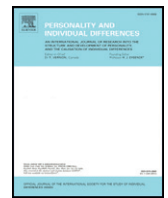




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Trait contempt, anger, disgust, and moral foundation values☆



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ABSTRACT

Moral emotion researchers have suggested that violations of different moral values may differentially elicit state contempt, anger, and disgust. However, research investigating trait emotions and their associations with moral values has largely focused on trait disgust; in this context, few studies have examined trait anger, and none have examined trait contempt. Across two studies, we examined trait contempt, anger, and disgust and their associations with six moral values: harm/care, fairness, loyalty, authority, purity, and reciprocity/equity. Participants completed trait contempt, anger, and disgust instruments and a measure of moral values. Multiple regressions were used to examine the unique associations between trait emotions and endorsement of each moral value. Across the two studies, trait contempt was negatively associated with multiple moral values (consistently with harm/care and loyalty), whereas trait disgust was positively associated with multiple moral values (consistently with harm/care and reciprocity/equity). Trait anger was weakly associated with harm/care and fairness values in Study 2, but not Study 1. Our results highlight an important new link between a contemptuous personality and diminished moral values, and suggest that trait disgust is strongly associated with moral values outside the purity domain.

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1. Trait contempt, anger, disgust, and moral foundation values

Emotion and morality are strongly linked. Although most research in the 20th century proposed that deliberative reasoning directly causes moral judgments, later work demonstrated that moral judgments are often strongly influenced by affective processes (e.g., for review see Haidt, 2003). The other-condemning emotions of contempt, anger, and disgust have been found to be especially related to negative moral judgments (Haidt, 2003; Hutcherson & Gross, 2011). Some researchers have proposed that contempt, anger, and/or disgust may be “domain-specific,” such that they are differentially elicited by violations of specific moral domains (Horberg, Oveis, Keltner, & Cohen, 2009; Rozin, Lowery, Imada, & Haidt, 1999; Russell, Piazza, & Giner-Sorolla, 2013).

The “CAD Hypothesis,” a landmark study by Rozin et al. (1999), found that violations of three different moral domains (community, autonomy, and divinity; Shweder, Much, Mahapatra, & Park, 1997) tended to differentially elicit contempt, anger, and disgust in their participants. They found that violations of *community* values (in-group loyalty and respect for authority) predominately elicited *contempt*; violations of *autonomy* values (issues of harm/care and fairness/reciprocity) predominately elicited *anger*; and violations of *divinity* values (purity of body and spirit) predominately elicited *disgust*. Although subsequent

research has criticized the CAD study on methodological grounds and found somewhat differing patterns of results (e.g., Hutcherson & Gross, 2011; Russell et al., 2013), other research has replicated both the disgust-divinity and anger-autonomy associations (Horberg et al., 2009; Russell et al., 2013).

1.1. Trait emotions and moral judgments

Trait emotions (i.e., a propensity towards experiencing a given emotion frequently and intensely; Spielberger, 1996) and their corresponding state emotions (i.e., a temporarily induced emotional state) may affect judgments in similar ways (Malatesta, 1990). The relation between divinity/purity violations and the elicitation of state disgust inspired research into the relation between *trait* disgust and the endorsement of divinity/purity values. This association proved robust. Trait disgust predicts praise of purity virtues (e.g., maintaining health, abstaining from smoking or drinking) and condemnations of purity violations, such as drug abuse and sexual promiscuity (Horberg et al., 2009), homosexuality (e.g., Terrizzi, Shook, & Ventis, 2010), and suicide “to the extent that it is considered impure” (Rottman, Kelemen, & Young, 2014, p. 217). However, the potential relations between trait disgust and moral domains outside of purity/divinity have not been fully explored.

Conversely, little research has examined how other trait emotions might influence individual differences in moral values. Contempt and anger—alongside disgust—have been described as “moral” emotions that belong to the same hostile or “other-critical” family (Haidt, 2003).

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Although CAD-related studies have examined whether *state* contempt and anger are uniquely elicited by violations of different moral domains (e.g. Russell et al., 2013), few studies have investigated *trait* anger's relation to different moral domains, and no studies at all have explored trait contempt's relation to moral values. Across two studies, we address these gaps in the literature by examining how trait contempt, anger, and disgust relate to the broader array of moral domains described in Moral Foundations Theory (Haidt & Joseph, 2007).

1.2. Moral foundations theory

Most CAD-related research on the links between moral domains and *state* emotions has used the framework of Shweder et al.'s (1997) three ethics: autonomy, community, and divinity. However, most research on *trait* disgust's relation to moral values has pertained to the “purity” domain from Moral Foundations Theory (MFT), which is conceptually similar to the divinity ethic (Haidt & Joseph, 2007). MFT is essentially a five-factor version of Shweder's three ethics that explains additional variance in moral values (Graham et al., 2011). Thus, we chose the more contemporary MFT framework to explore trait contempt, anger, and disgust's influence on the valuation of multiple moral domains. MFT proposes there are five major moral domains: purity/sanctity, harm/care, fairness/reciprocity, loyalty/subversion, and authority/respect (Haidt & Joseph, 2007).

1.2.1. Purity

The purity foundation corresponds to the “divinity” ethic. Purity virtues include wholesomeness, cleanliness, spiritual and bodily purity, and self-control over “base” desires. Purity violations include drug use, profaning the sacred, and sexual taboos/promiscuity (Haidt & Joseph, 2007; Horberg et al., 2009).

1.2.2. Harm/care

Harm/care corresponds to the “autonomy” ethic. Harm/care virtues include empathy and compassion. Harm/care violations include inflicting physical or emotional suffering on others (Graham, Haidt, & Nosek, 2009; Graham et al., 2011; Haidt, Graham, & Joseph, 2009; Haidt & Joseph, 2007).

1.2.3. Fairness/reciprocity

The fairness/reciprocity foundation also corresponds with the “autonomy” ethic, and involves two different conceptions of justice: social equality (i.e. fairness) and proportionality (i.e. reciprocity/equity; Haidt, 2012). Fairness values pertain to equal treatment, such as social justice and human rights (e.g., Haidt et al., 2009). Reciprocity/equity values involve persons receiving rewards and punishments in proportion to their deeds. Reciprocity/equity violations include cheating and free-riding (Haidt, 2012).

Although fairness and reciprocity have typically been considered a single moral domain by MFT researchers (e.g. Haidt & Joseph, 2007), there are ideological differences in these conceptions of moral justice. Liberals tend to define justice more in terms of social equality/egalitarianism, whereas conservatives tend to define justice more in terms of reciprocity/equity (e.g., Reyna, Henry, Korfmacher, & Tucker, 2006; Skitka & Tetlock, 1993). Since MFT instruments predominately assess the fairness foundation in terms of social equality/egalitarianism, we examined reciprocity/equity as a separate “foundation” in our studies, to examine whether any trait emotion related uniquely to one conception of moral justice, but not the other.

1.2.4. Loyalty/subversion

The loyalty/subversion foundation corresponds to the “community” ethic. Loyalty/subversion virtues include loyalty and service to in-groups (e.g., family, community, or country) and patriotism/nationalism. Loyalty/subversion violations include betrayal and undermining

group solidarity or social harmony (Haidt & Joseph, 2007; Haidt et al., 2009).

1.2.5. Authority/respect

The authority/respect foundation also corresponds with the “community” ethic. Authority virtues include obedience, respect, fulfilling the obligations of one's social roles, and protecting subordinates (Haidt et al., 2009). Authority violations include disrespecting social conventions, tradition, the law, and/or culturally esteemed persons (Haidt et al., 2009).

