



Moral anger, disgust, but also sadness: examining the victim vs. perpetrator focus in the moral evaluation of transgressions

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Abstract

In two preregistered studies ($N=312$), we aimed to test whether inducing participants' attention towards the perpetrator or victim of a moral violation would trigger different emotional responses. Fictional situations were created to focus either on the victim's (e.g., a person being tripped on the street) or the perpetrator's experience (e.g., a person tripping another). Participants were presented with a series of vignettes describing moral transgressions and asked to judge as quickly as possible whether the emotional reactions of third parties depicted in different facial expressions were consistent with what would be expected regarding the misconduct. We hypothesized that focusing on the perpetrator would stress their poor moral character and elicit distancing reactions typical of moral disgust, while focusing on the victim would emphasize the harmful act and the victim's resulting personal distress, aligning more closely with moral anger. Results provided only partial support for these predictions. While anger responses tended to be consistent across conditions, the predicted anger–disgust contrasting outcome as a function of focus was not consistently observed: Study 2 did not replicate the interaction effect observed in Study 1. Interestingly, sadness was a recurrent response in the victim focus condition, suggesting that empathy-related emotions may co-occur with moral condemnation. Overall, the findings suggest that third-party moral appraisals reflect a broader emotional range that combines anger, disgust, but also sadness.

Keywords Moral judgment · Anger · Disgust · Moral transgression · Victim · Perpetrator · Third-party morality · Sociomoral emotions

Introduction

The language we use in everyday life to qualify a moral transgression is laden with specific social meaning. Framing moral events in ways that cast the perpetrator as the deliberate agent of a harmful act, or conversely that emphasize the victim's experience, can shift the emotional tenor of moral judgment and orient precisely what emotional responses are expected from others, whether as a means of regulating conduct and motivating punishment, or as a means of motivating prosocial sympathy, help, and concern for the victim's suffering. Yet this sensitivity of moral emotions to linguistic framing remains largely underexplored in the moral empirical literature. The moral emotions literature has predominantly examined anger and disgust as competing responses to transgressions, yet there is increasing reason to think that third-party moral appraisals are emotionally broader than this debate implies. Sadness, in particular, may be activated as an empathic response to the victim's suffering (Plaks et al., 2022), suggesting that the direction of moral attention

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within a transgression shapes whether affiliative emotions accompany moral outrage. The present research was aimed at testing whether slight linguistic variations (directing attention to either the victim: “Someone was hurt,” or the perpetrator: “Someone hurt someone else”) modulated both the type of emotions expected from third parties and the speed with which their expression was judged to be expected in the context of a moral violation.

A contentious debate in the literature is concerned with whether anger and moral disgust are strictly connected to moral content via distinct moral domains, specific situational appraisals (Lerner & Keltner, 2000), or whether they are simply the expression of a unified core stemming from the same basic psychological ingredients (Barrett, 2006; Cameron et al., 2015). Consistent with this view, recent cross-cultural evidence shows that community and autonomy violations (Shweder et al., 1997) do not elicit distinct emotions as predicted, with anger dominating across both violation types (Kollareth et al., 2019), and that sacred violations are associated with multiple negative emotions rather than core disgust specifically (Kollareth & Russell, 2019). Beyond this broader debate, anger and disgust can be distinguished at the level of their specific appraisal antecedents and behavioral consequences. Anger is typically related to controllable attributions of fault and approach action tendencies (Batson et al., 2007; Weiner, 1980), whereas disgust is more commonly associated with character-based attributions and avoidant action tendencies (Rozin et al., 2008; Hutcherson & Gross, 2011). A key question that follows is whether these differential antecedents map onto the two protagonists of a moral transgression in such a manner that directing attention toward one or the other would preferentially activate a response more dominated by anger than disgust and vice versa. According to the Theory of Dyadic Morality (Schein & Gray, 2018), third-party perception of harm necessary involves a dyad uniting an intentional agent causing the damage and a vulnerable victim which is the recipient of damage. Theory of Dyadic morality (TDM) does not call for by itself the nature of moral emotions felt following perception of harm. While TDM describes the structural template of perception of harm, we argue that attentional focus prioritizes different functional requirements: focusing on the perpetrator prioritizes the need for social exclusion and character appraisal (linked to disgust), whereas focusing on the victim prioritizes the need for repair and social cohesion (linked to sadness/empathic anger). Cushman’s (2008) dual-process account has evidenced a distinction between an action-based analysis, focused on how an event unfolded and resulted in harmful consequences, and a mental state analysis designed to appraise whether the agent acted with malicious intent. Other work also suggests that access to culpable mental states, in interaction with the severity of

the harm, elicit stronger moral outrage response among third-party agents (Ginther et al., 2022). Giner-Sorolla and Chapman (2017) capitalized on these moral evaluation tendencies to provide a case linking the structural template to emotion specialization. In their study, they indeed showed that disgust is more activated in response to information about the agent’s moral character and desire to harm and anger more activated when facing the action itself and its harmful consequences. If we articulate these approaches, it is to suggest that directing attention toward the victim, thereby emphasizing harmful consequences, should preferentially activate angry responses, while directing attention toward the perpetrator, thereby emphasizing their moral character and intent, should preferentially activate disgust responses in third-party moral appraisal. This expectation dovetails well with experimental works showing that subtle grammatical choices shape blame attribution and punishment. For instance, in a study participants exposed to an agentive formulation (e.g., she had ignited the napkin!) provided more blame and financial penalties than non-agentive ones (e.g., the napkin had ignited!) (Fausey & Boroditsky, 2010), and other evidence pointed out that linguistic framing changes moral responsibility attributions between agents and patients (Niemi & Young, 2016). At the same, it is worth noting that several studies have already challenged the notion that different moral violations selectively elicit specific emotions (see Cameron et al., 2015). For instance, Franchin et al. (2019) found that harm and purity violations equally elicited anger while disgust was rarely expressed, and Landmann and Hess (2018) observed that transgressions of care and purity elicited both compassion and disgust, pointing to a multidimensional rather than emotion-specific appraisal structure. One pattern that deserves specific attention is the persistent dominance of anger across moral contexts. Cross-cultural and experimental evidence suggests that anger functions as a structurally central response to moral violations of the ethics of autonomy (Kollareth et al., 2019; Kollareth & Russell, 2019). Importantly, attentional focus does not replace shared condemnation processes as both conditions involve the same moral transgression and therefore a baseline of moral outrage (Cameron et al., 2015). What attentional focus might involve is the relative weight of specific emotional responses within this shared condemnatory response.

Beyond the anger-disgust distinction, victim-focused attention is expected to elicit sad responses insofar as empathic concern for the victim’s suffering or victim’s fate, could constitute a moral response to offense per se. In this perspective, anger and sadness may function as complementary moral signals rather than antagonistic reactions (Plaks et al., 2022). Sadness motivates sympathetic concern for the victim and anger drives confrontational moral outrage that

calls for action against the offender (Batson et al., 2007). This dual-emotion response makes sense because victim-focused offenses draw attention to both injustice (which elicits empathic anger) and the suffering (which elicits sadness). Traditional social-functional accounts hold that observers experience empathy, a desire to help, and a greater sense of closeness when they are sad or distressed (Keltner & Kring, 1998), and emotional expressions of sadness, such as tears, elicit intentions to provide support in line with an attachment and affiliation function (Zickfeld et al., 2021). On the action side, empathic anger motivates a desire to address moral wrongdoings and rectify unfair treatment (Thomas et al., 2009), consistent with an approach tendency, and help explain why for instance, moral violations targeting victims with higher value (e.g., a close friend) elicit proportionally more anger than disgust and steer bystanders' reactions toward direct rather than indirect aggression (see Fan et al., 2024). Sadness is associated with cognitive appraisals of loss and misfortune that enhance social support, empathy, and sympathy (Gruen & Mendelsohn, 1986) and promotes systematic, detail-oriented processing that may aid in understanding the victim's plight (Bodenhausen et al., 1994). In contrast, when attention is directed to the intentional agent, their moral character and malicious intent become salient, potentially enhancing disgust toward moral corruption consistent with avoidance motivations (Molho et al., 2017; Tybur et al., 2009). Prior research has examined how framing the act itself, for instance describing an outcome as active harm versus failure to help, shapes third-party moral judgment and punishment (Yang et al., 2022). However, this line of work conflates the framing of the act with the direction of moral attention within the dyad. To our knowledge, no study has manipulated attentional focus toward the victim versus the perpetrator of an identical transgression while holding the act itself constant. This is a significant gap, as everyday morality and perception of harm typically involve two protagonists (Schein & Gray, 2018), and directing attention toward one or the other can have a different impact on moral processing, thereby influencing the nature of outrage and leading to various consequences for the social regulation of behavior. Furthermore, while anger and disgust are often studied as alternative responses, the possibility that victim-focus might simultaneously enhance both anger (toward the perpetrator) and sadness (for the victim) has not been systematically examined.

