Gratitude predicts selective moral concern about interpersonal harms

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Gratitude predicts selective moral concern about interpersonal harms

Lucas A. Keefer*, Mitch Brown, Faith L. Brown and Donald F. Sacco

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ABSTRACT
Past research has established that gratitude, a sense of appreciation for the benefits one has received, is a moral emotion that motivates reciprocity. How does gratitude influence moral evaluations generally? The current paper provides a novel investigation of the relationships between trait gratitude and moral outrage, an index of concern over specific moral violations. In two studies, we found that more grateful individuals expressed greater moral concern about domains in which harms were perpetrated against people, but not harm violations against animals or more trivial moral violations. In Study 2, we explore whether gratitude-based differences in moral concern might be explained by trait empathy or differences in commitment to specific moral foundations and find that empathy, specifically, largely accounts for gratitude’s role in moral concern. This research expands understanding of gratitude’s role in moral psychology and speaks to gratitude’s importance in moral judgment.

Moral outrage is a specific form of anger directed toward another whose behavior is seen as violating an important moral standard of justice or fairness (Montada & Schneider, 1989). This response motivates individuals to rectify transgressions through actions such as aiding the disadvantaged or punishing those who have committed some harm (i.e. third-party punishment; Jordan & Rand, 2019).

Not all forms of moral concern are necessarily equivalent. For example, some individuals might express outrage toward perceived injustices that others might consider relatively minor (e.g. cutting in line). Some people are concerned about systemic mistreatment (e.g. sweatshop labor) while other may resign themselves to the status quo. Even though examples like these involve the transgression of a moral norm (Graham et al., 2011), individuals are selective in when and why they express moral concerns.

The current paper explores the extent to which gratitude predicts selective patterns of moral concern. Much like outrage, gratitude is a moral affect that prompts prosocial behavior, albeit rooted in a positive (rather than negative) emotional state (Bartlett & DeSteno, 2006; Ma et al., 2017). Feelings of gratitude reduce aggression, potentially in the service of strengthening the social bonds initially afforded to those feeling grateful (DeWall et al., 2012).

Because gratitude is based in part on a motivation to benefit others in order to reciprocate the gains that one has received from others (Lambert et al., 2009), we expected that grateful individuals would show greater moral concern over harms perpetrated against others. Additionally, we sought to explore whether differences in empathy and/or moral foundations could potentially explain any links between gratitude and outrage, given their prior association with moral affective, cognitive and behavioral responses.

Gratitude as a prosocial emotion
Feelings of gratitude emerge following another’s prosocial behavior and subsequently elicit a positive affective state that motivates individuals to behave prosocially. As a result, gratitude operates as a moral barometer to identify prosociality from others and motivate one’s own altruism in response (McCullough et al., 2001).

Accordingly, research demonstrates that gratitude motivates individuals to act in ways that promote the common good, even at the extent of personal gain. For example, Bartlett and DeSteno (2006) found that gratitude (but not positive emotion generally) motivated personally costly prosocial behavior, even toward a stranger in the lab. Related research (DeSteno et al., 2010) finds that in economic games, high gratitude individuals are more willing to incur personal costs to benefit others.

It is important to note that the prosociality associated with gratitude is not merely limited to the target of that
feeling of gratitude; Instead, gratitude seems to broadly promote cooperation and generosity. Theorists argue that espousals of gratitude elicit upstream reciprocity, typically termed ‘paying it forward,’ as grateful individuals become benefactors to others (Chang et al., 2012). This means that within social networks, gratitude operates to maximize cooperation by promoting broad helping behavior. Data support this notion as well: a recent meta-analysis demonstrates this association between gratitude and prosociality to be particularly robust ($r = .37$; Ma et al., 2017).

This preponderance of evidence suggests such feelings may serve to invoke the reciprocal altruism that was historically necessary for survival, thereby strengthening the social bonds that foster group living (Algoe et al., 2008; McCullough et al., 2008). Indeed, gratitude further facilitates ingratiation (MacKenzie & Baumeister, 2019; Shiraki & Igarashi, 2018) and cooperation (DeSteno et al., 2014) while reducing hostility toward others (DeWall et al., 2012).