1.3. Trait anger, trait disgust, and moral foundation values

There are several gaps in the literature regarding trait anger and disgust's relation to moral foundation values. While multiple studies have examined trait disgust's relation to purity values, few have incorporated trait anger and/or examined moral domains outside of purity in this context, with several exceptions. Horberg et al. (2009) examined both trait disgust and trait anger as predictors of moral judgments and values pertaining to purity, justice (i.e. fairness), and harm/care virtues. They found that trait disgust predicted moral judgments of purity, but not justice or harm/care, and that trait anger did not predict purity, harm, or justice values. Rottman et al. (2014) found that trait disgust predicted purity values, but not harm/care values, and that trait anger did not predict harm/care or purity values. Neither study examined trait disgust or anger's associations with loyalty or authority values.

Chapman and Anderson (2014) examined trait anger and disgust as predictors of judgment towards domain theory's “moral” (school-children causing harm) and “conventional” violations (school-children ignoring rules and dress codes); they found trait disgust, but not trait anger, predicted stronger judgments of both moral and convention violations, whereas trait anger predicted neither. Their study's convention violations had some conceptual similarity to authority (but not loyalty) violations. However, because these violations narrowly pertained to children violating school rules and dress codes, the degree to which these violations correspond with MFT's authority foundation is unclear.

The abovementioned studies indicate that trait anger might not associate with harm/care and fairness values in the same fashion as harm/care and fairness violations elicit state anger. This may be because elicited state emotions can be morally functional, whereas their corresponding trait emotions can be morally dysfunctional. Elicited *state* anger can motivate action to redress moral injustice, and its expression can prompt a moral transgressor to change their behavior (Haidt, 2003). In contrast, *trait* anger can lead to potentially morally dysfunctional cognition and judgment, such as hostile attributional biases, irrational thinking, and distorted appraisals of events (Tafra, Kassino, & Dundin, 2002). This might lead anger-prone people to be highly other-condemning, but it is less clear how this would lead to the endorsement of moral values *per se*. This might apply to trait contempt as well.

1.4. Trait contempt

The American Heritage Dictionary defines contempt as “the feeling with which a person regards anything considered mean, vile, or worthless; disdain; scorn” (Contempt, 2013). It seems reasonable that contemptuousness could influence moral values, given its other-condemning nature. However, no published studies have examined trait contempt's association with moral values, and indeed trait contempt has received little research attention relative to trait anger and disgust. Literature searches yielded three papers that defined and measured trait contempt. Izard, Libero, Putnam, and Haynes (1993) operationalized trait contempt as frequently feeling superior over others and making negative judgments about others' worth/value. Crowley (2013) created a trait contempt *expression* instrument that assessed a personality tendency towards coldness and a behavioral tendency to

openly express verbal negativity and unwelcoming body language towards disliked others. Steiger (2015) defined and assessed trait contempt via six dimensions: affective coldness (easily disliking others), behavioral coldness (quickness to ostracize and low interpersonal warmth), psychological distancing (easy loss of respect and concern for others and low forgiveness), tendencies to make quick negative dispositional attributions of others, increased awareness of social standards (e.g., of intelligence and competency) being violated and feeling superior over such violators, and derogatory action tendencies (criticizing others behind their backs). However, whether or not those high in trait contempt prioritize certain moral values over others, as suggested with state contempt in the CAD hypothesis, has yet to be determined.

1.5. Possible patterns of results

There are several possible patterns of results regarding trait contempt, anger, and disgust's associations with the different moral foundations.

1.5.1. Pattern 1: CAD hypothesis replication

Given that state and trait emotions influence judgment in a similar fashion (Malatesta, 1990), it could be that trait and state emotions will have similar associations with each moral domain. The original CAD study proposed that community violations elicit contempt, autonomy violations elicit anger, and divinity violations elicit disgust (Rozin et al., 1999). Thus, several positive associations could emerge: trait contempt with loyalty and authority (community) values, trait anger with harm/care, fairness, and reciprocity (autonomy) values, and trait disgust with purity (divinity) values.

The most stringent evidence for Pattern 1 would be if each trait emotion is the sole significant and positive predictor of its corresponding moral value(s). Partial evidence for Pattern 1 would be if this occurs only for some trait emotions (e.g., for trait disgust, but not contempt or anger), for some moral values (e.g., contempt exclusively predicts loyalty, but not authority), or if a trait emotion significantly and positively associates solely –but not exclusively–with its corresponding CAD values (e.g., if trait contempt significantly and positively predicts only loyalty and authority values, but trait disgust also predicts these values).

1.5.2. Pattern 2: trait emotions as a moralizing influence

One or more trait emotions could potentially function as a “moralizing” agent that increases the valuation of most or all moral foundations, including in ways that are not domain-exclusive. Since contempt is elicited by failures of character (Fischer & Giner-Sorolla, 2016), and social standard violations (Steiger, 2015), contemptuous people might be particularly sensitive to the moral failings of others. As such, contemptuousness could predict increased moralization of multiple moral domains. Alternatively, trait disgust could predict greater moralization of most or all moral values (similar to Chapman & Anderson, 2014), without necessarily excluding trait contempt or anger from separately predicting those values. Evidence for Pattern 2 would be if one or more trait emotions significantly predict multiple moral foundations in ways that are neither restricted to the CAD pattern nor restricted to a single trait emotion.

1.5.3. Pattern 3: domain specificity that does not correspond with CAD

With the possible exception of trait disgust and purity values, perhaps trait emotions will not associate with moral values in the same way as their corresponding state emotions do with moral violations. For example, although disrespecting authorities might elicit state contempt, perhaps contemptuous persons could be prone to viewing authorities as incompetent and failing to live up to their standards, thus leading to a low moralization of authority values. Alternatively, Pattern 3 could emerge if moral values—which include the promotion of moral virtues—are associated with emotions differently than are moral

violations. For instance, although it would be intuitive that anger-prone people would respond with greater outrage towards harmful behaviors (a moral violation), it is unclear why trait anger would lead to greater endorsement of care/compassion (a corresponding moral value). Evidence for Pattern 3 would be domain specificity, where a given trait emotion is the exclusive predictor of a particular foundation that does not match with the CAD hypothesis (e.g., if trait contempt, rather than anger, exclusively predicts fairness values).

1.6. Political ideology

Prior research indicates that ideology is a strong predictor of moral foundation values; harm and fairness values associate with liberalism, whereas loyalty, authority, and purity values associate with conservatism (e.g., Haidt et al., 2009; Graham et al., 2011). There have also been robust findings that conservatism positively associates with trait disgust (e.g. Inbar, Pizarro, & Bloom, 2009), and with reciprocity/equity-based conceptions of justice (e.g., Reyna et al., 2006; Skitka & Tetlock, 1993). Since ideology interrelates with both trait emotions and moral values, we will control for ideology in our studies.

2. Study 1

Study 1 was designed to address several gaps in the moral emotion literature. Until now, no studies had yet examined trait anger and disgust as predictors of *all five* moral foundations; no studies had yet examined trait contempt's relation to moral values in any capacity; and no studies had yet examined whether reciprocity/equity and (egalitarian) fairness values differed in their associations with trait emotions. In Study 1, participants completed three trait contempt instruments and one trait anger and disgust instrument, as well as the Moral Foundations Questionnaire (Graham et al., 2011), with additional items created to assess reciprocity values. The trait emotion instruments assess chronic dispositional tendencies towards frequently experiencing contempt, anger, and disgust in a non-moral context. Previous research has measured moralized versions of state emotions following moral violations, which could confound emotions with moral content. Using non-moralized measures of trait contempt, anger, and disgust helped avoid overlapping variance with our moral values measures.