The present research

The present research addresses these gaps by experimentally manipulating whether identical moral transgressions are described from a victim-focused versus perpetrator-focused perspective. We tested whether this shift in narrative focus

systematically impacted the emotion third-party observers expect others to feel. We used minimal linguistic variations (e.g., "Someone was pushed" vs. "Someone pushed another") to isolate attentional focus while holding moral content constant. This approach prioritizes internal validity to isolate the role of attentional focus while acknowledging the trade-off in ecological richness. Following an approach similar to Ginther et al. (2022), we asked participants to evaluate a range of emotions, individually presented, that would best describe their response to third-party emotional reaction to moral violations, using a stimulus-presentation design. Rather than measuring participants' own emotions, which may be influenced by demand characteristics and self-presentation concerns, we assessed judgments of third-party expected emotions. This expectedness measure captures participants' normative representations of appropriate emotional responses rather than their own momentary affect. While this introduces a normative dimension, judgments of emotional expectedness are themselves theoretically meaningful indices of the social and moral functions attributed to specific emotions (Diaz & Reuter, 2021; Horberg et al., 2011). Such judgments may also encourage participants to rely on social norms regarding what one ought to feel in response to moral violations, potentially leading to endorsing socially appropriate emotions such as anger or sadness. However, this methodological choice is theoretically grounded insofar as moral emotions serve socio-functional purposes (see Hutcherson & Gross, 2011) and studying what emotions are expected from others is a valid index of their social regulatory role. Formulating questions in terms of 'expected' or 'appropriate' emotions makes it possible to capture the prescriptive and evaluative character of emotions, understood as a set of emotion norms that participate in the social control of conduct (see Saruya & Yagasaki, 2018).

The expectedness measure (binary: expected/not expected) served as our primary dependent variable, with response times providing a convergent index of cognitive accessibility. We included six emotion categories: anger and disgust as primary condemning emotions; sadness as an empathic response potentially relevant to victim-focus; fear as an additional negative emotion; and joy and neutral as control conditions representing inappropriate responses to moral transgressions. We also included joy and neutral as control labels that were not expected to be appropriate responses to moral transgressions; they served as baselines to benchmark condemning emotions and were not targets of inference. While we report descriptive statistics for all emotions, our preregistered confirmatory analyses focus on the theoretically relevant emotions (anger, disgust, and sadness), with joy and neutral serving as standard of comparison and manipulation checks to ensure participants understood the

task. This methodology provides both explicit judgments (which emotions observers expect from others) and implicit measures (response time as an index of accessibility), offering convergent evidence for focus effects on moral emotions while reducing social desirability concerns.

Overview of studies

We tested our hypotheses across two preregistered online studies. Study 1 ($N=173$) used a comprehensive emotion set (anger, disgust, sadness, fear, neutral, joy) across diverse moral violations including harm, injustice, betrayal, abandonment, and humiliation. Although Study 1 partially supported our main prediction (see Hypothesis 1), the key interaction effect did not replicate in Study 2. Therefore, findings from Study 1 should be interpreted cautiously. The effect of sadness was not hypothesized nor a priori preregistered in Study (1). However, based on Study 1's results, we derived sadness hypotheses and pre-registered them in Study (2). Study 2 ($N=139$) provided a more focused test using a reduced emotion set (anger, disgust, sadness, neutral), concentrating on autonomy violations (harm, humiliation, injustice) and adding prosocial control scenarios to isolate moral-specific effects. Both studies measured reaction times alongside explicit emotional expectedness judgments to capture automatic and controlled processes. We transparently report all findings, clearly distinguishing between confirmatory and exploratory analyses.

Method

Transparency and openness

We report how we determined both our sample size, all data exclusions, all manipulations, and all measures in the studies. All data, analysis code, and research materials are available at <https://osf.io/2g96b/overview>. Data were analyzed using R, version 4.3.2 (R Core Team, 2023).

Preregistration and hypotheses

Study 1 preregistered hypotheses: (<https://osf.io/d43xc/overview>).

Hypothesis 1 *When attentional focus is directed toward the perpetrator (vs. victim) of the moral transgression, disgust (vs. anger) will be more cognitively accessible, yielding shorter reaction times for disgust in the perpetrator condition and shorter reaction times for anger in the victim condition.*

Hypothesis 2 *Because anger and disgust are the primary condemning emotions observed among third-party agents, we expect that these two emotions will be observed at higher rates than other emotional responses (fear, sadness) and control responses (joy, neutral) following exposure to moral transgressions.*

Preregistered contrasts

Reaction times Victim : anger vs. disgust; Perpetrator : anger vs. disgust.

Emotional expectedness Victim : anger vs. disgust; Perpetrator : anger vs. disgust.

No other contrast was preregistered (as neutral and joy were only serving as baseline conditions, no contrasts were preregistered for these two emotions).

Study 2 preregistered hypotheses (<https://osf.io/v62yb/overview>).

Study 2 maintained Hypotheses 1 and 2 from Study 1. Additionally, based on findings from Study 1, we formally preregistered predictions about sadness.

Hypothesis 3 (sadness effect) *In the victim condition compared to the perpetrator condition, we expect (a) a higher rate of sadness responses and (b) faster reaction times for sadness.*

Preregistered contrasts

Reaction times. Victim : anger vs. disgust; anger vs. sadness; disgust vs. sadness. Perpetrator : anger vs. disgust; anger vs. sadness; disgust vs. sadness.

Emotional expectedness: Victim : anger vs. disgust; anger vs. sadness; disgust vs. sadness. Perpetrator : anger vs. disgust; anger vs. sadness; disgust vs. sadness.

Sample size calculation: The sample size was estimated using the G*Power 3 software (Faul et al., 2007). As we planned to perform LMM and GLMM analyses, we simulated our models' effects by using a MANOVA test as the criteria of the a priori sample size calculation is more conservative, set with 2 predictors, $\alpha=0.05$, and $1 - \beta=0.80$. The a priori power analysis estimated that 175 participants were required to achieve 80% power, with an expected medium effect size ($f^2 = 0.25$).

Study 1

Study 1 aims to determine whether directing attention towards the victim or perpetrator of a moral transgression can alter participants' appraisals of third-party emotional response. It examines how shifting perspectives influences both reaction times and the perceived expectedness of

various third-party emotional reactions (anger, disgust, sadness, fear, neutral, and joy).

Participants

We recruited a total of 200 participants via Prolific Academic (<http://www.prolific.co>). Online experiments can collect data of comparable quality to traditional laboratory experiments (Miller, 2017), and the reaction times collected in web-based experiments are consistent with those of lab-based studies (Hilbig, 2016). Prior to analysis, 23 participants were excluded from the initial sample ($n=200$) due to failing the manipulation check. Additionally, the datasets of 4 participants were discarded because their response times (RTs) were either extremely short (<300 ms) or excessively long ($>3,000$ ms). This resulted in a final sample of 173 participants (80 women, 93 men). From the remaining dataset, 9.53% of the trials with RTs falling outside ± 2.5 standard deviations (SD) from each participant's mean were removed, yielding a final dataset consisting of 19,095 RT observations. The age ranged from 18 to 73 years ($M=37.24$ years, $SD=14.16$). After completion, participants received \$3 as compensation. Participants were administered a gender-matched stimuli task (i.e., participants who identified themselves as females were assigned female-based stimuli; and so on for participants who identified themselves as males) and were assigned to one of two conditions of a between-subject design (Victim vs. Perpetrator). The final sample size provided 80% power to detect an effect size of $f = 0.25$ with alpha set at 0.05. Although our participant samples were recruited through Prolific, European legislation has very strict policies concerning the collection of ethnicity data (see Art. 9 GDPR). These rules apply to this work, as data collection was stored on the University Lyon 2 JATOS server (France, Europe). Therefore, we only collected the age, gender, and sex of the participants as supplementary characteristics.

Materials

Moral vignettes Fifty vignettes were developed and tested, including 20 Victim-focused (e.g., "A person is tripped by someone on the street"), 20 Perpetrator-focused (e.g., "A person trips someone on the street"), and 10 Control items (e.g., "A person says hello to their colleagues every morning"). Participants ($N=50$) were recruited via Prolific and completed the task online via JATOS. For each vignette, participants had to indicate the direction of the focus, selecting among three response options (Victim, Perpetrator, None). Internal consistency of the material was assessed using the KR-20 coefficient, appropriate for binary response data (correct = 1, incorrect = 0). Results indicated good reliability across Vic-

tim and Perpetrator items (KR-20 = 0.84), with a mean inter-item correlation of $r = .16$, consistent with acceptable ranges for heterogeneous item pools (Briggs & Cheek, 1986). One-tailed exact binomial tests indicated that accuracy was significantly above chance level (33.3%, reflecting three response options) for both Victim-focused vignettes (93.7%, $p < .001$) and Perpetrator-focused vignettes (90.5%, $p < .001$). Overall, results indicate that participants correctly identified the intended focus, in 94% of the cases. The distribution of responses differed significantly from chance for Victim-focused vignettes, $\chi^2(2) = 1640$, $p < .001$, and for Perpetrator-focused vignettes, $\chi^2(2) = 1471$, $p < .001$, confirming that participants systematically identified the intended focus rather than responding randomly. In order to study response to moral transgressions involving the Perpetrator/Victim focus, we focused on moral transgressions that are inherently interpersonal in nature, such as betrayal, abandonment, injustice, harm, and humiliation. Each of these violations involves a clear dynamic of interaction between the Perpetrator of the transgression and the Victim. Five items assessed harm, four items assessed injustice, three items assessed betrayal, four items assessed abandonment, and four items assessed humiliation. Betrayal involves a breach of interpersonal trust in a relational context (Jones & Burdette, 1994) or resulting from an intentional act or omission by a person we trusted (Rachman, 2010). Abandonment is characterized by a form of interpersonal neglect (Weiss, 1973). Injustice involves unfair treatment or inequity, often perceived as a moral violation with a clearly identified victim that has consequences for the moral responses of third parties, accompanied by a retributive tendency (Skarlicki et al., 2012). Harm involves physical or psychological injury inflicted on a victim, making the interpersonal dynamic between perpetrator and victim explicit (Greene & Haidt, 2002). Humiliation includes ridicule, contempt and other forms of degrading treatment of a victim by individuals who are prone to humiliating others (Klein, 1991).