Although gratitude frequently emerges following a direct social benefit, it is notable that individuals generally vary in both their general level of gratitude and their proclivity to experience gratitude. For example, higher trait gratitude is associated with prosocial behavior repertoires (Li & Chow, 2015). Given its additional association with agreeableness (e.g. Chen et al., 2009), dispositionally grateful individuals may be particularly ingratiating and willing to prioritize others’ needs.

Next we turn to a discussion of moral outrage, a different moral emotion thought to motivate prosocial behavior. Although dissimilar in valence, there is good reason to expect that gratitude and moral outrage may be correlated given their similar antecedents and consequences.

**Outrage as prosocial behavior**

Although gratitude motivates prosocial behavior through positive feelings of appreciation, moral outrage represents a similarly prosocial, albeit negative, emotion. Moral outrage is thought to be a prosocial emotion because it is usually expressed on behalf of a victimized person or group (Batson et al., 2007; Thomas et al., 2009). It is also a highly motivating emotion, since it empirically appears to be a combination of two high arousal negative states: anger and disgust (Salerno & Peter-Hagene, 2013).

This outrage typically manifests as a desire to punish moral transgressions. Accordingly, research suggests that moral outrage motivates individuals to want to more strongly punish individuals accused of a wide range of moral transgressions (Bastian et al., 2013) and it facilitates activism on behalf of collective change (Thomas & McGarty, 2009). Taken together, these findings suggest that outrage plays an important role in maintaining justice by motivating efforts to correct for other’s immoral behavior.

This pursuit of justice ultimately yields benefits for the individual as well. Individuals who punish transgressions are deemed especially trustworthy (Jordan et al., 2016). Additionally, previous findings suggest that expressing outrage toward victims alleviates guilt for their perceived personal responsibility and restores one’s sense that they are in fact a moral individual (Rothschild & Keefer, 2017, 2018).

Despite the myriad benefits to outrage, both inter- and intrapersonally, individuals may nonetheless incur several social costs for these espousals. For example, constantly identifying any potential wrong as impetus to speak out could be deemed unnecessary or petty by others. Outraged individuals are indeed deemed especially neurotic, which could be rooted in perceptions of these individuals as constantly on a moral crusade without a particularly good reason (Brown, Keefer, Sacco, & Brown, under review). Even in many instances when espousals of outrage could be deemed morally right, aggressive responses toward these transgressions may be undesirable and could ultimately lead to extremism (Ginges et al., 2011). These findings suggest that indiscriminate outrage toward any perceived transgression is socially off-putting, thereby necessitating individuals to be judicious with their espousals of outrage for instances in which such a response may be deemed universally warranted.

**Current research**

What are the relationships between gratitude and moral outrage? On the one hand, both emotions motivate prosocial behavior and both play a valuable role in regulating social relationships. On the other, gratitude is an inherently positive affect felt toward others who have benefitted the self while outrage is a negative state directed at others who have harmed others.

In this paper, we consider the possibility that gratitude may be associated with particular forms of moral concern. As noted above, gratitude motivates prosocial behavior, even toward other individuals who may not have directly benefitted the self (as in ‘paying it forward’). This motivation to help others, we predict, could take the form of greater outrage at injustices perpetrated specifically against others. Because high gratitude individuals are motivated to benefit others, we anticipate that they will be more concerned about harms perpetrated against them.
Indeed some initial evidence points to this possibility: Among high status American workers, those who reported stronger gratitude also felt a greater responsibility toward their employees and society as a whole (Andersson et al., 2007).

To test the boundary conditions of this possibility, we compared outrage across five specific domains in the current paper. Two of the domains represent our theoretically specified case: harms perpetrated against others (sweatshop labor, human trafficking). To determine whether gratitude was predictive of outrage over harm violations in general, we also asked individuals about their outrage over animal cruelty. Finally, we included outrage over two non-harm fairness violations (false advertising by large corporations). By including these points of comparison within-subjects, we could determine the extent to which gratitude predicts specific forms of outrage, as we predict, compared to the alternative possibility that high gratitude individuals are categorically lower/higher in outrage overall.