3. Study 1 methods

3.1. Participants

We recruited 423 American participants from Amazon's M-Turk to take an online survey for \$0.50.¹ They were 67.4% female and 30.7% male; 77.1% white/Caucasian, 6.7% black/African-American, 5.3% Latino, 6.7% Asian, and 4.3% biracial/other, and $M_{age} = 36.18$ ($SD = 13.83$).

3.2. Procedure

Participants completed five trait emotion instruments: Izard et al.'s (1993) trait anger, contempt, and disgust scales, Crowley's (2013) trait contempt expression instrument, and Steiger's (2015) trait contempt instrument. Izard's three scales were administered within a single block, as was Crowley's trait contempt scale. Steiger's trait contempt instrument was administered in seven, randomly ordered blocks. The trait emotion scales were also randomly ordered. Participants completed the Moral Foundations Questionnaire (MFQ; Graham et al., 2011), which contained two sections, randomly ordered: moral relevance and moral judgments. To provide counterbalancing, half the participants completed the MFQ first, while the other half completed

¹ Original $N = 614$ participants; 155 were removed for failing one or more attention-check items and 36 participants were removed for completing the survey in <7 min; this cutoff was determined via pilot testing.

the trait emotion scales first. The ordering of all items within each survey block was randomized. Finally, participants entered demographic information and were debriefed.

3.3. Materials

3.3.1. Moral Foundations Questionnaire

The Moral Foundations Questionnaire (MFQ; [Graham et al., 2011](#)) has two sections, each containing three items assessing each foundation, along with one attention-check item. The first section assesses the moral relevance of each foundation. Participants rated how relevant different concepts were in deciding whether something is right or wrong (1 = not at all relevant, 7 = extremely relevant). For example, a fairness item reads “whether or not some people were treated differently than others.” The second section of the MFQ assesses agreement/disagreement with specific moral statements (1 = strongly disagree, 7 = strongly agree). For example, a harm/care item reads, “one of the worst things a person could do is hurt a defenseless animal.” We computed scales for harm/care ($\alpha = 0.62$), fairness ($\alpha = 0.59$), loyalty ($\alpha = 0.71$), authority ($\alpha = 0.73$), and purity ($\alpha = 0.86$). The relatively low reliabilities for harm and fairness have been documented in previous studies (e.g. [Graham et al., 2011](#)). However, given that the MFQ has been used “as is” for related studies (e.g. [Rottman et al., 2014](#)), we determined it would not be appropriate to remove any items.

3.3.1.1. Reciprocity/equity values. Because the MFQ only assesses egalitarian fairness values, we added six new items to the MFQ which assessed reciprocity/equity values. Our new items used prompts from the MFQ (in quotes; [Graham et al., 2011](#)). The three new moral relevance items read; “whether or not someone”: *cheated, paid their fair share, and gives more than they take*. The three new moral judgment items read: “One of the worst things a person could do is” *ask others for help but never return the favor*, “When the government makes laws, the number one principle should be” *that people get rewards equal to the contribution they make*, and “I think it’s morally wrong when” *a person does little while profiting off of someone else’s hard work*. These items were then scaled ($\alpha = 0.71$).

3.3.2. Trait anger

[Izard et al.’s \(1993\)](#) trait anger scale ($\alpha = 0.84$) assesses anger-proneness. Participants rated (1 = very rarely, 7 = very frequently) how frequently they: “feel like screaming at somebody or banging on something,” “feel angry, irritated, annoyed,” and “feel mad at somebody.”

3.3.3. Trait disgust

[Izard et al.’s \(1993\)](#) trait disgust scale ($\alpha = 0.76$) assesses disgust-proneness. Participants rated (1 = very rarely, 7 = very frequently) how frequently they: “feel like something stinks, puts a bad taste in your mouth,” and “feel disgusted, like something is sickening.”

3.3.4. Omnibus trait contempt variable

Study 1 included three trait contempt instruments, but only one trait anger and one disgust instrument. We determined that combining Izard’s trait contempt scale with Steiger’s and Crowley’s subscales into an omnibus trait contempt variable was the most appropriate choice given our analytical strategy (multiple regressions). Including each trait contempt scale as separate predictor variable would risk diluting the unique variance of the overall trait contempt construct due to their shared variance.

The omnibus trait contempt variable was computed via the mean of Izard’s trait contempt, Crowley’s coldness subscale, and Steiger’s subscales for affective coldness, psychological distancing, negative dispositional attributions, and superiority/social standard violation awareness ($\alpha = 0.84$). We computed the mean of each subscale, rather than the weighted mean of all individual items within the subscales, for two

reasons. First, because the different trait contempt subscales had an unequal number of items, using subscale means provided more equal weight to the different dimensions of trait contempt. Second, the large number of items across all the trait contempt scales (32) rendered reliability statistics meaningless, since almost any 32-item scale would have high reliability.

3.3.4.1. Steiger’s trait contempt instrument. Study 1 included a subset of items from [Steiger’s \(2015\)](#) trait contempt instrument; see the Supplementary Appendix for its content. The present study included items from the following subscales: affective coldness, negative dispositional attributions, psychological distancing, and superiority/social standard violation awareness. We did not include the behavioral coldness or derogatory action tendencies subscales because we were only interested in the affective and cognitive components of trait contempt. Action tendencies, especially those that violate social convention such as treating others rudely, could be driven by factors beyond the trait emotion (such as agency, self-efficacy, etc.), thereby potentially conflating trait emotions with other personality variables.

3.3.4.1.1. Superiority and social standard violation awareness subscale. The superiority and social standard violation awareness subscale assesses how frequently (1 = almost never, 7 = almost always) participants make superiority/inferiority judgments towards strangers and acquaintances in their day-to-day lives, based on contempt’s common elicitors (social standard violations). It used the prompt: “Compared to you, how often do you see strangers and acquaintances acting or being”: *stupid, incompetent, careless, irresponsible, inconsiderate, and inappropriate* ($\alpha = 0.87$).

3.3.4.1.2. Psychological distancing. Steiger’s psychological distancing subscale assesses how frequently (1 = almost never, 7 = almost always) participants feel a loss of warmth, respect, or empathy towards others. For example: “It is easy for me to lose respect for a person,” and “I expect most people to disappoint me,” ($\alpha = 0.87$).

3.3.4.1.3. Affective coldness. Steiger’s affective coldness subscale assesses how strongly participants agree (1 = strongly disagree, 7 = strongly agree) with statements describing cold feelings of dislike towards others. For example, “It doesn’t take much for me to dislike someone” and “It would be hard for me to come up with a list of people that I loathe” (reverse-coded), ($\alpha = 0.72$).

3.3.4.1.4. Negative dispositional attributions subscale. The negative dispositional attribution subscale asked participants how often (1 = almost never, 7 = almost always) they make quick, negative character judgments about others during their day-to-day lives. For example: “I judge others negatively,” and “I make efforts to give people the benefit of the doubt” (reverse-coded), ($\alpha = 0.81$).

3.3.4.2. Crowley’s trait contempt scale. Crowley’s trait contempt scale assesses dispositional coldness and behavioral tendencies towards openly expressing contempt towards others using agreement scales (1 = strongly disagree, 7 = strongly agree). Three items assess interpersonal coldness, such as “I consider myself to be a very cold person,” ($\alpha = 0.79$). Six items assess the open expression of verbal dislike and unwelcoming body language (e.g. scowling) towards others. However, because behavioral tendencies could be conflated with other personality traits, we only included Crowley’s coldness subscale in the present study.

3.3.4.3. Izard’s trait contempt. [Izard et al.’s \(1993\)](#) trait contempt scale assesses the tendency to experience contempt frequently. Participants rated (1 = very rarely, 7 = very frequently) how frequently they: “feel like somebody is a ‘good for nothing,’” “feel like you are better than somebody,” and “feel like somebody is a low-life, not worth the time of day,” ($\alpha = 0.74$).