We chose not to include violation of taboo (purity) as a primary focus because many disgust-related moral violations do not involve a direct interpersonal victim, making them less amenable to examining the Perpetrator-victim focus. Furthermore, when violation of taboo (purity) does involve a victim, it often overlaps significantly with the other selected violations (e.g., harm, humiliation), potentially confounding the distinctions we seek to explore.

All data, script and materials are openly available at <https://osf.io/2g96b/overview>.

Brief Mood Introspection Scale (BMIS). To assess the affective states of the participants, both prior and posttest emotional states were measured using the BMIS (Mayer & Gaschke, 1988), a 16-item self-report measure of current

mood. Participants rated their feelings on a 4-point scale ranging from 1 (Not at all) to 4 (Totally), using positively and negatively worded adjectives. These adjectives included Pleasant-Unpleasant, Arousal-Calm, Positive-Tired, and Negative-Relaxed items (e.g., Happy, Nervous). Although BMIS data were collected, they are not included in the present analyses. Results are available in the Supplementary Material.

FACES database Twelve pictures from the FACES database (Ebner et al., 2010) were selected to describe our target emotions (anger, disgust, sadness, fear, neutral, or joy). The FACES system proposes a set of standardized, unidimensional facial expressions, portrayed by female and male actors. In Studies 1–2, pictures were matched with participants' gender so that individuals identified as women performed the task with female-stimuli, and individuals identified as men performed the task with male-stimuli. It is important to note that we did not distinguish between facial expressions of moral and physical disgust, since they share a common expressive signature: the activation of the levator labii facial action unit, which is characteristic of expressions of disgust at levels comparable to those evoked by physically disgusting stimuli (see Chapman et al., 2009).

Design and procedure

We used a 2 Focus (Victim vs. Perpetrator; between-subject) x 6 Emotions (anger, disgust, sadness, fear, neutral, and joy; within-subject) mixed subject-design. The experiment was programmed under open-source software OpenSesame (OSWeb, version 3.3.14, Mathôt et al., 2012; Mathôt & March, 2021). Data was collected through Prolific (www.prolific.com)

and sent to the JATOS (version 3.8.2, Lange et al., 2015) server (Université Lyon 2).

Before starting the experiment, participants were invited to provide information concerning age, gender and political orientation. Participants' a priori emotional state was assessed using the Brief Mood Introspection Scale (BMIS; Mayer & Gaschke, 1988). During the main task, each trial consisted of one moral vignette, followed by an emotional picture (see procedure in Fig. 1). All the trials were randomized across blocks and participants. The same number of emotional pictures were presented among the blocks. Prior to the test session, participants completed a practice session to familiarize themselves with the task design. This involved repeating a non-moral scenario six times, for each emotion. The two experimental blocks, incorporating attentional control checks, comprised 60 randomized trials each and were interspersed with a 6-second inter-block break. The moral vignette appeared on the screen for 4 seconds. After reading it, participants pressed 'Z' if the displayed emotion was expected or 'M' if it was unexpected. Subsequently, a fixation cross appeared, and the next trial commenced. Following task completion, participants took an emotional recognition test to evaluate their association of the six emotions with their verbal label. This evaluation aimed to confirm participants' ability to accurately discriminate between anger and disgust emotional faces. Finally, participants were administered the BMIS questionnaire a second time, to measure *a posteriori* emotional state.

Statistical analysis

All analyses were conducted in R version 4.3.2 (R Core Team, 2023). Models were fitted using the *lmer* and *glmer* functions of the lme4 R package (Bates et al., 2015). Log-transformed reaction times were analyzed using linear

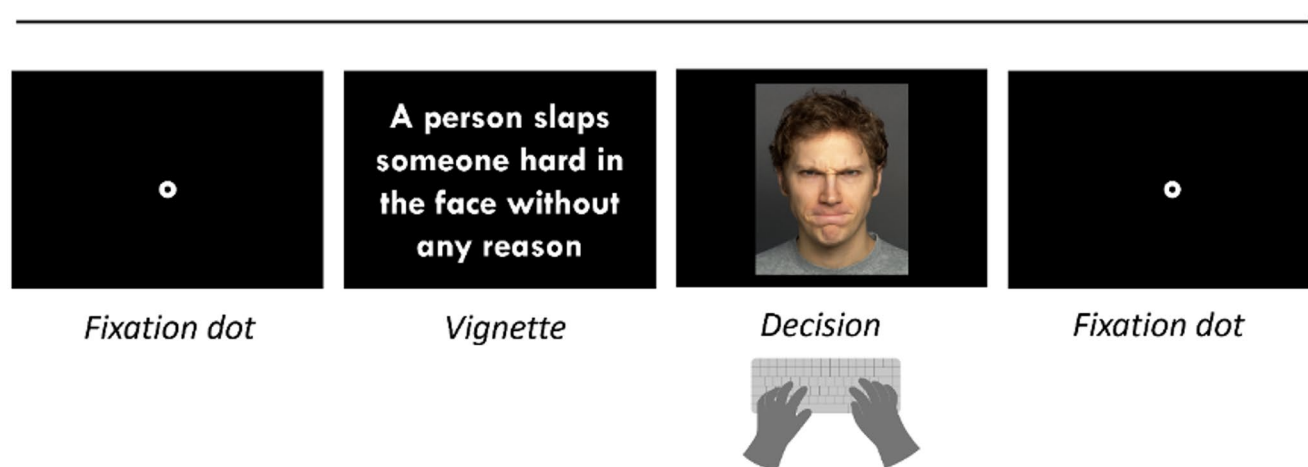


Fig. 1 Procedure for Studies 1 and 2. (Publication and display of the picture for the purpose of illustrating research methodology are permitted under the FACES Platform Release Agreement)

mixed models (LMM) while (un)expectedness ratings were analyzed using generalized logistic mixed models (GLMM). Random intercepts for item and subject were included in all models¹. We built a first model with reaction time as the outcome variable using Focus (Victim, Perpetrator) and Emotion

(anger, disgust, fear, joy, neutral, sadness) as fixed factors: $\log(\text{rt}) \sim \text{focus} * \text{emotion} + (1|\text{subject}) + (1|\text{item})$. To determine whether the emotional response was modulated by the Focus and Emotion, we first transformed the responses of the participants. These were coded as '1' when a negative emotion (anger, disgust, fear, sadness) was judged as expected or when a control emotion (neutral, joy) was judged as unexpected. Conversely, they were coded as '0' when a negative emotion was judged non-expected or a control emotion was judged expected. Therefore, the emotional response in this experiment represents the correspondence between the condemning emotions third-party agents would judge to be expected in response to moral transgressions, and whether these emotions were theoretically expected (Horberg et al., 2011; Hutcherson & Gross, 2011; Konishi et al., 2017). Higher scores on emotional expectedness would therefore reflect a good correspondence between participants' appraisal and expected emotions, while lower scores would reflect a lower correspondence. We then built the following model with (un)expectedness rating as binary outcome variable (deemed expected by the participant vs. deemed unexpected by the participant): $\text{rating} \sim \text{focus} * \text{emotion} + (1|\text{subject}) + (1|\text{item})$. Overall effects were tested using Type III sums of squares with Wald χ^2 tests and the Satterthwaite correction using the lmerTest package (Kuznetsova et al., 2017). Post hoc pairwise comparisons with the estimated marginal means and general contrasts were performed after detecting significant effects using the *emmeans* R package (Lenth et al., 2025) and the Bonferroni method (the Tukey method was used for p-value adjustments only for triple interaction comparisons). We then extracted the mean differences (deltas) of reaction times and expectedness ratings between focus conditions and emotions, using the estimated marginal means. Statistical significance was set at $\alpha=0.05$. The effect sizes are not reported because of the challenges discussed in the literature in reporting standardized effect sizes for linear mixed models, primarily because the method of partitioning variance complicates the calculation of these sizes (Pek & Flora, 2018; Rights & Sterba, 2019). This issue in mind,

¹ We attempted to fit maximal random-effects structures including random slopes for Focus and Emotion by participants and items, following Barr (2013). However, these models did not converge despite multiple optimization attempts. We therefore retained the preregistered random-intercept models and reported in the manuscript our preregistered models, including participants and items as random effects, with Focus and Emotion as fixed effects.

we presented the mean differences (Δ) in the probability of selecting each emotion (anger, disgust, neutral, sadness) and in the response times (RT) across the different conditions. Additionally, while post hoc statistical power analysis is often requested, this method is not recommended, as it can be misleading and uninformative (Dziak et al., 2020): Indeed, post hoc power analysis relies on the observed effect size, which is biased and may lead to erroneous conclusions. For this reason, we opted not to conduct a post hoc power analysis. Instead, following the recommendations of Brysbaert and Stevens (2018), we ensured a minimum of 1,600 observations per condition. Finally, preregistered exploratory analyses included an examination of potential interaction effects between the Class of moral transgression (abandonment, betrayal, harm, humiliation, injustice) and the Focus (Victim, Perpetrator) on reaction times and emotional expectedness likelihood ratings. As preregistered, we ran Supplementary models including three covariates as fixed effects: The age of participants, gender, and political orientation. We conducted the same post hoc analyses as for the other models. Exploratory results are available in the Supplementary Material (see Figures S1-S3). All data and R scripts, are available at https://osf.io/d43xc/overview?view_only=a3cebb6c8217439e9fc8fc7b209c950a.