All data and analysis syntax are openly available at https://osf.io/wjbcd/.

Study 1

Study 1 sought to provide initial evidence for the relationships between gratitude and moral outrage across different topics. Specifically, we assessed trait gratitude using an established self-report measure, then asked individuals about how outraged they felt over five specific topics. Two of these topics (sweatshop labor, human trafficking) represent domains in which harm is directly perpetrated against human targets. One topic (animal cruelty) represented harm in a non-human context. Finally, we included two topics that represented fairness (but not harm) violations: Large corporations falsely marketing fake leather as ‘real leather’ and selling 11” sandwiches as ‘footlong.’

To ensure that any associations between gratitude and outrage were specific to gratitude, we also included a brief measure of the Big Five personality traits (McCrae & Costa, 2008). These traits have been used as a general framework for assessing personality variation in hundreds of published studies. In this context, these general traits provide a valuable set of covariates to assess gratitude’s unique effects on moral outrage; past research (Wood et al., 2008) shows that gratitude is correlated with essentially all of the Big Five dimensions. As a consequence, controlling for this general variation is valuable for clarifying gratitude’s unique associations.

Method

We recruited 151 undergraduates from a medium-sized public university in Southeastern U.S. in exchange for course credit ($M_{Age} = 21.34$, $SD = 5.76$; 128 Women, 23 Men; 75% White). Given the relatively large association between gratitude and prosocial behavior ($r = .37$, Ma et al., 2017), a relatively modest sample was judged to be sufficient. We recruited the largest sample possible in the semester and achieved a sample size with sufficient power ($β = .80$) to detect even moderately small effects ($r = .22$).

Materials and procedure

Gratitude

After completing a demographics form, participants completed the 6-item Gratitude Questionnaire (GQ-6; McCullough et al., 2002). The scale asks participants to rate their agreement (1 = Strongly Disagree; 7 = Strongly Agree) with statements assessing a global sense of gratitude toward others (e.g. ‘I have so much in life to be thankful for’). See Table 1 for reliabilities and descriptive statistics for Study 1.

Personality traits

Next, participants completed the Ten-Item Personality Inventory (TIP; Gosling et al., 2003). Participants rated how much they agree (1 = Strongly Disagree; 7 = Strongly Agree) with seeing themselves as having 20 traits rated in 10 item-pairs (e.g. ‘Extraverted, enthusiastic’). Items assess each of the Big 5 personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) with two items per construct. Pairs formed reliable composites and items were averaged for analysis.

Outrage measures

The outrage measures consisted of five scales validated in past research (Pagano & Huo, 2007; Rothschild & Keefer, 2017). Participants were asked to rate how outraged they felt about two specifically human harms (sweatshop labor and human trafficking), one non-human type of harm (animal cruelty), and two types of unfairness (falsely marketing fake leather as real and marketing 11” subs as a footlong).

Results

Initial correlations between our variables of interest are presented in Table 1. As predicted, individuals higher in trait gratitude reported significantly more outrage over
Table 1. Observed correlations between variables (Study 1).

<table>
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<tr>
<th></th>
<th>Outrage – Sweatshops</th>
<th>Outrage – Trafficking</th>
<th>Outrage – Cruelty</th>
<th>Outrage – Leather</th>
<th>Outrage – Sandwich</th>
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<td>Gratitude</td>
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<td>C</td>
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<td>E</td>
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<td>Outrage – Faux Leather</td>
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<tr>
<td>M (SD)</td>
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<td>5.16</td>
<td>4.16</td>
<td>.71</td>
<td>.27</td>
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<td></td>
<td>(1.23)</td>
<td>(1.10)</td>
<td>(1.67)</td>
<td>(1.20)</td>
<td>(1.41)</td>
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<tr>
<td>6.08 (1.18)</td>
<td>6.51 (.91)</td>
<td>4.97</td>
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</table>

† p < .10, * p < .05, ** p < .01, *** p < .001.

harm toward other people (i.e. sweatshops, human trafficking), but not animal cruelty or the non-moral harms.