3.3.5. Demographics

The demographic section assessed income, race/ethnicity, education level, gender, age, and political ideology. The present study controlled for ideology using a general political ideology item: “How would you characterize your political views overall, or in general?” (1 = very liberal, 4 = moderate/centrist, 7 = very conservative).²

4. Study 1 results and discussion

4.1. Descriptive statistics

See Table 1 for correlations between each moral foundation, political ideology, omnibus trait contempt, and Izard's trait anger and disgust scales. See Supplementary Table 1 for descriptive statistics and Supplementary Table 2 for correlations that include each individual trait contempt instrument and subscale as separate variables.

4.2. Regressions

The trait emotion variables moderately intercorrelated. In order to determine the degree to which trait contempt, anger, and disgust each *uniquely* accounted for variance in moral values, we used multiple regressions to control for the common variance between these three trait emotions. We also controlled for political ideology to ensure that trait disgust was not acting as a proxy for political conservatism, since ideology interrelates with both moral foundation values and trait disgust (e.g. Haidt et al., 2009; Terrizzi et al., 2010). To assess the degree to which trait emotions predict moral values with and without controlling for ideology, we used a series of hierarchical multiple regression models, in which one moral value (harm, fairness, reciprocity, loyalty, authority, or purity) was used as the criterion variable. Model 1 included omnibus trait contempt, Izard's trait anger, and Izard's trait disgust as predictor variables. Model 2 added political ideology as a predictor variable. See Table 2 for these regression results. See Supplementary Table 3a–e for alternative regression models that replaced omnibus trait contempt with individual trait contempt instruments as predictor variables.

4.2.1. Trait contempt

Trait contempt *negatively* predicted harm/care and loyalty values (significantly) and fairness values (significantly in Model 1, marginally in Model 2), suggesting that contemptuous persons may have decreased moral concerns about others. These negative relations were intriguing given that prior research had only found positive associations between trait emotions and moral values. Trait contempt was not significantly associated with reciprocity, authority, or purity values.

Trait contempt's unique association with loyalty was theoretically intriguing, given it partially corresponded with CAD's contempt-community domain specificity, but in the opposite direction (negative). Trait contempt's negative association with harm/care values may be particularly theoretically important, given this finding's novelty and the near universality of harm/care values (e.g. Graham et al., 2011). This is explored further in Study 2 and the general discussion. Trait contempt's associations with harm/care and loyalty might be especially likely to replicate, given their relatively strong effect sizes.

4.2.2. Trait anger

In Model 1, Izard's trait anger negatively and significantly associated with authority values, but did not significantly associate with any moral values after controlling for ideology. These results are in keeping with prior findings that trait anger was not associated with the harm/care, fairness, or purity foundations (Horberg et al., 2009; Rottman et al., 2014). However, these results could be indicative of measurement limitations of Izard's trait anger scale. This issue is explored in Study 2.

4.2.3. Trait disgust

Izard's trait disgust was significantly and positively associated with harm/care and, uniquely, with reciprocity values. Izard's trait disgust was not significantly associated with fairness, loyalty, authority, or (surprisingly) purity values. The most plausible explanation for not replicating the robust association between purity and trait disgust (e.g., Horberg et al., 2009) is that Izard's scale simply did not tap into the trait disgust construct well. This is explored further in Study 2.

4.3. Reciprocity versus fairness

By assessing reciprocity separately from the fairness foundation, we found that these two conceptions of moral justice associated differently with trait emotions. Whereas the MFQ's fairness foundation negatively associated with trait contempt (albeit marginally in model 2), reciprocity was positively associated with trait disgust, suggesting that sensitivity to disgust increases concern about proportionality and free-riding behaviors independent of ideology. This association between trait disgust and reciprocity/equity values appears to be a novel finding. In the broader sense, given that no CAD-related studies have examined reciprocity violations in isolation from the fairness foundation, these findings open up intriguing questions about both trait and state emotions and their associations with differing conceptions of moral justice.

4.4. Political ideology

Replicating past findings (e.g., Haidt et al., 2009), harm and fairness significantly associated with liberalism, whereas loyalty, authority, reciprocity, and purity significantly associated with conservatism. Adding ideology to the models did not change the pattern of results.

4.5. Study 1 summary

Trait contempt's *negative* association with loyalty and (potentially) fairness, along with trait disgust's association with reciprocity, corresponded with Pattern 3, since each had moral domain exclusivity specificity that did not correspond with the CAD pattern. Trait anger's lack of association with moral values also did not correspond with CAD, but was in keeping with null findings from prior research. Results for trait contempt and disgust partially corresponded with Pattern 2 as well, since both non-exclusively predicted harm/care values (albeit in opposite directions). We investigate whether these patterns replicate in Study 2.

5. Study 2

Study 1's finding that trait disgust was *not* significantly associated with purity values was at odds with well-replicated findings in the moral emotion literature. This was likely due to limitations of Izard et al.'s (1993) trait disgust scale. Although Study 1's omnibus trait contempt variable was multidimensional, Izard's trait disgust instrument consisted only of two items, which depended on retrospectively reporting the frequency of experiencing disgust in a way that was possibly too abstract and decontextualized to adequately tap into the construct. Null findings for Izard's trait anger could potentially be attributed to the similar limitations. To account for this possibility, multidimensional trait anger and disgust instruments were incorporated into Study 2, in addition to the trait emotion instruments administered in Study 1. The new instruments measure trait anger and disgust in a more contextual fashion by the assessing the intensity of participants' emotional responses towards a wide variety of non-moralized, emotion-eliciting contexts.

² The survey also assessed social and economic ideology. The pattern of results did not change when replacing general ideology with social, economic, or mean ideology.

Table 1
Study 1 correlations.

	1	2	3	4	5	6	7	8	9	10
(1) Harm	1									
(2) Fairness	0.54***	1								
(3) Reciprocity	0.34***	0.39***	1							
(4) Loyalty	0.13*	0.10	0.34***	1						
(5) Authority	0.07	0.08	0.34***	0.67***	1					
(6) Purity	0.11*	0.05	0.30***	0.59***	0.74***	1				
(7) Omnibus trait contempt	−0.22***	−0.10 ⁺	0.10 ⁺	−0.11 ⁺	0.01	−0.01	1			
(8) Izard trait anger	−0.06	−0.01	0.07	−0.03	−0.08	−0.03	0.56***	1		
(9) Izard trait disgust	0.06	0.03	0.16**	0.02	0.06	0.03	0.49***	0.56***	1	
(10) Political ideology	−0.12*	−0.22***	0.14**	0.45***	0.51***	0.57***	0.07	−0.07	0.07	1

Notes: listwise $N = 326$.*** $p \leq 0.001$.** $p \leq 0.01$.* $p \leq 0.05$.+ $p \leq 0.10$.

6. Study 2 methods

6.1. Participants

We recruited 370 American Amazon M-Turkers to complete an on-line survey for \$0.50. The Study 2 survey automatically ejected participants who failed one of two attention-check items near the beginning of the survey, and did not record their data; 27 additional participants were dropped for failing a third attention check near the end of the survey (final $N = 343$). Participants were 57.4% female and 42.6% male, 80.8% white/Caucasian, 7.6% black/African-American, 7.0% Latino, 2.9% Hispanic, and 1.7% biracial/other, $M_{age} = 39.14$ ($SD = 14.14$).