Results

Preregistered analyses

Reaction times: effects of the victim/perpetrator focus and emotion

No difference between the Victim and Perpetrator conditions was observed on reaction times ($\chi^2(1)=0.11$, $p=.735$). However, we found a significant effect of *Emotion* ($\chi^2(5)=120.99$, $p<.001$). Longer reaction times (RT) were observed for sadness compared to anger ($\Delta\text{RT}=29$ ms, $z.\text{ratio} = -3.69$, $p=.003$), disgust compared to anger ($\Delta\text{RT}=34$ ms, $z.\text{ratio} = -4.30$, $p<.001$), and fear compared to anger ($\Delta\text{RT}=72$ ms, $z.\text{ratio} = -8.79$, $p<.001$). There was no difference between sadness and disgust ($\Delta\text{RT} 38$ ms, $z.\text{ratio}=0.63$, $p=1.000$).

More importantly, the interaction between *Emotion* and *Focus* was significant ($\chi^2(5)=21.54$, $p<.001$). In the Victim condition, and consistent with our hypothesis, anger was associated with shorter reaction times than disgust ($\Delta\text{RT}=47$ ms, $z.\text{ratio} = -4.25$, $p<.001$), but also fear ($\Delta\text{RT}=73$ ms, $z.\text{ratio} = -6.38$, $p<.001$). In the Perpetrator condition, disgust was associated with shorter reaction times than fear ($\Delta\text{RT}=49$ ms, $z.\text{ratio} = -4.19$, $p<.001$), but there was no significant difference between disgust and

anger ($\Delta RT = 22$ ms, z -ratio = -1.85 , $p = .960$). All effects are depicted in Fig. 2.

Emotional expectedness: effects of the victim/perpetrator focus and emotion

No difference between the Victim and Perpetrator conditions was observed on the likelihood of emotional expectedness ($\chi^2(1) = 1.36$, $p = .248$). A main effect of *Emotion* type ($\chi^2(5) = 264.81$, $p < .001$) was observed. Anger was selected at a higher rate than disgust ($\Delta rate = 0.32$, z -ratio = 6.45 , $p < .001$), sadness ($\Delta rate = 0.03$, z -ratio = 5.74 , $p < .001$), and fear ($\Delta rate = 0.11$, z -ratio = 16.95 , $p < .001$). Disgust was judged as more expected by the participants than fear ($\Delta rate = 0.08$, z -ratio = 11.22 , $p < .001$). There was no significant difference between disgust and sadness ($\Delta rate = 0.00$, z -ratio = -0.50 , $p = 1.000$).

The interaction effect hypothesis, between *Emotion* and *Focus* was supported by the data ($\chi^2(5) = 145.64$, $p < .001$). In the Victim condition, anger was chosen at a higher rate than disgust ($\Delta rate = 0.05$, z -ratio = 8.99 , $p < .001$) and fear ($\Delta rate = 0.14$, z -ratio = 12.79 , $p < .001$). Moreover, sadness was selected at the same level as anger ($\Delta rate = 0.00$, z -ratio = 0.28 , $p = 1.000$). In the Perpetrator condition, disgust was chosen at a higher rate than sadness ($\Delta rate = 0.07$, z -ratio = 7.05 , $p < .001$) and fear ($\Delta rate = 0.08$, z -ratio = 8.03 , $p < .001$). Again, there was no difference between disgust

and anger ($\Delta rate = 0.01$, z -ratio = 2.04 , $p = .623$). All effects are depicted in Fig. 3.

Discussion

Study 1 examined emotional responses in a moral appraisal decision task ("Is this emotion expected or not?") while manipulating the attentional focus (Victim or Perpetrator-oriented) in the presentation of moral transgressions. RTs were faster on Anger in both Focus conditions (see Fig. 2). In the Victim condition, anger was selected faster and more frequently than in the Perpetrator condition, supporting previous results in the literature (Giner-Sorolla & Chapman, 2017) and partially confirming our interaction hypothesis. Contrary to our expectations, the anticipated preferential selection of disgust, associated with faster reaction times in the Perpetrator condition was not confirmed. In this study, Joy (a non-relevant control emotion) was processed faster than other emotions, and participants were highly proficient in detecting joy as a non-relevant response to moral transgressions. This can be explained by the strong salience of this emotion in relation to the presented situation, driving an incongruence effect that, in turn, facilitated immediate rejection. For this reason, and because joy was serving as descriptive control in Study 1, we decided to exclude this emotion presentation from Study 2. Finally, although not

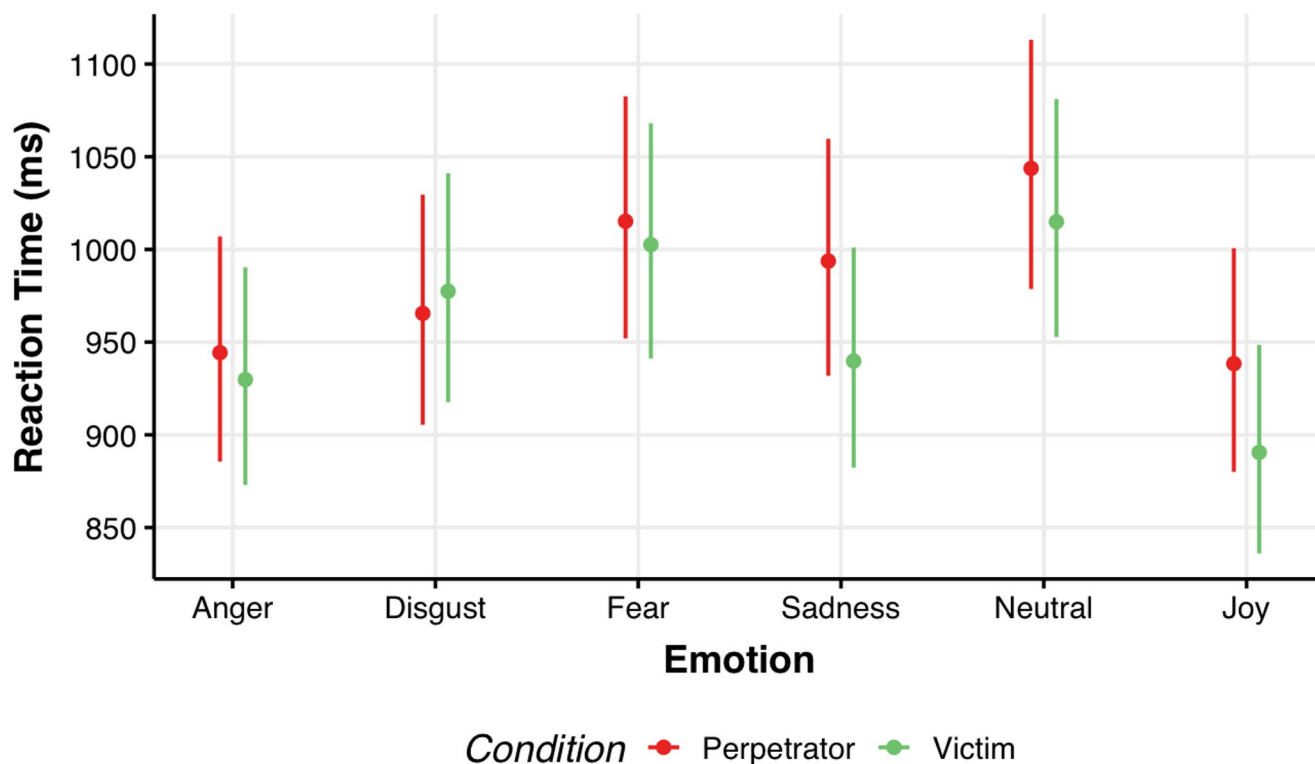


Fig. 2 Effect of the Victim/Perpetrator focus and Emotion on reaction times (in ms). Vertical bars indicate the confidence intervals