Personality trait results indicated some unexpected patterns of associations. For instance, more conscientious individuals reported more outrage over harms caused by sweatshop labor and human trafficking, but agreeableness ratings did not (despite the fact that agreeableness represents a prosocial disposition; Goldberg, 1991). Agreeableness did, however, correlate with reduced outrage over sandwich length. More extraverted individuals also reported greater outrage over both sweatshop labor and human trafficking, but also over sandwich length. Openness and neuroticism showed no meaningful associations with outrage in these data.

Regression analysis

In order to clarify the relationships between gratitude and moral outrage, we regressed outrage over each topic onto trait gratitude and the Big 5 dimensions to control for general personality variation (see Table 2 for parameters of all models). As predicted, trait gratitude predicted significantly greater moral outrage, but only toward human trafficking and sweatshop labor. In other words, individuals higher in gratitude did not express comparable moral concern over animal cruelty or over injustices that do not cause direct harm to victims.

Discussion

The results of this initial study provided some support for the predicted relationships between trait gratitude and outrage. At the level of bivariate correlations, gratitude was correlated only with outrage over harms directly perpetrated toward human targets (sweatshop labor, human trafficking) but not harm toward animals or the fairness violations represented by false advertising.

This study, however, leaves open questions about why higher gratitude individuals show greater moral concern in these specific domains. One possibility is that individuals higher in trait gratitude may also simply be higher in empathy (an idea suggested by McCullough et al., 2001). Part of what motivates gratitude, ostensibly, is an appreciation for how others might feel after acting altruistically, which motivates individuals to want to return that favor in some way.

A second possibility is that individuals high in gratitude may be inclined to adopt specific moral values that support outrage toward interpersonal harm. Because gratitude reflects a desire to reciprocate the benefits that one has received, it seems likely that high gratitude individuals may, for example, be more likely to commit to moral norms of fairness or group benefit (e.g. Graham et al., 2009; Graham et al., 2013).

Table 2. Regression coefficients predicting outrage over each issue by gratitude and personality traits (Study 1).

<table>
<thead>
<tr>
<th></th>
<th>Outrage – Sweatshops</th>
<th>Outrage – Trafficking</th>
<th>Outrage – Cruelty</th>
<th>Outrage – Leather</th>
<th>Outrage – Sandwich</th>
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<td>.20*</td>
<td>-.01</td>
<td>.16†</td>
<td>-.11</td>
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<td>O</td>
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<td>E</td>
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<td>-.0004</td>
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<tr>
<td>R²</td>
<td>.109</td>
<td>.159</td>
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<td>.03</td>
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</table>

Parameters represent standardized regression coefficients. † p < .10, * p < .05, ** p < .01, *** p < .00.
Table 3. Observed correlations between gratitude, empathy, moral foundations, and personality traits (Study 2).

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<td>2. Empathy</td>
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<td>3. Harm Avoidance</td>
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<td>4. Fairness</td>
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<td>5. Group Interests</td>
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<td>3.80 (1.72)</td>
<td>5.15 (1.13)</td>
<td>4.02 (1.41)</td>
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† p < .10, * p < .05, ** p < .01, *** p < .001.
Study 2

Our goal in Study 2 was to determine whether gratitude predicts greater outrage toward interpersonal harms as a function of differences in empathy and/or differences in moral value commitments. Following the same procedure in Study 1, we asked participants to complete trait measures of gratitude, the Big 5 traits, and outrage over the five target issues. However, we also added measures of trait empathy and moral foundations to determine whether differences in either empathy or moral commitments could explain the relationships between gratitude and outrage.

Method

Participants

A sample of 288 undergraduates from a medium-sized public university in Southeastern U.S. participated in exchange for course credit \((M_{\text{Age}} = 20.09, SD = 4.57; \text{247 Women, 39 Men, 1 Other}; 68\% \text{ White}). Our goal was to double the sample of the initial study \((N = 300)\) but fell short, as 12 participants failed to complete the survey. We nonetheless achieved a sample size with sufficient \((\beta = .80)\) power to detect small effects \((r = .16)\).