6.2. Procedure

After consenting, participants completed the Moral Foundations Questionnaire (MFQ; [Graham et al., 2011](#)), [Izard et al.'s \(1993\)](#) trait contempt, anger, and disgust instruments, [Crowley's \(2013\)](#) trait contempt expression instrument, [Steiger's \(2015\)](#) trait contempt instrument, the Disgust Scale – Revised (DS-R; [Haidt, McCauley, & Rozin, 1994](#); modified by [Olatunji, Haidt, McKay, & David, 2008](#)), and the Trait Anger Expression Inventory ([Spielberger, 1996](#)). Participants completed either the MFQ or the trait emotion instruments first. The two sections of the MFQ (moral relevance vs. judgment) were randomly ordered. The trait emotion instruments were randomly ordered, with separate sections for each instrument. Steiger's trait contempt subscales were

assigned in a random order. The DS-R had two sections which were also randomized. The ordering of all items within each section was randomized. After completing both the MFQ and trait emotion instruments, participants entered demographic information and were debriefed.

6.3. Materials

6.3.1. Moral foundations questionnaire

The MFQ items and computed scales were identical between Studies 1 and 2: harm ($\alpha = 0.67$), fairness ($\alpha = 0.68$), loyalty ($\alpha = 0.77$), authority ($\alpha = 0.76$), purity ($\alpha = 0.90$), and reciprocity ($\alpha = 0.69$).

6.3.2. Trait contempt

The trait contempt items and computed scales and subscales were identical between Studies 1 and 2: Omnibus trait contempt ($\alpha = 0.87$) was computed via the mean of Izard's trait contempt scale ($\alpha = 0.81$), Crowley's coldness subscale ($\alpha = 0.80$), and Steiger's subscales for affective coldness ($\alpha = 0.83$), psychological distancing ($\alpha = 0.84$), negative dispositional attributions ($\alpha = 0.88$), and superiority/social standards ($\alpha = 0.94$).

6.3.3. Trait anger

Participants completed Izard's trait anger ($\alpha = 0.86$) as well as two subscales from [Spielberger's \(1996\)](#) State Trait Anger Expression Inventory. Participants read statements followed by the prompt “how well does this apply to you?” (1 = not at all, 7 = very much). The trait

Table 2
Study 1 hierarchical regressions.

Criterion variable	Predictor variables								Model statistics
	Omnibus trait contempt		Izard anger		Izard disgust		Political ideology		
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	
Harm 1	−0.27***	0.06	0.01	0.04	0.11***	0.04	x	x	0.07***
Harm 2	−0.27***	0.06	0.00	0.04	0.11**	0.04	−0.05*	0.02	+0.01*
Fairness 1	−0.11*	0.06	0.02	0.04	0.01	0.04	x	x	0.01
Fairness 2	−0.10 ⁺	0.05	−0.00	0.04	0.06	0.04	−0.10***	0.02	+0.05***
Reciprocity 1	0.07	0.07	−0.05	0.05	0.11*	0.05	x	x	0.03*
Reciprocity 2	0.06	0.07	−0.03	0.05	0.10 ⁺	0.05	0.06*	0.03	+0.02*
Loyalty 1	−0.21**	0.07	−0.01	0.05	0.09 ⁺	0.05	x	x	0.03*
Loyalty 2	−0.24***	0.06	0.07	0.05	0.04	0.04	0.25***	0.03	+0.22***
Authority 1	0.01	0.07	−0.13*	0.05	0.08	0.05	x	x	0.02 ⁺
Authority 2	−0.03	0.06	−0.06	0.05	0.04	0.04	0.26***	0.03	+0.23***
Purity 1	−0.03	0.11	−0.12	0.08	0.10	0.08	x	x	0.01
Purity 2	−0.09	0.09	−0.00	0.07	0.03	0.06	0.45***	0.04	+0.32***

*** $p \leq 0.001$.** $p \leq 0.01$.* $p \leq 0.05$.+ $p \leq 0.10$.

anger temperament subscale ($\alpha = 0.94$) consists of four items, which assess anger-proneness and the frequency of anger responses (e.g., “I ‘fly off the handle’ easily”). The trait anger reactivity subscale ($\alpha = 0.80$) consists of four items, which assess the frequency of experiencing angry reactions towards elicitors related to frustration and perceived slights (e.g., “I get furious when someone criticizes me.”). In order to avoid diluting trait anger’s unique variance within our multiple regression analyses, we created an omnibus trait anger variable via the computed mean of Izard’s trait anger scale and Spielberger’s two subscales ($\alpha = 0.80$).

6.3.4. Trait disgust

Participants completed Izard’s trait disgust scale ($\alpha = 0.84$), along with the Disgust Scale–Revised (DS-R; Haidt et al., 1994; modified by Olatunji et al., 2008). The DS-R is comprised of two sections. One section gives the prompt “it would bother me if...” and lists various disgust-inducing stimuli (1 = strongly disagree, 7 = strongly agree). The second section describes disgust-inducing stimuli, followed by the prompt “how disgusting would you find this?” Although the original scale used true/false responses, we used 7-point scales (1 = not at all, 7 = extremely) to keep measurements consistent across all variables.

Across both survey sections, the DS-R assesses three dimensions of non-moral trait disgust: core disgust, animal reminders, and contamination. The animal reminder items describe elicitors that remind us we are vulnerable to body-envelope injuries and death; for example, “It would bother me to touch a dead body” ($\alpha = 0.82$). The core disgust items describe basic physical disgust elicitors; for example, “While you are walking through a tunnel under a railroad track, you smell urine” ($\alpha = 0.75$). The contamination items describe elicitors associated with contagion risks; for example, “A friend offers you a piece of chocolate shaped like dog-doo” ($\alpha = 0.75$).

We examined whether we could create an omnibus trait disgust variable by combining the three subscales from the DS-R with Izard’s trait disgust scale. The scale of the animal reminders, contamination, and core disgust subscales had high internal reliability ($\alpha = 0.82$). However, including Izard’s trait disgust markedly lowered the reliability ($\alpha = 0.68$). Therefore, we determined it would be more appropriate to analyze the two trait disgust instruments as separate variables. Since the DS-R had an unequal number of items for each subscale, we scaled the three DS-R subscale means, rather than the weighted mean of all individual items, to allow the three subscales to contribute equally to the DS-R variable.

6.3.5. Demographics

The demographics section was identical between both studies. It assessed age, gender, income, ethnicity, and political ideology.³

7. Study 2 results and discussion

Table 3 shows correlations between each moral foundation, omnibus trait contempt, omnibus trait anger, the DS-R, Izard’s trait disgust, and ideology. See Supplementary Table 4 for descriptive statistics and Supplementary Table 5 for correlations including all individual trait contempt, disgust, and anger instruments and subscales.

7.1. Study 2 regressions

Because multiple regressions control for common variance among the predictor variables, we used omnibus trait contempt and anger variables. However, because the DS-R and Izard’s trait disgust did not scale well together, they were included as separate predictor variables. Preliminary analyses indicated that adding Izard’s trait disgust into the models had near-zero impact on the DS-R’s regression coefficients

(see Supplemental Table 6a). Similar to Study 1, we used a series of hierarchical multiple regressions. Each hierarchical regression used one of the six moral values as the criterion variable (harm, fairness, reciprocity, loyalty, authority, purity). Model 1 included omnibus trait contempt, omnibus trait anger, the DS-R, and Izard’s trait disgust as predictor variables. Model 2 introduced ideology as a predictor. See Table 4 for these regression results. See Supplemental Table 6b–e for alternative regression models that replace the omnibus variables with individual trait anger and contempt instruments.

7.1.1. Trait contempt

In Study 1, trait contempt negatively predicted harm and loyalty values (significantly) and fairness values (marginally). In Study 2, trait contempt was a significant and negative predictor of all six moral values. Combined, both studies show that trait contempt *reduces* the valuation of moral domains, suggesting that trait contempt could be a moralizing agent (Pattern 2), but in a negative way. The replication of trait contempt’s association with harm/care, loyalty, and (to a lesser extent) fairness values indicates that these associations may be particularly stable.