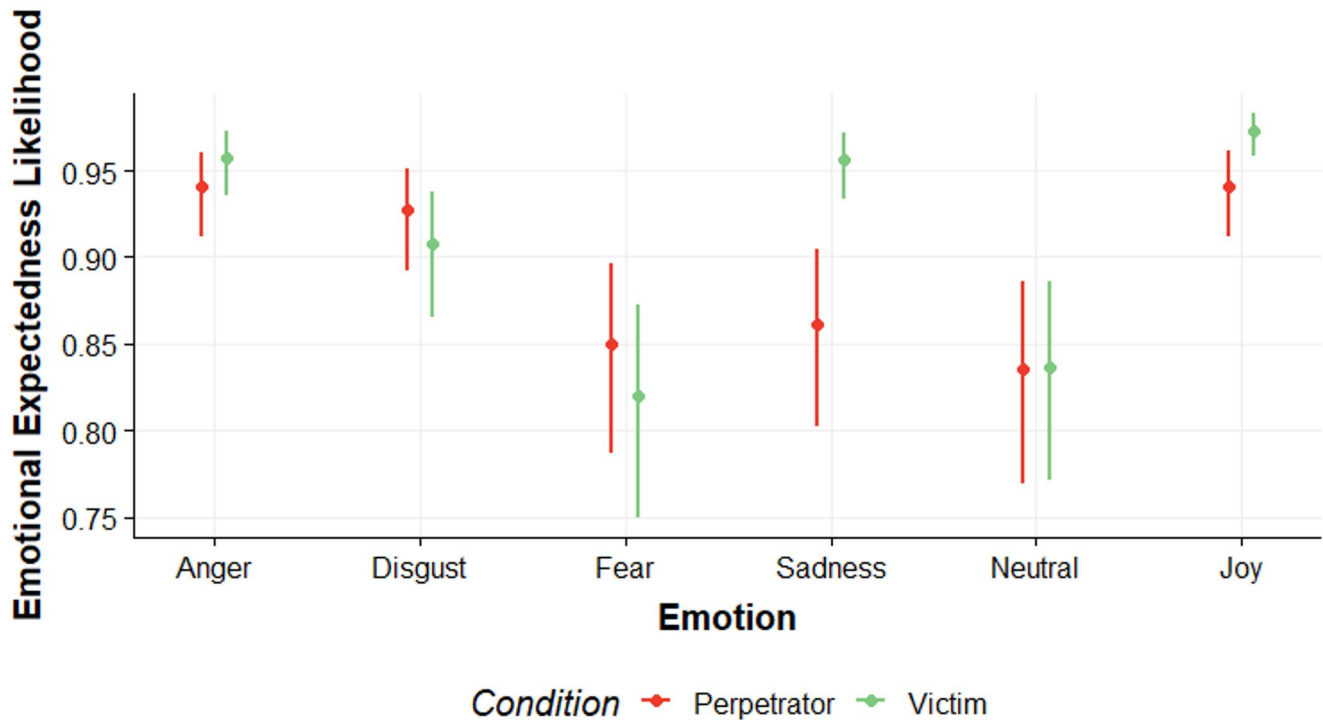


Fig. 3 Effect of the Victim/Perpetrator focus and Emotion on perceived expectedness of the emotions (i.e., the likelihood of rating negative emotions as expected, in response to the moral transgression). Vertical bars indicate the confidence interval. Comparisons were performed

between anger, disgust, fear and sadness. Neutral and joy emotions were used as a descriptive baseline with no inferential contrasts performed

initially preregistered, we observed that sadness influenced both reaction times and expectedness ratings in the Victim condition (see Figs. 2 and 3), suggesting that a plurality of moral emotions in response to the transgression might be at stake, and not necessarily limited to condemning moral emotions, such as disgust and anger. This result highlights sadness’s role in witnessing moral outrage and aligns with previous research that showed empathy and compassion were also observed - among first party moral observers - in response to moral transgressions (Franchin et al., 2019; Landmann & Hess, 2018).

Study 2

In building on the results of Study 1, which explored the impact of attentional focus- either toward the Victim or the Perpetrator of a moral transgression- on emotional responses and moral judgments, Study 2 aims to further elaborate the research question through focused methodological refinements. While Study 1 provided a range of moral transgressions and emotions (different classes on which there were no pre-registered hypotheses; these the Supplementary Material), Study 2 narrows its focus exclusively to violations of autonomy, as they are sufficient to address the moral anger/moral disgust puzzle stressed in the literature because both are relevant moral emotions toward these transgressions,

specifically harm, humiliation, and injustice (Haidt, 2003). Moreover, the emotional controls in Study 2 were reduced by only using neutral faces and removing fear and joy. This is further complemented by the addition of prosocial and normative scenarios as control conditions, that describe interpersonal interactions without moral transgressions, thereby more strongly deploying the contrasting properties of the moral violation elicitors compared to control, neutral interpersonal situations.

Participants

A total of 144 participants (73 women, 66 men) completed the task on the Prolific platform. The age of participants ranged from 18 to 75 years ($M=40.65$ years, $SD=13.8$). As in Study 1, participants were administered a same-gender stimuli task and received \$3 as compensation (for an estimated running time of about 25 min). The final sample size provided 80% power to detect an effect size of $f=0.28$ with alpha set at 0.05. The datasets from 5 participants were excluded from analysis due to extremely short (<300 ms) or excessively long (>3,000 ms) RTs, which are unlikely to reflect meaningful processing and are typically interpreted as anticipatory and accidental responses or attentional lapses (Ratcliff, 1993; Voormann et al., 2024). Additionally, 7.63% of the trials with RTs falling outside ± 2.5 SD of each

participant's mean were removed, resulting in a final dataset of 139 participants and 11,555 RT observations.

Design and stimuli

We used the same procedure and the same set of stimuli as in Study 1, but with three changes: (1) the transgression classes were reduced to focus only on autonomy violations (i.e., harm, humiliation, and injustice); (2) emotional faces of fear and joy were excluded from the control emotions, leaving only neutral faces as a descriptive control; (3) in line with Clifford et al. (2015), we introduced a control for moral vignettes by using scenarios describing prosocial and/or social norms (e.g., A person shakes hands with a colleague at work). These vignettes portray interpersonal situations that do not involve a moral transgression (see online materials at <https://osf.io/2g96b/files/f46gb>).

Apparatus and procedure

The protocol was straightforwardly the same as that of Study 1 (taking the changes described above into account).

Statistical analysis

We conducted similar analyses to those carried out in Experiment 1. To determine whether reaction time was modulated by *Focus* (Victim, Perpetrator), *Emotion* (anger, disgust, neutral, sadness) and *Scenario* (control, moral transgression), we built the following model: $\log(\text{rt}) \sim \text{focus} * \text{emotion} * \text{scenario} + (1|\text{subject}) + (1|\text{item})$. Full model to explain (un)expectedness likelihood ratings was: $\text{rating} \sim \text{focus} * \text{emotion} * \text{scenario} + (1|\text{subject}) + (1|\text{item})$. We performed the same post hoc comparisons and corrections with a statistical significance at $\alpha = 0.05$. Finally, we conducted the same exploratory analyses as in Study 1 (see Figures S4-S7 in the Supplementary Material).

Results

Preregistered analyses

Reaction times: effects of focus, emotion and scenario

The model showed a main effect of Emotion ($\chi^2(3) = 58.03$, $p < .001$). Longer reaction times were observed on neutral emotion compared to both anger ($\Delta\text{RT} = 83$ ms, $z.\text{ratio} = 8.22$, $p < .001$) and disgust ($\Delta\text{RT} = 62$ ms, $z.\text{ratio} = 5.16$, $p < .001$). No effect of Focus ($\chi^2(1) = 1.41$, $p = .235$) or Scenario were observed ($\chi^2(1) = 1.33$, $p = .249$).

The interaction between Focus and Emotion reached significance ($\chi^2(3) = 8.26$, $p = .041$). In both focus conditions, reaction times for anger and disgust were highly similar (all p s > 0.39). The preregistered pattern, that is the anger/disgust crossover as a function of Focus, was then not replicated. The interaction mainly reflected general RT differences driven by the inclusion of sadness and neutral conditions rather than a focus-specific modulation of moral emotions, contrary to what was expected. Indeed, in the Victim condition, reaction times were longer on neutral emotion compared to anger ($\Delta\text{RT} = 75$ ms, $z.\text{ratio} = 5.19$, $p < .001$), disgust ($\Delta\text{RT} = 50$ ms, $z.\text{ratio} = 3.73$, $p < .001$) and sadness ($\Delta\text{RT} = 92$ ms, $z.\text{ratio} = -6.59$, $p < .001$). RTs were similar for sadness and anger ($\Delta\text{RT} = 17$ ms, $z.\text{ratio} = 1.27$, $p = 1.000$), but sadness elicited shorter reaction times than disgust ($\Delta\text{RT} = 42$ ms, $z.\text{ratio} = 3.10$, $p < .011$). In the Perpetrator condition, longer RTs were again observed for neutral emotion relative to anger ($\Delta\text{RT} = 91$ ms, $z.\text{ratio} = 6.44$, $p < .001$), disgust ($\Delta\text{RT} = 75$ ms, $z.\text{ratio} = 3.57$, $p = .002$), and sadness ($\Delta\text{RT} = 82$ ms, $z.\text{ratio} = -5.67$, $p < .001$). No differences between sadness and anger, nor sadness and disgust were significant.

