyadic morality, GMO opposition is best predicted by perceived harm and not disgust. In fact, self-proclaimed "absolutists" are somewhat *more* sensitive to consequentialist considerations than non-absolutists. Mediation analyses further undermine the role of disgust and highlight the predictive power of harm, and the experiment advocating for the specificity disgust contains confounds and design limitations. The idea of moral absolutism is certainly compelling, especially for those who argue against the importance of harm in moral cognition. Unfortunately, there appears to be no evidence for any meaningful form of absolutism here.

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Figure 1. Regression analysis suggesting that within "absolutists," risk (i.e., perceived harm) predicts endorsement of restrictive regulations of GMOs (i.e., moral judgments) more than felt disgust—contrary to the authors main claims. Regression also controls for anger.   ** *p* < .001