7.1.2. Trait anger

In Study 1, Izard’s trait anger was not significantly associated with any moral values after controlling for ideology. In Study 2, omnibus trait anger significantly and positively predicted harm/care and fairness values (albeit weakly), but did not predict any other values. This partially corresponds with Pattern 1, as it replicates the autonomy-anger association of the CAD Hypothesis (Rozin et al., 1999). However, trait anger was not domain-exclusive, since omnibus trait contempt and the DS-R also predicted harm/care and fairness values.

7.1.3. Disgust Scale–Revised (DS-R)

Surprisingly, Izard’s trait disgust did not predict purity values in Study 1. More surprisingly, the DS-R positively associated with all six moral values in Study 2. This suggested that trait disgust, at least as conceptualized in the DS-R, could function as a moralizing agent (Pattern 2). These findings are novel, as previous studies that examined trait disgust as a predictor of moral foundation values did not find such a broad association (but see Chapman & Anderson, 2014). The relation between trait disgust and all six moral values could be attributed to the multidimensional nature of the DS-R. By tapping into multiple manifestations of trait disgust, it is possible that the DS-R was better able to capture broader relationships between trait disgust and moral values.⁴ It appears that no previous studies have used the DS-R as a predictor of moral foundation values. As such, these findings may indicate that the DS-R is a more encompassing measure of the trait disgust construct than shorter and less contextualized scales such as Izard’s.

7.1.3.1. Results: Izard’s trait disgust. In Study 1, Izard’s trait disgust positively associated with harm/care and reciprocity. In Study 2 (controlling for the DS-R), it was a significant and positive predictor of reciprocity, loyalty, and purity, but did not significantly predict harm/care, fairness, or authority values.

7.2. Reciprocity versus fairness values

In Study 1, the MFQ’s fairness foundation uniquely associated with trait contempt, whereas reciprocity uniquely associated with Izard’s trait disgust. In Study 2, omnibus trait contempt significantly predicted both fairness and reciprocity values, whereas Izard’s trait disgust

³ Replacing general ideology with economic, social, or mean ideology did not change the pattern of regression results.

⁴ The MFQ and DS-R materials show no conceptual overlap for non-purity moral foundations. However, two purity items in the MFQ have some overlap: “whether or not someone did something disgusting” and “people should not do things that are disgusting, even if no one is harmed” (Graham et al., 2011).

Table 3
Study 2 correlations.

	1	2	3	4	5	6	7	8	9	10
(1) Harm	1									
(2) Fairness	0.61***	1								
(3) Reciprocity	0.39***	0.39***	1							
(4) Loyalty	0.19***	0.05	0.47***	1						
(5) Authority	0.17***	0.00	0.44***	0.78***	1					
(6) Purity	0.20***	0.04	0.43***	0.63***	0.69***	1				
(7) Omnibus trait contempt	−0.29***	−0.17**	−0.01	−0.17***	−0.15**	−0.08	1			
(8) Omnibus trait anger	−0.06	0.01	0.12*	−0.04	−0.03	0.03	0.68***	1		
(9) Disgust scale – revised	0.28***	0.19***	0.32***	0.31***	0.35***	0.40***	0.06 ⁺	0.21***	1	
(10) Izard's trait disgust	−0.01	0.00	0.15**	0.19*	0.05	0.18***	0.43***	0.51***	0.12*	1
(11) Political ideology	−0.20***	−0.30***	0.16**	0.35***	0.43***	0.49***	0.08	0.08	0.18***	0.05

Notes: listwise $N = 337$.*** $p \leq 0.001$ ** $p \leq 0.01$ * $p \leq 0.05$ + $p \leq 0.10$.

predicted only reciprocity values. However, the DS-R predicted both fairness and reciprocity values. Study 2's results indicated potential differences between fairness and reciprocity's associations with trait emotions. Trait anger significantly associated with fairness values, but not with reciprocity. Additionally, in examining the correlations (Table 3), trait contempt was significantly correlated with fairness, but not with reciprocity. In conjunction with trait contempt's relatively low effect size and higher p -value, these results indicate that trait disgust may be more consistently associated with reciprocity than trait contempt.

7.3. Political ideology

In keeping with Study 1, harm/care and fairness values significantly associated with liberalism, whereas loyalty, authority, reciprocity/equity, and purity values significantly associated with conservatism. Introducing political ideology in model 2 did not change the pattern of results, but did alter the effect sizes of omnibus trait contempt and the DS-R. Notably, after adding ideology as a predictor, the DS-R's effect size for loyalty, authority, and purity values decreased slightly. This indicated that some portion of the DS-R's variance as a predictor of moral values was due in part to their shared association with political conservatism, as we had anticipated.

7.4. Study 2 summary

Study 2's results for trait contempt and disgust corresponded with Pattern 2: the DS-R functioned as a broad “moralizing” personality trait, whereas trait contempt functioned as a broad “demoralizing” personality trait. This suggests that trait contempt and trait disgust may orient people towards moral values in divergent ways—trait disgust may motivate people to protect sacred values, but contempt may motivate people to reject them (to the extent that trait emotions are primary). Study 2's results for trait anger corresponded with Pattern 1, as it positively predicted harm/care and fairness values, in keeping with the anger-autonomy association of the CAD pattern. The key difference in results between Studies 1 and 2 was an increase in the number of significant associations between trait emotions and moral values. These increases could potentially be attributed to the improved measures of trait anger and disgust. Additionally, Study 2's more stringent use of attention checks likely reduced random error from inattentive participants, which may have been more present in Study 1.

8. General discussion

The present studies addressed significant gaps in the moral emotion literature in regard to trait emotions' influence on moral values. While the link between purity values and trait disgust had been well-explored

Table 4
Study 2 hierarchical regression results.

Criterion variables	Predictor variables										Model
	Omnibus trait contempt		Omnibus trait anger		Revised disgust scale		Izard disgust		Political ideology		
	<i>B</i>	(<i>SE</i>)	<i>B</i>	(<i>SE</i>)	<i>B</i>	(<i>SE</i>)	<i>B</i>	(<i>SE</i>)	<i>B</i>	(<i>SE</i>)	
Harm 1	−0.33***	0.05	0.10*	0.05	0.19***	0.04	0.04	0.03	x	x	0.19***
Harm 2	−0.32***	0.05	0.10*	0.05	0.22***	0.04	0.04	0.03	−0.11***	0.02	+0.06***
Fairness 1	−0.22***	0.05	0.11*	0.05	0.11**	0.04	0.01	0.03	x	x	0.09***
Fairness 2	−0.20***	0.05	0.11*	0.05	0.15***	0.03	0.01	0.03	−0.14***	0.02	+0.11***
Reciprocity 1	−0.12*	0.06	0.06	0.05	0.21***	0.04	0.08*	0.04	x	x	0.13***
Reciprocity 2	−0.12*	0.06	0.06	0.05	0.20***	0.04	0.08*	0.04	0.05*	0.02	+0.01*
Loyalty 1	−0.26***	0.07	−0.02	0.07	0.28***	0.05	0.16***	0.04	x	x	0.17***
Loyalty 2	−0.28***	0.06	−0.02	0.06	0.23***	0.05	0.16***	0.042	0.18***	0.03	+0.10***
Authority 1	−0.18**	0.07	−0.02	0.06	0.31***	0.05	0.07	0.04	x	x	0.16***
Authority 2	−0.21***	0.059	−0.02	0.06	0.25***	0.04	0.07 ⁺	0.04 ⁺	0.22***	0.03	+0.15***
Purity 1	−0.22*	0.09	−0.07	0.09	0.49***	0.06	0.24***	0.06	x	x	0.21***
Purity 2	−0.26***	0.08	−0.07	0.08	0.39***	0.06	0.25***	0.05	0.35***	0.03	+0.19***

*** $p \leq 0.001$.** $p \leq 0.01$.* $p \leq 0.05$.+ $p \leq 0.10$.

(e.g. Horberg et al., 2009), trait disgust and anger's associations with other moral values (especially loyalty, and authority) had not been fully investigated. Additionally, trait contempt had not yet been investigated a predictor of moral values. Our studies provided a novel contribution to the literature by analyzing the unique variance of trait contempt, anger, and disgust as predictors of all five moral foundations, while controlling for the common variance between these negative trait emotions and political ideology. Our studies also provided novel contributions in the form of separating reciprocity/equity values from the MFQ's egalitarian fairness foundation, and we found that these conceptions of moral justice differed in their associations with trait emotions.