The analysis did detect an interaction Emotion \times Scenario either, $\chi^2(1) = 13.00$, $p = .005$. A main effect of Scenario showed that participants were generally faster in neutral interpersonal (control) scenarios than in moral transgression scenarios ($\Delta\text{RT} = 47$ ms, $z.\text{ratio} = 2.60$, $p = .009$). No preregistered or theoretically relevant effects involving the Scenario factor emerged. Finally, the interactions Focus \times Scenario ($\chi^2(1) = 0.31$, $p = .577$) and the Focus \times Emotion \times Scenario ($\chi^2(1) = 4.36$, $p = .225$) were not significant. All effects are depicted in Fig. 4. Finally, the interaction Focus \times Scenario ($\chi^2(1) = 0.31$, $p = .577$), and the Focus \times Emotion \times Scenario three-way interaction ($\chi^2(1) = 4.36$, $p = .225$) were not

significant. All effects are depicted in Fig. 4.

Emotional expectedness: effects of the victim/perpetrator focus and emotion

As preregistered, the model Focus \times Emotion on moral expectedness was conducted. The analysis did not detect a main effect of Focus ($\chi^2(1) = 0.63$, $p = .428$). However, a main effect of Emotion was observed ($\chi^2(3) = 32.46$, $p < .001$), with anger and disgust rated as more expected than the control emotion. This pattern confirms that moral emotions were generally more expected in moral contexts. The preregistered Focus \times Emotion interaction was also detected ($\chi^2(3) = 32.20$, $p < .001$). However, pairwise contrasts showed that anger and disgust did not differ significantly in either the Victim or Perpetrator conditions (all p -values > 0.25). Hence, as can be seen for RTs results, the preregistered anger–disgust differentiation pattern as a function of

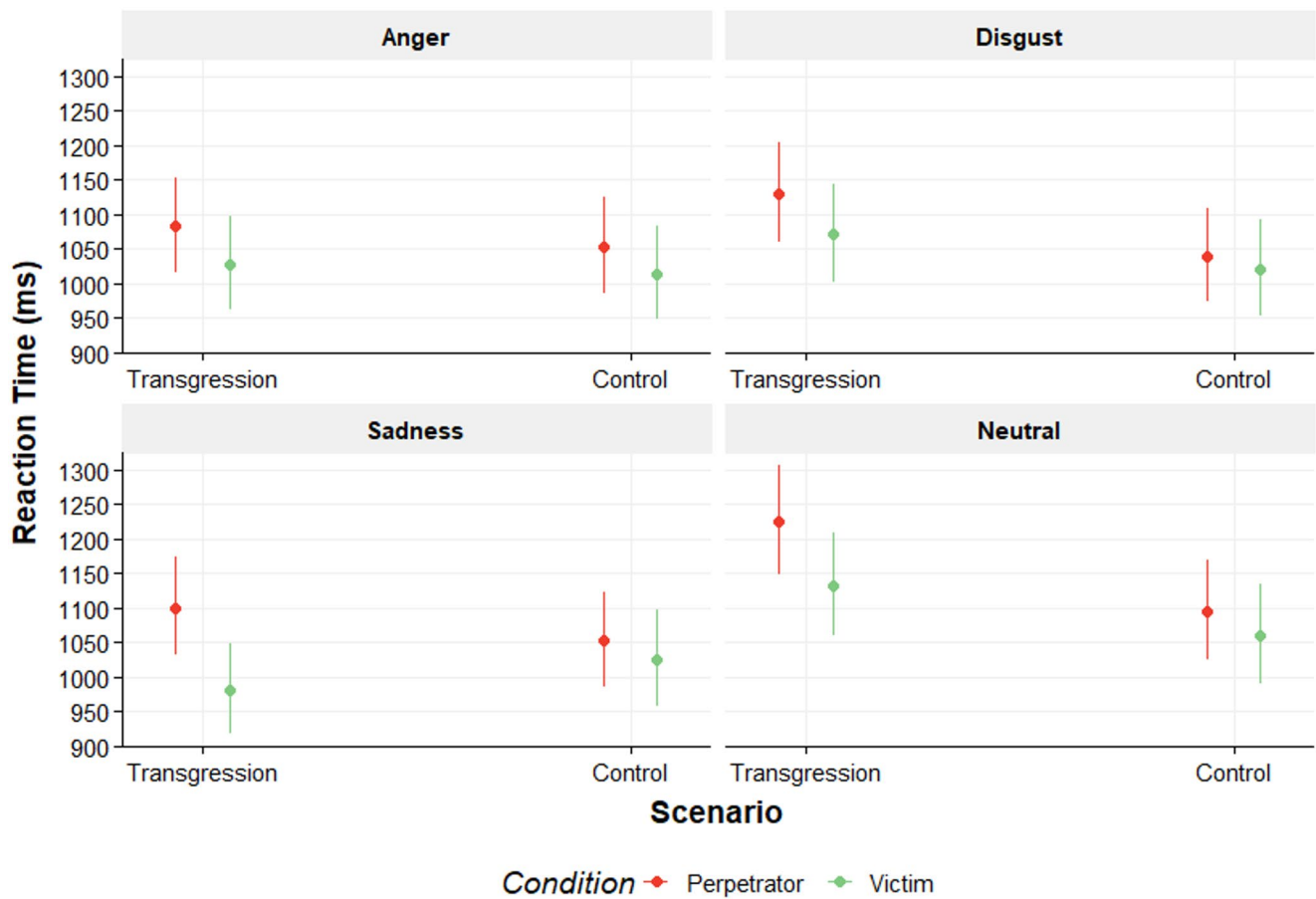


Fig. 4 Effect of Focus, Emotion, and Scenario on reaction times (in ms). Vertical bars indicate the confidence interval

attentional focus was not replicated. No other preregistered or theoretically relevant effects involving the Scenario factor emerged either (all p -values > 0.22). All effects are illustrated in Fig. 5.

Exploratory analyses

Exploratory analyses were conducted to probe the emotion tendencies beyond the preregistered contrasts. In line with Study 1, sadness was identified again as a relatively more expected reaction toward moral transgressions, more specifically within the Victim focus condition (e.g., OR=1.33, $\Delta=0.04$, $p=.035$) (see Tables 1 and 2 for an overview of results for both studies).

Additional analyses checking for the attribution of differences to the variation of composition of moral transgression classes between the two studies (Study 1 included betrayal and abandonment in addition to harm, injustice, and humiliation, whereas Study 2 was restricted to the latter three autonomy violations) were computed. More precisely, we recomputed Study 1 models restricted to the same subset of autonomy-violation classes (harm, humiliation, injustice) used in Study 2. The analyses reported in the Supplementary

Material (see Figures S7 and S8) demonstrated results that were fully consistent with the findings of Study 1, thereby supporting our hypotheses.

Overall, the exploratory results underscore the replicable role of sadness under victim Focus and confirm that the preregistered anger/disgust differential pattern informed by the Focus manipulation was not consistent, as can be seen in Table 2.

Discussion

Study 2 replicated the same design and procedure as Study 1, with three main changes: moral transgressions of autonomy were presented to participants; 4 emotions were displayed (anger, disgust, sadness and neutral); and a control for the moral transgressions scenarios was introduced. Results showed that the partial interaction effect observed in Study 1 was no longer supported by our data. However, the effect of sadness, observed as equally as anger in the Victim condition was replicated. Both reaction times and emotional expectedness suggest that sadness might play a role in third-party moral appraisals oriented towards the victim.