Materials and procedure

Gratitude

After providing demographic information, participants again completed the 6-item Gratitude Questionnaire (GQ-6). See Table 3 for reliabilities and descriptive statistics.

Empathy

As a brief trait empathy measure, we then asked participants to complete the empathic concern subscale of the Interpersonal Reactivity Index (Davis, 1980, 1983). We selected this subscale because of its association with responses to unfairness (e.g. Leliveld et al., 2012). The measures asked individuals to rate \((1 = \text{Strongly Disagree}; 7 = \text{Strongly Agree})\) how well seven statements described them (e.g. ‘I am often quite touched by things that I see happen’).

Moral foundations

Next, participants completed the 30-item Moral Foundations Questionnaire (Graham, Haidt, & Nosek, 2009). The measure assesses the extent to which individuals are committed to five specific moral values \((6 \text{ items each})\). Harm avoidance measures the extent to which individuals prioritize moral choices that avoid harming others (e.g. ‘Compassion for those who are suffering is the most crucial virtue’). Fairness assesses the extent to which individuals prioritize fairness and reciprocity in moral issues (e.g. ‘Justice is the most important requirement for a society’). The group foundation represents a perception that acts are moral if they benefit one’s ingroup (e.g. ‘It is more important to be a team player than to express oneself’). Authority measures the extent to which obedience is seen as a moral virtue (e.g. ‘Respect for authority is something all children need to learn’). Finally, the purity dimension measures commitment to moral norms about cleanliness and purity (e.g. ‘People should not do things that are disgusting, even if no one is harmed’).

The MFQ splits the 6 items for each foundation into two subscales (which are combined for analysis). First,

<table>
<thead>
<tr>
<th>Table 4. Bivariate correlations between personality variables and outrage (Study 2).</th>
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</thead>
<tbody>
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<td><strong>Gratitude</strong></td>
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<td><strong>Empathy</strong></td>
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<td><strong>Harm Avoid.</strong></td>
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<td><strong>Outrage – Sweatshops</strong></td>
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<td><strong>Outrage – Trafficking</strong></td>
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<td><strong>Outrage – Cruelty</strong></td>
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<td><strong>Outrage – Leather</strong></td>
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<td><strong>Outrage – Sandwich</strong></td>
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\(\alpha = 6.13, 6.15, 5.21 (1.64), 2.65 (1.72), 2.48 (1.70)\)
participants are asked to rate the extent (1 = Not at all relevant/6 = Extremely relevant) to which they prioritize three moral justifications per moral foundation.

The second half contains three statements per foundation (like the examples above) rated along a 6-points agreement scale (1 = Strongly Disagree/6 = Strongly Agree).
Agree). Following standard scoring procedure, the items for each foundation were averaged to compute a composite score. Each subscale showed adequate reliability in the current sample (Table 3).

**Personality traits and outrage measures**
Finally, participants completed the same Big Five measure (TIPI) and outrage measures that were used in Study 1 (sweatshop labor, human trafficking, animal cruelty, fake leather, and misrepresented sandwich length).

**Results**
Initial correlations between our variables of interest and the five outrage subscales are presented in Table 4. Replicating Study 1, individuals higher in trait gratitude reported significantly more outrage over harms toward other people (i.e. sweatshops, human trafficking), but not animal cruelty or the non-moral harms.

Individuals with greater empathic concern, as well as higher endorsement of the harm avoidance and fairness dimensions, showed increased outrage over sweatshops, human trafficking and animal cruelty. Although gratitude’s effects were specific to the human context, empathy and these global moral commitments predicted outrage across all three topics.

Results for the other moral foundations were also notable. Individuals who prioritized group interest as a moral virtue showed greater outrage specifically over mischaracterized consumer goods, but not any of the harm-based issues. Individuals committed to purity and authenticity as moral foundations were more outraged across essentially all topics (with the notable exception of authority and animal cruelty).