8.1. Trait contempt and moral values

Perhaps the most novel contribution of this research was our finding that trait contempt was a reliable predictor of multiple types of moral values. In the regressions, trait contempt's negative relation to harm/care, loyalty, and (to a lesser extent) fairness values were consistent across both studies. Both trait and state contempt are characterized by cold feelings, low empathy, inferiority judgments, and negative dispositional attributions towards others (e.g. Fischer & Giner-Sorolla, 2016; Steiger, 2015). If a chronically contemptuous person views everybody as rotten, incompetent, and beneath consideration, they may have little concern about the moral behaviors or outcomes of other people. More specifically, the coldness and psychological distancing associated with contempt could perhaps reduce concern about moral issues related to others' wellbeing – such as whether they are being harmed or treated unfairly. Trait contempt's negative association with moral values related to social harmony and in-group solidarity (i.e. loyalty, but also potentially authority) could be explained by contempt's characteristic psychological and social distancing of the self from disliked others (Fischer & Giner-Sorolla, 2016).

8.1.1. Trait contempt and harm/care

Trait contempt's negative association with harm/care values may be the most theoretically important finding of the present studies. While there is cultural, ideological, and individual variability in the degree to which harm/care is valued, harm/care values are universally recognized as a fundamental and defining characteristic of morality, and are seen by many as the most important moral value (e.g. Shweder et al., 1997; Graham et al., 2011). Given that harm/care values are essentially a cultural universal, and given its strong relation to trait contempt, this finding could open up new avenues of research investigating moral values as well as the antecedents of aggression and other antisocial behaviors.

8.1.2. Trait contempt negatively relates to moralization

Trait contempt was also unique in that it was the only trait emotion to be consistently negatively associated with moral values; our findings indicated that the more contemptuous a person is, the less likely they are to be concerned with some or all types of moral values. This finding was novel and interesting in its own right, but appears especially so in the context of the moral emotion literature. Whereas studies pertaining to the “CAD Hypothesis” found that state contempt positively associates with moral judgment (e.g. Russell et al., 2013), trait contempt appeared to predict lower levels of moralization across most—if not all—moral domains.

8.2. Trait anger and moral values

Our studies appear to have been the first to examine trait anger's associations across all five moral foundations, specifically regarding loyalty and authority, as well reciprocity/equity values. Results were generally inconclusive, as they tended to vary between studies and instruments. Whereas Izard's trait anger did not associate with any moral values in Study 1, omnibus trait anger had some unique variance as a predictor of harm/care and fairness values in Study 2. However,

these associations were not unique to trait anger, and they had relatively small effect sizes. These findings indicated that trait anger may play only a weak role in influencing moral values. Given that no prior studies appear to have investigated trait anger's relation to MFT's loyalty and authority foundations or to reciprocity/equity values, our findings fill a gap in the moral emotion literature nonetheless.

8.3. Trait disgust and moral values

Results pertaining to trait disgust were somewhat mixed, primarily due to differences between Study 1 and 2's measures. In Study 1, Izard's trait disgust did not significantly associate with purity values, but was associated with harm and reciprocity values; however, in Study 2, we found that the DS-R was significantly associated with all six moral values. This broad association between the DS-R and multiple moral values is somewhat in keeping with previous findings that trait disgust may lead to greater moralization of both harmful and conventional violations (Chapman & Anderson, 2014). This finding was noteworthy in that it contrasts with previous studies that found trait disgust to have domain-specificity with the purity foundation (e.g. Horberg et al., 2009; Rottman et al., 2014).

8.3.1. Differences between trait disgust instruments

Study 2's broad associations between trait disgust and all moral foundation values was primarily driven by the DS-R. This raises important questions regarding the use of trait emotion instruments in any morality research. Study 2's findings indicated that major differences in both the pattern and magnitude of results can arise depending on the trait emotion instrument utilized within any given study. Since prior studies on moral values have used a variety of different trait disgust instruments, this seems particularly pertinent to future research on trait emotions as predictors of moral values. Future morality research might benefit from incorporating multiple measures of each trait emotion being examined.

8.4. Reciprocity values

Our inclusion of items assessing reciprocity/equity values was a novel contribution in several respects. Although fairness and reciprocity have typically been described as parts of a single moral foundation (e.g. Graham et al., 2011), reciprocity values differed from the MFQ's fairness foundation in their relations to trait emotions, with some evidence pointing to a more consistent link between trait disgust and reciprocity values compared to fairness values. Our addition of reciprocity/equity items into the MFQ also appears to be a unique contribution to the MFT literature, and the consistent association between reciprocity and conservatism (and fairness and liberalism) dovetails with prior work in political psychology. In sum, our inclusion of reciprocity/equity values as separate from the MFT's fairness construct proved to be theoretically meaningful, and suggests that measuring these two conceptions of moral justice as separate constructs may prove to be a useful strategy for future research on moral values and judgments broadly.

8.5. Trait emotions, state emotions, and moral domains

Our results largely indicated that trait emotions and moral values may associate differently than elicited state emotions do with moral violations, at least in relation to the “CAD Hypothesis” (Rozin et al., 1999). For instance, recent CAD-related research (Russell et al., 2013) has replicated the finding that autonomy (harm/care and fairness) violations most strongly elicit state anger. However, in the present studies, trait anger did not significantly associate with harm/care and fairness values in Study 1, and only weakly associated with them in Study 2. Instead, trait contempt was the most consistent (albeit negative) predictor of these values across both studies.

Trait emotions and moral values may associate differently than state emotions do with moral violations due to differences in their respective contexts. Some researchers have distinguished between moral and non-moral versions of emotions regarding their respective elicitors as well as their social-behavioral functions. For instance, moral anger has been linked with elicitors of unfairness and injustice, whereas non-moral anger has been linked with frustration over goal-blockage (Kuppens, Van Mechelen, Smits, & De Boeck, 2003). Thus, one potential explanation for why trait and state emotions might relate differently to moral domains is that CAD-related studies have primarily examined moralized versions of contempt, anger, and disgust (i.e., elicited by moral stimuli), whereas the present studies examined dispositional tendencies towards non-moralized, or “core,” versions of these emotions.

8.6. Limitations and future directions

The present studies assessed moral values using the Moral Foundations Questionnaire (MFQ; Graham et al., 2011). Although it is the “official” instrument for Moral Foundations Theory, several foundation scales had relatively low reliabilities, which does raise questions about construct validity. However, this limitation is not unique to the present studies, as these relatively low internal reliabilities were similar to those reported in the original MFQ publication (Graham et al., 2011). Given a lack of alternative measures to assess moral foundation values (as opposed to violations), this is not necessarily a limitation of the present study so much as a call for future research to develop more construct-valid moral foundation instruments.

The reciprocity scale we added to the MFQ had similar reliability to the original five moral foundation scales. Despite this, reciprocity and fairness values differed in their associations with trait emotions and ideology across both studies, suggesting these values are not redundant. Our reciprocity items represent a good first step in the exploration of this construct, and future research on Moral Foundations Theory could expand on the reciprocity construct. Our results also suggest that it may be worthwhile to explore potential subdimensions of other moral foundations.