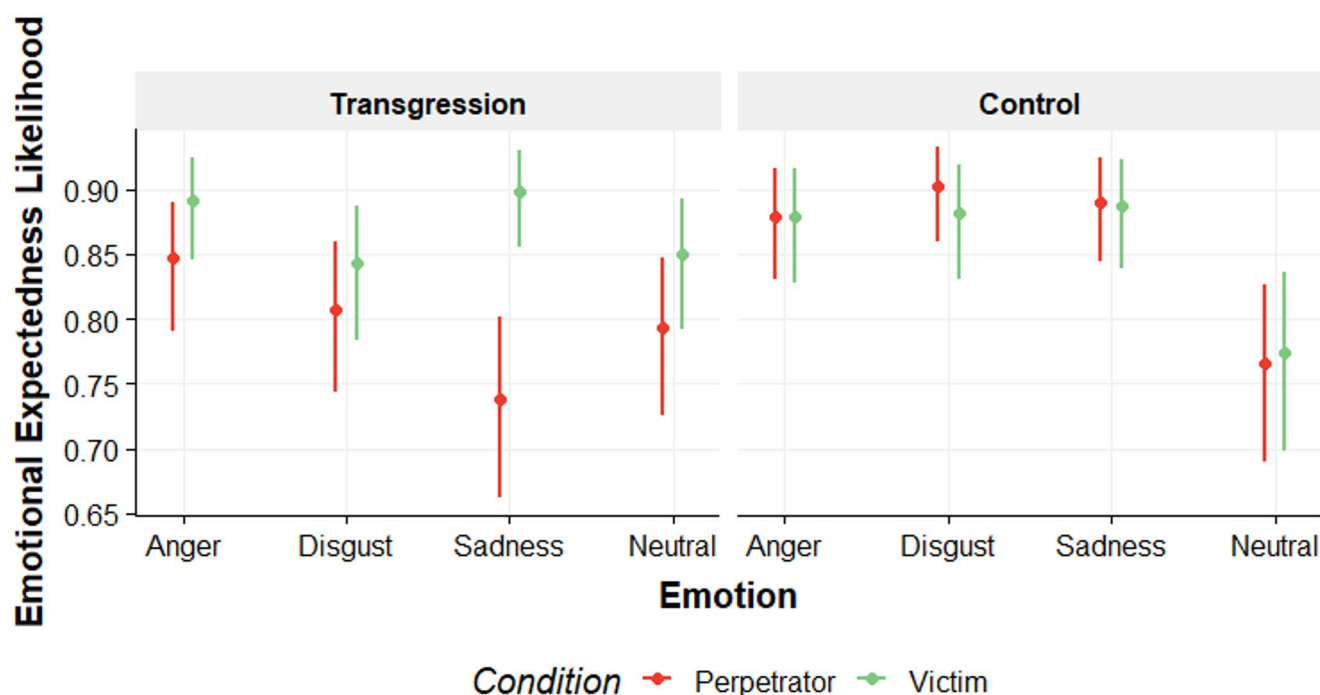


Fig. 5 Effect of the Focus and Emotion on perceived expectedness of emotions (likelihood of negative emotions being rated as appropriate and control emotions as inappropriate). Vertical bars indicate the confidence interval

Table 1 Predicted reaction times values per Focus condition and per study

Focus Study	Victim Mean (SE)	Perpetrator Mean (SE)
<i>Study 1 (N = 173)</i>		
Anger	930 (29.9)	944 (30.9)
Disgust	977 (31.5)	966 (31.6)
Sadness	940 (30.2)	994 (32.6)
Fear	1003 (32.3)	1015 (33.3)
Neutral	1015 (32.7)	1044 (34.3)
Joy	891 (28.7)	938 (33.8)
<i>Study 2 (N = 139)</i>		
Anger	1020 (32.5)	1067 (32.9)
Disgust	1045 (33.3)	1083 (33.4)
Sadness	1003 (31.9)	1076 (33.2)
Neutral	1095 (34.9)	1158 (35.7)

This recurrent pattern suggests that distress-related responses may recurrently co-occur, or perhaps compete against, moral condemning emotions such as anger and disgust when attention is directed toward victims of wrongdoing. This interpretation is consistent with the above-mentioned account that sadness can operate as an auxiliary component of moral outrage and may serve equally functional social purposes as the moral condemning emotions themselves (Hutcherson & Gross, 2011; Ginther et al., 2022). The Longer RTs observed in the Emotion × Scenario test aligns well with the documented higher cognitive effort imposed by an experience of cognitive conflict (Greene et al., 2008). In Study 2, our RTs results showed that participants were faster to answer on the interpersonal

Table 2 Overview of the main effects observed across Study 1 and Study 2

Focus	Emotion Contrast	Study 1 OR [95% CI]	Study 1 Δ (ms) [95% CI]	Study 1 p-value	Study 2 OR [95% CI]	Study 2 Δ (ms) [95% CI]	Study 2 p-value
Victim	Anger vs. Disgust	2.30 [1.61, 3.29]	-47 [-62, -32]	<0.001	1.02 [0.91, 1.63]	0 [-33, 33]	1.00
	Anger vs. Sadness	1.04 [0.70, 1.54]	-10 [-25, 5]	1.000	1.33 [1.01, 1.74]	17 [0, 34]	=0.035
	Disgust vs. Sadness	0.45 [0.32, 0.64]	37 [22, 52]	=0.011	1.30 [0.99, 1.71]	42 [19, 65]	=0.067
Perpetrator	Anger vs. Disgust	1.25 [0.91, 1.72]	-22 [-57, 13]	=0.623	1.22 [0.77, 1.35]	-16 [-49, 17]	=0.458
	Anger vs. Sadness	2.55 [1.88, 3.47]	-50 [-65, -35]	<0.001	0.92 [0.68, 1.25]	-9 [-26, 8]	1.00
	Disgust vs. Sadness	2.04 [1.52, 2.76]	-28 [-63, 7]	=0.245	0.76 [0.56, 1.02]	7 [-16, 30]	=0.081

OR Odds ratio (higher = more expected)

Δ = Mean difference

95% CI = 95% Confidence Interval (Bonferroni-adjusted)

Pairwise Contrasts for Emotional expectedness and reaction times in the Victim/Perpetrator focus conditions are reported

vignettes than on the moral transgressions scenarios, suggesting longer deliberation and effort to solve the conflict. This result stresses the critical importance of systematically integrating RTs along with moral emotions and moral judgments, as they can be informative of underlying cognitive effort experienced in a specific experimental condition.

General discussion

The present series of studies aimed to examine how focusing on the victim or perpetrator of a moral transgression would affect moral appraisals of third-party facial expressions. Employing a slight linguistic shift, we manipulated the attentional focus of short scenarios describing different classes of moral transgressions (harm, injustice, humiliation, betrayal, and abandonment). We hypothesized that preferential responses for anger and disgust would be respectively linked to transgressions focused on the Victim and the Perpetrator of the moral transgression. The results confirm only partial support for the predicted anger–disgust differences as a function of the attentional focus. Indeed, in Study 1 anger endorsement was facilitated under Victim focus condition, but disgust did not show a clear counterpart effect under Perpetrator focus condition. This pattern failed to replicate in Study 2, where sadness instead emerged as the most consistent response under Victim focus.

Sadness as a robust moral response to violation of the ethics of autonomy in victim condition

The most theoretically significant and empirically robust finding of the present research concerns sadness. Sadness was the only expression showing a fully preregistered confirmatory effect across both studies. Observed exploratorily in Study 1, this effect was formally preregistered prior to Study 2 and subsequently confirmed, lending particular evidential weight to its theoretical interpretation. Importantly, sadness was consistently morally expected across both studies, especially under victim focus, which stresses that empathy-related emotions may be an integral component of third-party moral evaluation by itself. This recurrent effect suggests that moral appraisals are not limited to condemnation but involve broader emotional processes that foster social connection and prosocial concerns (Plaks et al., 2022). Finally, this result confirms prior research which showed that sadness is expressed just as frequently as disgust and anger in response to highly severe moral violations (Ginther et al., 2022). Sadness thus appears to be a key component of the emotional processes underlying moral appraisal. Sadness has been evidenced to increase awareness and sensitivity to consequences (Wright & Bower, 1992) and was linked

to a tendency to overestimate the probability of bad events. In this perspective, sadness appears consequence-oriented. This finding is consistent with the notion that sadness is central to deal with a situation involving violation of autonomy, particularly third-party physical harm (Hutcherson & Gross, 2011). Functionally, sadness underpins moral sense by associating immoral acts with negative emotions to promote prosocial behavior or restraint of violence and harm. For instance, according to violence inhibition mechanism, sadness can convey a signal to refrain violent behavior (Blair, 1995) and reinforce the victimization as evoking primarily sympathy and sadness (Gray & Wegner, 2011). Sadness thus appears to be a key component of the emotional architecture underlying moral appraisal, complementing condemnation-based emotions with an affiliative, victim-oriented response.

Anger as the central response to autonomy violation

Across both studies and both attentional focus conditions, anger was observed as the most expected emotion in response to moral transgressions, regardless of whether attention was directed toward the victim or the perpetrator. This pattern is theoretically meaningful and merits an analysis in its own right. We contend that anger may function as a structurally central response to violations of the ethics of autonomy insofar, as any transgression involving harm to an individual is sufficient to trigger an approach-oriented tendency designed to amend the wrongful act and ensure just deserts. This view is consistent with cross-cultural evidence showing that anger dominates across moral violation types independently of their specific domain (Kollareth et al., 2019; Kollareth & Russell, 2019), suggesting that anger is less a marker of attentional focus than a marker of moral transgression per se. One way to make sense of this pattern within the framework of dyadic morality (Schein & Gray, 2018) is to consider that both protagonists remain cognitively present even when attentional focus is manipulated. In other words, the victim is never fully blind to the perpetrator-focused scenarios, nor perpetrator fully blind of the victim-focused scenarios. In this perspective, what attentional focus modulates is not as much the presence of anger but the emotional composition surrounding it, with sadness emerging more prominently under victim focus and disgust perhaps potentially under a perpetrator focus condition. Anger, in other words, may constitute the main affective ingredient behind moral outrage, while other emotions add specificity and richness to this moral outrage baseline depending on where attention is directed within the dyad and the underlying socio-functional purpose.