These patterns of bivariate correlations provide some evidence that trait gratitude, empathy, and the moral foundations are related, but largely distinct constructs. All of these predictor variables showed sensible correlations with outrage over target issues, but there were stark differences in associations (e.g. gratitude’s lack of relationship to concern over animal cruelty; purity’s association with greater outrage over all issues).

**Path analysis**
We next turned to the question of whether the associations between gratitude and context-specific moral outrage is due to increased empathy, specific moral commitments, or a combination of the two. To explore these possibilities, we conducted a series of path analyses (treating all variables as manifest) to consider which variables if any might explain the associations between gratitude and outrage.

First, we estimated a base model designed to replicate Study 1 in which each form of outrage was regressed onto gratitude and the Big Five personality traits simultaneously to account for global personality variation. This model (Figure 1) showed that after controlling for the Big Five, the associations between gratitude and outrage (sweatshops and trafficking) remained significant. Additionally, controlling for personality trait variation made the relationship between gratitude and outrage over animal cruelty marginal ($p = .08$). These results fully replicated the patterns that we observed in Study 1, lending confidence to those initial results.

Beyond gratitude, there was evidence in this base model that trait agreeableness accounted for additional variance in outrage over the three harm-based topics. Neuroticism and openness showed similar relationships, although they were fairly weak in the current data. Notably, neither gratitude nor the Big Five traits had any unique associations with outrage over faux leather or sandwich length.

**Empathy as mediator.** Because gratitude demonstrated a strong positive correlation with empathy, we moved forward with the first potential explanatory analysis of the relationships between gratitude and outrage over harm toward others. Specifically, we tested whether increased empathic concern might explain why high gratitude individuals were more outraged over sweatshop labor and human trafficking.

To do this, we estimated a second path model in which empathic concern was regressed onto gratitude (controlling for the Big Five traits) and each outrage scale was regressed onto empathic concern, gratitude (and the Big Five traits as covariates). This model is represented in Figure 2 and demonstrated a few notable relationships.

First, as predicted, gratitude uniquely predicted increased empathic concern, even after controlling for general personality variation. Interestingly, trait agreeableness and neuroticism also predicted greater empathic concern in this model, suggesting that there are unique contributions of traits as well.

Looking at the outrage outcomes, the addition of empathic concern largely explained away the relationships between gratitude and the Big Five on outrage. No associations between gratitude (or any Big Five trait) and the outrage outcomes remained significant after controlling for empathic concern (although three paths remained marginally significant; see Figure 2).

Although this study is cross-sectional and mediational analysis must therefore be interpreted with caution (Kline, 2015), we tested indirect effects of gratitude on outrage through empathic concern (using standard error
bootstrap in Lavaan; Roessel, 2012). These tests returned significant indirect effects on all three harm-based outrage measures: sweatshop (indirect effect = .08, SE = .03, z = 2.64, p = .008), human trafficking (indirect effect = .07, SE = .03, z = 2.76, p = .006), and animal cruelty (indirect effect = .07, SE = .04, z = 1.96, p = .05). This last indirect effect must be interpreted with even greater caution, however, as gratitude showed no direct association with outrage over animal cruelty.

**Moral foundations as mediators.** Next, we tested the possibility that gratitude’s effects on outrage might be due in part to the fact that higher gratitude individuals tend to reason about moral issues differently than lower gratitude individuals. Initial correlational analyses from this study (Table 3) paint a clear picture: Higher gratitude individuals showed significantly higher endorsement of four moral foundations (harm avoidance, group interest, authority, and purity) and marginally higher endorsement of fairness values.

To test whether these differences explain the relationships between gratitude and outrage, we created a parallel path model entering the five moral foundations as candidate mediators of the effects of gratitude on outrage (Figure 3). We note that once again, the Big Five were entered as covariates to control for general personality variation, but they are excluded from the figure for the sake of simplicity (data/syntax are available on OSF).

Even after controlling for the Big Five, there was clear evidence that gratitude predicted substantive differences in commitments to moral foundations. Specifically, higher gratitude individuals reported significantly stronger commitments to harm avoidance, group interest, authority, and purity foundations. It also worth noting that even after controlling for moral foundations and the Big Five, the association between gratitude and outrage over trafficking remained, suggesting that moral foundations do not explain this specific relationship.