Omnibus trait contempt combined the subdimensions of affective coldness, psychological distancing, negative dispositional attributions, sensitivity to social standard violations, and feelings of superiority into a cohesive construct (2015). However, certain aspects of these subdimensions may have some conceptual overlap with other individual differences that have moral consequences, such as low agreeableness, neuroticism, psychopathy, narcissism, or Machiavellianism. Future research could investigate the degree to which trait contempt differs from these other individual differences as predictors of moral values.

Finally, the present paper's primary purpose was to examine the relations between trait emotions and all five moral foundation values. We primarily referenced studies on moral violations as elicitors of state emotions to provide context and one possible patterns of results (Pattern 1, CAD replication); however, our goal was not to test state emotions. Future research could assess trait emotions, moral values, and state emotions elicited by moral violation scenarios within the same study to examine the similarities and differences between trait and state emotions in their relations to different moral domains.

8.7. Conclusion

The present studies addressed a number of gaps in the moral emotion literature, and made several important and novel contributions. They were the first studies to examine trait contempt's relation to moral values, and were the first to comprehensively examine trait contempt, anger, and disgust's associations with all five moral foundations. Our studies were the first to examine the relations between reciprocity/equity values as distinct from the fairness foundation as

they relate to trait emotions. Most importantly, our studies found a strong association between trait contempt and harm/care values, perhaps the most fundamental and often-studied moral domain. This research opens the door for a deeper exploration into the role that emotions play in moral thinking. By investigating trait emotions, we were able to go beyond existing models of moral emotions to show the broader, and more nuanced, impact that emotion and personality have on moral valuation.

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References

- Chapman, H. A., & Anderson, A. K. (2014). Trait physical disgust is related to moral judgments outside of the purity domain. *Emotion*, 14(2), 341.
- Contempt (2013). *The American Heritage® dictionary of idioms* by Christine Ammer. Retrieved June 12, 2013, from <http://dictionary.reference.com/browse/contempt>.
- Crowley, J. P. (2013). Attributes of highly contemptuous people. *Western Journal of Communication*, 77(3), 340–360. <http://dx.doi.org/10.1080/10570314.2012.740763>.
- Fischer, A., & Giner-Sorolla, R. (2016). Contempt: Derogating others while keeping calm. *Emotion Review*, 8(4), 346–357.
- Graham, J., Haidt, J., & Nosek, B. A. (2009). Liberals and conservatives rely on different sets of moral foundations. *Journal of Personality and Social Psychology*, 96, 1029–1046 (nres).
- Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., & Ditto, P. H. (2011). Mapping the moral domain. *Journal of Personality and Social Psychology*, 101, 366–385. <http://dx.doi.org/10.1037/a0021847>.
- Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 852–870). New York, NY: Oxford University Press.
- Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion*. New York, NY: Pantheon/Random House.
- Haidt, J., & Joseph, C. (2007). The moral mind: How 5 sets of innate intuitions guide the development of many culture-specific virtues, and perhaps even modules. In P. Carruthers, S. Laurence, & S. Stich (Eds.), *The innate mind. Vol. 3.* (pp. 367–391). New York: Oxford.
- Haidt, J., Graham, J., & Joseph, C. (2009). Above and below left-right: Ideological narratives and moral foundations. *Psychological Inquiry*, 20, 110–119. <http://dx.doi.org/10.1080/10478400903028573>.
- Haidt, J., McCauley, C., & Rozin, P. (1994). Individual differences in sensitivity to disgust: A scale sampling seven domains of disgust elicitors. *Personality and Individual Differences*, 16, 701–713.
- Horberg, E. J., Oveis, C., Keltner, D., & Cohen, A. B. (2009). Disgust and the moralization of purity. *Journal of Personality and Social Psychology*, 97, 963–976.
- Hutcherson, C. A., & Gross, J. J. (2011). The moral emotions: A social-functional account of anger, disgust, and contempt. *Journal of Personality and Social Psychology*, 100(4), 719–737. <http://dx.doi.org/10.1037/a0022408>.
- Inbar, Y., Pizarro, D. A., & Bloom, P. (2009). Conservatives are more easily disgusted than liberals. *Cognition and Emotion*, 23(4), 714–725.
- Izard, C. E., Libero, D. Z., Putnam, P., & Haynes, O. M. (1993). Stability of emotion experiences and their relations to traits of personality. *Journal of Personality and Social Psychology*, 64, 847–860 (doi:10.1037=0022-3514.64.5.847).
- Kuppens, P., Van Mechelen, I., Smits, D. J., & De Boeck, P. (2003). The appraisal basis of anger: Specificity, necessity and sufficiency of components. *Emotion*, 3(3), 254.
- Malatesta, C. Z. (1990). The role of emotions in the development and organization of personality. In R. A. Thompson (Ed.), *Socioemotional development: Nebraska symposium on motivation* (pp. 1–56). Lincoln: University of Nebraska Press.
- Olatunji, B. O., Haidt, J., McKay, D., & David, B. (2008). Core, animal reminder, and contamination disgust: Three kinds of disgust with distinct personality, behavioral, physiological, and clinical correlates. *Journal of Research in Personality*, 42, 1243–1259. <http://dx.doi.org/10.1016/j.jrp.2008.03.009>.
- Reyna, C., Henry, P. J., Korfmacher, W., & Tucker, A. (2006). Examining the principles in principled conservatism: The role of responsibility stereotypes as cues for deservingness in racial policy decisions. *Journal of Personality and Social Psychology*, 90, 109–128.
- Rottman, J., Kelemen, D., & Young, L. (2014). Tainting the soul: Purity concerns predict moral judgments of suicide. *Cognition*, 130(2), 217–226.
- Rozin, P., Lowery, L., Imada, S., & Haidt, J. (1999). The CAD triad hypothesis: A mapping between three moral emotions (contempt, anger, disgust) and three moral codes (community, autonomy, divinity). *Journal of Personality and Social Psychology*, 76, 574–586.
- Russell, P. S., Piazza, J., & Giner-Sorolla, R. (2013). CAD revisited effects of the word moral on the moral relevance of disgust (and other emotions). *Social Psychological and Personality Science*, 4(1), 62–68.
- Shweder, R. A., Much, N. C., Mahapatra, M., & Park, L. (1997). The ‘big three’ of morality (autonomy, community, divinity) and the ‘big three’ explanations of suffering. In A. M. Brandt, & P. Rozin (Eds.), *Morality and health* (pp. 119–169). Florence, KY US: Taylor & Francis/Routledge.

- Skitka, L. J., & Tetlock, P. E. (1993). Providing public assistance: Cognitive and motivational processes underlying liberal and conservative policy preferences. *Journal of Personality and Social Psychology*, 65, 1205–1223.
- Spielberger, C. D. (1996). *Manual for the state-trait anger expression inventory (STAXI)*. Odessa, FL: Psychological Assessment Resources.
- Steiger, R. L. (2015). *Trait contempt and the five moral foundations*. Master's thesis. (Retrieved from College of Science and Health Theses and Dissertations, Paper 129).
- Tafrate, R. C., Kassinove, H., & Dundin, L. (2002). Anger episodes in high and low trait anger community adults. *Journal of Clinical Psychology*, 58(12), 1573–1590.
- Terrizzi, J. A., Jr., Shook, N. J., & Ventis, W. L. (2010). Disgust: A predictor of social conservatism and prejudicial attitudes toward homosexuals. *Personality and Individual Differences*, 49(6), 587–592. <http://dx.doi.org/10.1016/j.paid.2010.05.024>.