Focus effects

These findings stress the critical importance of moral emotions in dealing with moral transgressions and partially confirm Giner-Sorolla and Chapman's (2017) study on the effects of focus manipulation. Victim focus was predominantly linked to anger and sadness, orienting participants toward the harmful consequences experienced by the victim. This pattern may be understood by virtue of the Cushman's (2008) two-process model, which distinguishes between causal and intentional analyses in moral evaluation. Action-based analysis is closely associated with judgments of blame and punishment. We can argue that the prospect of a reactive, harmful response to violations of autonomy (Shweder et al., 1997; Haidt, 2003) is reflective of a retributive tendency, in which harm is answered by harm. This kind of response is fueled by moral anger and contributes to serve moral protest and justice purposes. Anger with its higher arousal helps signal confrontation and moral protest (Fischer & Roseman, 2007) while sadness, typically lower in arousal, may stress a more deliberate, affiliative orientation (Bodenhausen et al., 1994). Disgust also appeared in the victim-focus condition, but its role was less systematic. One possibility is that anger and disgust jointly express moral condemnation, but the balance between these two emotions may vary depending on individual dispositions such as empathic concerns that modulate sensitivity to others' suffering (Batson, 2009). Individuals high in empathic concerns might show stronger sad responses, whereas those lower in distress might externalize their reaction through anger or disgust. Future studies could test this possibility by assessing individual differences in empathy prior to the task, for instance with multidimensional measures such as the Interpersonal Reactivity Index (Davis, 1983) and examining whether these traits moderate the emotional responses elicited by victim- versus perpetrator-focused framings. A complementary approach would be to experimentally manipulate perspective-taking instructions, for example by asking participants to focus on the victim's suffering, the perpetrator's mental state, or the event from a detached third-party perspective. Such a design would make it possible to test whether empathic concern amplifies sadness in victim-focused contexts and whether reduced empathic engagement or greater attention to agency strengthens anger or disgust responses.

Perpetrator focus: disgust and moral distance

Contrary to what was expected, the perpetrator focus condition did not induce a consistent heightened activation in disgust as compared to anger. Although disgust appeared more frequently in moral transgressions than in control scenarios

in Study 2, this tendency was weak and not accompanied by a clear crossover with anger, as preregistered. These findings thus call into question the thesis that disgust expression alone specifically targets moral appraisals centered on the agent of harm. In fact, when attention is directed toward the perpetrator, observers may indeed engage in intentional analysis (Cushman, 2008) to infer the wrongdoer's mental state or moral character. However, such intentional analyses can evoke disgust but it could be neutralized when anger is controlled, demonstrating that intentionality only affects disgust through its strong co-occurrence with anger (see Russell & Giner-Sorolla, 2011), which is consistent with the notion that moral disgust rarely operates alone but reflects a blended state of moral condemning responses. Functionally, disgust's avoidance-oriented tendencies (Rozin et al., 2008) could contribute to moral disqualification rather than direct confrontation, thereby complementing anger's approach-oriented protest. In this sense, disgust may play a secondary role, helping to regulate social boundaries or reinforce disapproval of harmful agents, without necessarily dominating moral appraisal. Future work should assess whether such avoidance reactions are better captured through explicit self-conscious emotions (e.g., shame or guilt; Tangney, 1996) rather than through facial disgust per se, which may not cleanly separate moral condemnation from social evaluation. More interestingly, the functional differentiation between anger and disgust might also be tackled via a penological perspective that has – to our knowledge – not yet been tested. Anger may preferentially be linked to a retributive mode of justice seeking to restore moral balance through punishment or reparation, whereas disgust may foster a deterrent or dissuasive conception of justice designed to signal social contamination, or to very least inadequacy, and motivate avoidance or ostracism (see Steckler & Tracy, 2014). Seeing oneself as repugnant or morally tainted in the eyes of others could, in turn, motivate an attempt to seek symbolic reintegration within the moral community. This interpretation is mirrored by evidence that anger is associated with high-cost, direct aggression, while disgust corresponds to lower-cost, indirect aggression (Molho et al., 2017).

Limitations and future directions

The present set of studies is not without limitations. The first limitation bears on the methodological choice of having participants to figure out what emotions are to be expected regarding the moral transgressions, which invites a normative orientation. However, if normativity had simply driven our results, anger would be expected to dominate uniformly across both conditions. The observed differential emergence of sadness specifically under victim focus argues against

this interpretation. There is a necessity for future research to resort to a methodological procedure consisting in measuring the actual emotions felt via for instance electromyography and appraise the effect of linguistic framing in this matter. The second limitation pertains to the inherent possible confound between the linguistic shift manipulation and the active versus passive construction beyond what is expected in terms of focus effect. Although our manipulation check has established that participants were able to discriminate a victim versus perpetrator focus, the possibility that active constructions heightened perceived intentionality cannot be fully ruled out. Importantly, if this confound were salient under perpetrator-focused active constructions, this would have reinforced the role of disgust due to the fact that higher agentic role supposes a higher reliance on mental state analysis. This is not what our data confirmed. Nevertheless, future studies might resort to a non-grammatical manipulation such as, for instance, explicit perspective-taking instructions, in order to disentangle attentional focus from grammatical agency. In addition, the agentic dimension may have something to do with counterfactual thinking and could stress that the agent could have acted otherwise, potentially underscoring controllability and potentially different direction of blame and emotions. A third limitation concerns the failed replication of the orthogonal linkage between focus effect and anger/disgust differentiation. The specific conditions under which attentional focus translates into emotional specialization remain to be identified, whether related to the nature of the moral violation, dispositional differences in empathic concern, or individual emotionality. A fourth limitation was related to the use of static facial expressions from the FACES database. Although this paradigm constitutes a standard methodological practice in moral literature (Hutcherson & Gross, 2011; Rozin et al., 1999), static expressions do not capture the vivid nature of the emotional message that may characterize real life moral events. Moreover, although joy and neutral expressions served as control conditions to benchmark condemning emotions, future studies could further reduce the risk of demand characteristics by including theoretically irrelevant negative filler emotions alongside the focal emotions by virtue of paradigms using verbal emotion labels. A methodological extension combining multiple response formats, including facial expressions, verbal labels, and filler items can be envisaged in order to get a ecologically valid assessment of emotional responses. In addition, future studies should experimentally manipulate the potential impact of both emotional arousal and the extent of emotional expressivity (ranging from subtle to exaggerated; see Ekman & Friesen, 1971) on moral decision-making.

Practical implications

The type of language used to qualify a moral transgression reflects how *mens rea* (criminal intent) and *actus reus* (the criminal act itself) can be appraised in the judicial realm among defense lawyers and the prosecution. According to Alicke (2000), analyzing moral-related events depends less on the structural element linking mental state, causality, and consequence than on a spontaneous inference toward an agent, which is supported by several pieces of evidence. Given that the role of information is pivotal in swaying the opinion of jurors, linguistic framing may convey the type of emotion that fits either a defensive strategy (i.e., emphasizing the victim's experience to elicit sadness and empathic anger) or a prosecution strategy (i.e., emphasizing the perpetrator's intentions to elicit disgust and moral condemnation). The moral and affiliative emotions elicited by a transgression are shaped by these framings, and these framings operate through simple linguistic shifts, which are sufficient to modulate the emotional impression of moral judgments, which has direct implications for how evidence is framed in legal contexts. For instance, the inherent complexity of the link between moral content and emotions might be better deciphered by considering the nature of the punishments they entail. While anger and disgust are typically associated with retributive motives, the sadness elicited by a focus on the victim may broaden the penal evaluative scope, potentially orienting the moral judgment toward restorative or rehabilitative form of penology. Beyond legal contexts, these findings may also inform moral education and ethics-related teaching practices. Educational approaches that rely on moral dilemmas or discussions of transgressions may elicit different moral responses depending on whether attention is directed on the perpetrator's intentions or the victim's suffering. The recurrent sadness responses observed in the victim-focus condition further suggest that empathic emotions may play an important role in moral appraisal alongside anger and disgust. More broadly, these findings highlight that moral judgment is shaped not only by abstract reasoning about norms and responsibility, but also by the emotional framing through which moral situations are presented.

Conclusion

In two studies, anger and disgust were generally sensitive to moral violations but their differentiation by focus was weak and inconsistent. The anger–disgust crossover that was pre-registered did not replicate, and no exploratory factor (political orientation, sex, age, transgression type) explained this variability. Participants generally responded faster and

judged anger as more expected than disgust, regardless of focus type, which is consistent with evidence that anger is the dominant self-reported reaction when moral violations concern highly valued interpersonal victims (Fan et al., 2024). In contrast, sadness was the only replicable outcome across both studies, which highlights its comparative importance under the victim focus condition. This effect complements moral emotions by singling out experience sharing as a key construct of the moral appraisal process. Sadness may be mixed with anger and disgust as a broader moral-affective composition that supports both condemnation and social support. When considered together, the findings indicate that anger and disgust may be the reactive backbone of moral outrage, while sadness may be the affiliative counterpart that signals concern for those harmed and, thus, may be a source of restorative or prosocial behavior. Being aware of this dual conformation could help to review current accounts of moral emotions by integrating condemnation-based and empathy-based mechanisms within a single moral framework.

Author contributions E.V.: Conceptualization; Formal analysis; Writing – original draft; Writing – review & editing. A.T.G.: Formal analysis; Data curation. B.T.: Conceptualization; Writing – review & editing. A.F.: Conceptualization. H.D.: Funding acquisition; Conceptualization; Writing – original draft; Writing – review & editing.

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Data availability All data, analysis code, and research materials are available at <https://osf.io/2g96b/overview>. Data were analyzed using R, version 4.3.2 (R Core Team, 2025).

Declarations

Competing interests The authors declare no competing interests.

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