Additionally, several foundations significantly predicted levels of outrage over and above the effects of gratitude and the Big Five. The most reliable predictor was the group foundation, although its associations were somewhat mixed. Specifically, individuals more committed to group interest as a moral foundation reported significantly lower outrage over sweatshop labor (ostensibly because it affects outgroups exclusively) and greater outrage over misleading marketing claims about faux leather and sandwich length. In contrast, the harm avoidance foundation predicted more outrage over trafficking and animal cruelty and fairness was associated with greater outrage over sweatshops and trafficking, but no other issue.
Tests of indirect effects through moral foundations yielded somewhat mixed and unexpected effects. First, despite the lack of direct association between gratitude and outrage over animal cruelty, there was some evidence for an indirect effect through increased commitment to harm avoidance (indirect effect = .14, SE = .05, z = 2.66, p = .008).

There was also evidence of three indirect effects of gratitude on outrage via commitment to group interest as a moral foundation. First, there was evidence that gratitude indirectly predicted greater outrage over leather (indirect effect = .07, SE = .04, z = 2.04, p = .04) and sandwich length (indirect effect = .11, SE = .05, z = 2.37, p = .02) through the group moral foundation. In contrast, there was evidence of a negative indirect effect whereby gratitude predicted decreased outrage over sweatshops by its strong positive association with the group foundation (indirect effect = −.06, SE = .03, z = 2.22, p = .03). While this may seem paradoxical, it suggests that the positive association between gratitude and outrage over sweatshops may be more multifaceted than it initially appears.

Given the lack of unique associations between gratitude and fairness (i.e. the lack of any a-path), there were no indirect effects through that foundation. Additionally, although gratitude predicted greater commitment to authority and purity foundations, they had no unique associations with outrage over any issue (i.e. they lacked any b-path).

**Full model.** To clarify which factors primarily account for the relationships between gratitude and outrage over interpersonal harms, we created a final model attempting to treat both empathic concern and moral foundations and proposed mediators (Figure 4 for simplified representation; data/syntax are available on OSF for those interested in complete results).

Even after controlling for the Big Five and moral foundations, there was still evidence of robust indirect effects of gratitude on outrage through increased empathic concern. These effects were specific to outrage over sweatshop labor (indirect effect = .06, SE = .03, z = 2.24, p = .03) and human trafficking (indirect effect = .05, SE = .02, z = 2.27, p = .023).

After controlling for empathy, only three indirect effects through moral foundations remained significant. There was still evidence that gratitude indirectly
predicted greater outrage over animal cruelty through commitment to harm avoidance (indirect effect = .14, $SE = .05$, $z = 2.54$, $p = .01$), even after additionally controlling for empathy. The indirect effect of gratitude on outrage over sandwich length through commitment to group interest also remained significant (indirect effect = .11, $SE = .05$, $z = 2.31$, $p = .02$) after adding empathy as a covariate. Finally, the negative indirect effect of gratitude predicting decreased outrage over sweatshop labor by ironically increasing the group foundation also remained significant (indirect effect = $-.06$, $SE = .03$, $z = 2.29$, $p = .02$). No other indirect effects were significant in this full model.

**Discussion**

The results of Study 2 replicated and extended our initial findings. First, we once again observed that individuals higher in trait gratitude expressed greater outrage selectively toward sweatshop labor and human trafficking, two cases in which harms are perpetrated against (human) others. No such direct association was noted for animal cruelty or our fairness-based topics.

This led us to probe what individual differences might account for the relationships between gratitude and moral outrage. Specifically, we considered whether high gratitude individuals might show these reactions due to greater dispositional empathy or because of characteristic differences in moral reasoning. Supporting both ideas, we found that high gratitude individuals did in fact report higher empathic concern and greater commitment to essentially all moral foundations in this sample.

Results of our series of path model indicated that generally speaking empathy provides a clear theoretical and empirical explanation for the associations between gratitude and outrage. The associations between gratitude and outrage over interpersonal harms were fully explained by the increased empathic concern characteristic of high gratitude individuals.

Although moral foundations varied as a function of trait gratitude, they provided relatively weak and/or mixed value in explaining the associations between gratitude and outrage. First, it is worth noting that of the three indirect effects through moral foundations that remained in the full model, two of them were on forms of outrage for which gratitude showed no direct association (animal cruelty, sandwich length). While these indirect paths can be very cautiously interpreted, they provide very weak evidence.

The only indirect effect through moral foundations for which there was a pre-existing direct effect was the negative indirect effect through group interest. In short, higher gratitude individuals tended to prioritize group interests in moral reasoning and this prioritization predicted diminished concern about sweatshop labor. Thus, although gratitude had a positive direct effect, this association perhaps masks more subtle countervailing processes.

**General discussion**

The current data provide stronger support for the view that gratitude is an important moral emotion (McCullough et al., 2001). In addition to motivating moral behavior toward others, these data show that gratitude can elicit moral feelings toward others as well. Individuals higher in trait gratitude expressed more outrage toward harms committed against humans and were higher in empathy and more committed to most moral foundations.

The lack of effects found for harm committed against animals suggests an important boundary condition. Perhaps individuals high in trait gratitude (an interpersonal emotion) only feel increased obligations to human others and not to nonhuman others. This finding further supports the idea that gratitude is a uniquely prosocial emotion and helps further interpersonal relationships.

The lack of effects found for non-harm issues (e.g. sandwich length) show that gratitude does not simply elicit outrage at any topic. Instead, gratitude seems to selectively predict outrage over more serious injustices that violate moral norms of harm avoidance, but not norms of less serious moral wrongdoing such as unfairness, manipulation, and lying.

**Limitations and future directions**

These studies had a few limitations. First, all of our data were collected using self-report measures. As such, individuals might have over- or under-reported feelings of gratitude and/or moral outrage. Although previous studies have successfully used similar measures looking at outrage for harm done to sweatshop workers (Pagano & Huo, 2007; Rothschild et al., 2013), it is nevertheless possible that behavioral measures or physiological assessments of outrage (e.g. heart rate; Johnston et al., 2013) may have yielded more accurate data.

Additionally, as our sample consisted exclusively of undergraduate students, the generalizability of our results must be taken into consideration. While undergraduates higher in gratitude expressed more outrage toward harms committed against human others, the same might not be true for other populations. For example, individuals who tend to draw fewer boundaries between humans and animals may have been more prosocially motivated in that context (Amiot & Bastian, 2015). To the extent that gratitude motivates prosociality, it may lead individuals with less dehumanizing perceptions of animals.
to extend the same concern that we saw in the contexts of sweatshop labor and human trafficking.

Lastly, both studies rely on correlational design, therefore we cannot infer causation. Future research could profitably employ gratitude inductions (e.g., Bartlett & DeSteno, 2006) to test the causal impact of gratitude on moral concern. Additionally, longitudinal investigations could allow a clearer insight into how gratitude might contribute to more lasting forms of moral concern than momentary outrage.

Conclusion
Gratitude generally is associated with prosocial behavior: The feeling of obligation to reciprocate toward others motivates helping behavior. Beyond motivating direct prosocial behavior, our research shows that gratitude might also motivate moral concern and a desire to punish specific forms of wrongdoing.

Individuals high in trait gratitude are not ensigned by just any perceived slight. Instead, they reserve their concern for issues that provide them the opportunity to ‘pay it forward’ and help those who are in need because they are victims of some clear harm.

Our data also go further by suggesting why this association may be occurring. As evidenced by our second study, high gratitude individuals experience greater outrage over harms against people primarily because more grateful individuals are also more empathic. There was some novel evidence that high gratitude individuals also had stronger commitments to almost all moral values, indicating that the prosociality associated with gratitude may in part become a virtuous habit.

In sum, these data further demonstrate the personal and social benefits of gratitude. Efforts to increase gratitude not only increase peoples’ willingness to directly aid those in need, but might also lead to the kinds of moral concerns that can spark valuable social change.

Disclosure statement
No potential conflict of interest was reported by the authors.

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